

Barn Hill Wind Farm and Battery Project

August 2024



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 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
Wind farm size	Up to 360 MW
Transmission line	A new 275kV transmission line
Battery	Up to 270 MW – 4 hours duration
Turbine tip height	Up to 250m
Asset life	About 35 years for the wind farm and about 20 years for the battery
Approval process	Crown Sponsorship
Target Final Investment Decision	Mid 2025
Construction duration	About 3 years (Construction Environmental Management Plan will be developed)
Operations	Mid 2028
Jobs	About 200 at peak of construction About 10-20 during operations

Why AGL is developing this Project

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

The Barn Hill Wind Farm and Battery will deliver significant new capacity in coming years to achieve AGL's Climate Transition Action Plan target of having up to 5 GW of new generation and firming capacity in place before 2030 and a total of 12 GW in place by 2036.

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

The wind farm would be located approximately 4.5 km to the south-west of the township of Redhill, South Australia, sitting across the Barunga Range, between the Snowtown Wind Farm and the Clements Gap Wind Farm.

The Project footprint is within both Port Pirie Regional Council and the Wakefield Regional Council areas.

Background to the Project

AGL acquired the Project in 2009. In 2018, AGL sought a planning variation due to changes to the scope of the Project. This was approved by the Port Pirie Regional Council and Wakefield Regional Council. AGL has now revised the layout to reflect improvements in wind energy technology and added a Battery Energy Storage System (BESS).

In June 2024 AGL applied for the revised Project to be assessed under the South Australian Crown development and essential infrastructure process under Section 131 of the Planning, Development and Infrastructure Act 2016 (SA).

The Development Application has been lodged with the State Planning Commission for assessment and determination.

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 Bungama-Blyth West 275kV transmission line, located about 7 kms east of the Project area in the vicinity of River and Perrins Roads. AGL has performed extensive network strength, loss and constraints modelling to determine the strongest connection location.

What happens at the end of the Project?

At the end of the operational life of the wind turbines, they will either be decommissioned or re-furbished to enable them to continue to operate (subject to relevant approvals at the time). At the end of the Project lifespan, decommissioning and dismantling would be undertaken in accordance with a detailed Decommissioning and Rehabilitation Plan.

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. Further archaeological risk assessment of the site and cultural heritage surveys will be undertaken in consultation with Traditional Owners to develop similar procedures.

How will AGL manage the environment?

Flora and fauna (including birds)

Flora and fauna assessments were previously undertaken to support earlier versions of the Project. AGL has undertaken additional flora and fauna assessments to gain a further understanding and determine the best management options. AGL will follow a general principle of avoidance, minimisation, mitigation, or compensation for residual impacts through offsetting (in order of preference).

Fire

Specialist assessments were undertaken previously to address fire risk and more recent studies have been undertaken 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 potential impacts on neighbours and the community be managed?

Noise

An Operational Noise Impact Assessment has been undertaken for the Project to ensure compliance with the relevant noise guidelines. This assessment has indicated that wind turbines would comply with the requirements of relevant noise guidelines at all non-participating dwellings. It also confirmed that noise from the BESS and Switchyard area would comply with the requirements of the relevant noise guidelines.

Visual

A Landscape Character and Visual Impact Assessment has been completed to consider the potential visual impacts of the Project. Visual impact is likely to be experienced within a 10 km radius of the Project, with impacts ranging from no change in the existing view to a slight adverse impact meaning a "barely perceptible deterioration" in the existing view. Within the 10 km radius, only glimpses of the transmission line are expected to be visible. Outside the 10 km radius, the Project is expected to have no discernible impact on the wider landscape. Measures such as the use of materials and colours compatible with the surrounding environment and land use and screen planting are being considered to mitigate visual impacts.

Shadow flicker

Shadow Flicker occurs when the sun passes behind the blades of a wind turbine, casting an intermittent shadow. This effect can cause annoyance when the shadow is received at a dwelling. A Shadow Flicker Assessment completed for the Project shows only participating landholder dwellings who AGL have lease agreements with will experience some level of shadow flicker exposure. All other dwellings will not be impacted above adopted guideline levels.

Dust

The potential air impacts of the Project include dust emissions from construction activities and wheel generated dust from vehicles travelling on unsealed access roads during operations. Measures for minimising dust and other emissions during construction will be included as part of the Construction Environmental Management Plan.



A photomontage of the Project looking east from Ingram Gap Road

Traffic

The roads that are expected will be most impacted are Adey Road, Long Gully Road, Torrs Gap Road and Hope Gap Road. The intersections of Augusta Highway with Adey Road and Ingram Gap Road, as well as Ingram Gap Road with Long Gully Road may be impacted as well. The Project will include road and intersection upgrades, maintenance, and traffic management.

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

The BESS has the potential to improve the economics of the Project by 'time shifting' low-cost wind power from when it is generated (when it is windy) to a later time when wind farm output is low (when it is not windy).

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.

What technology is being used for the BESS and what could it look like?

In principle, the BESS 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 the community benefit from the Project?

The Project will deliver social and economic benefits to the community during construction and operation. During construction, benefits are likely to include jobs, local industry participation and increased local and regional spending by the construction workforce. Transport companies, accommodation providers, restaurants, and other service industries are also expected to see increases in business throughout construction.

A Community Fund will also be established that will be delivered from construction and during operations.

How can the community and stakeholders comment on the Project?

AGL is engaging with landowners, Traditional Owners, State and Federal government, Port Pirie Regional Council, Wakefield Regional Council, and the broader local community about the Project.

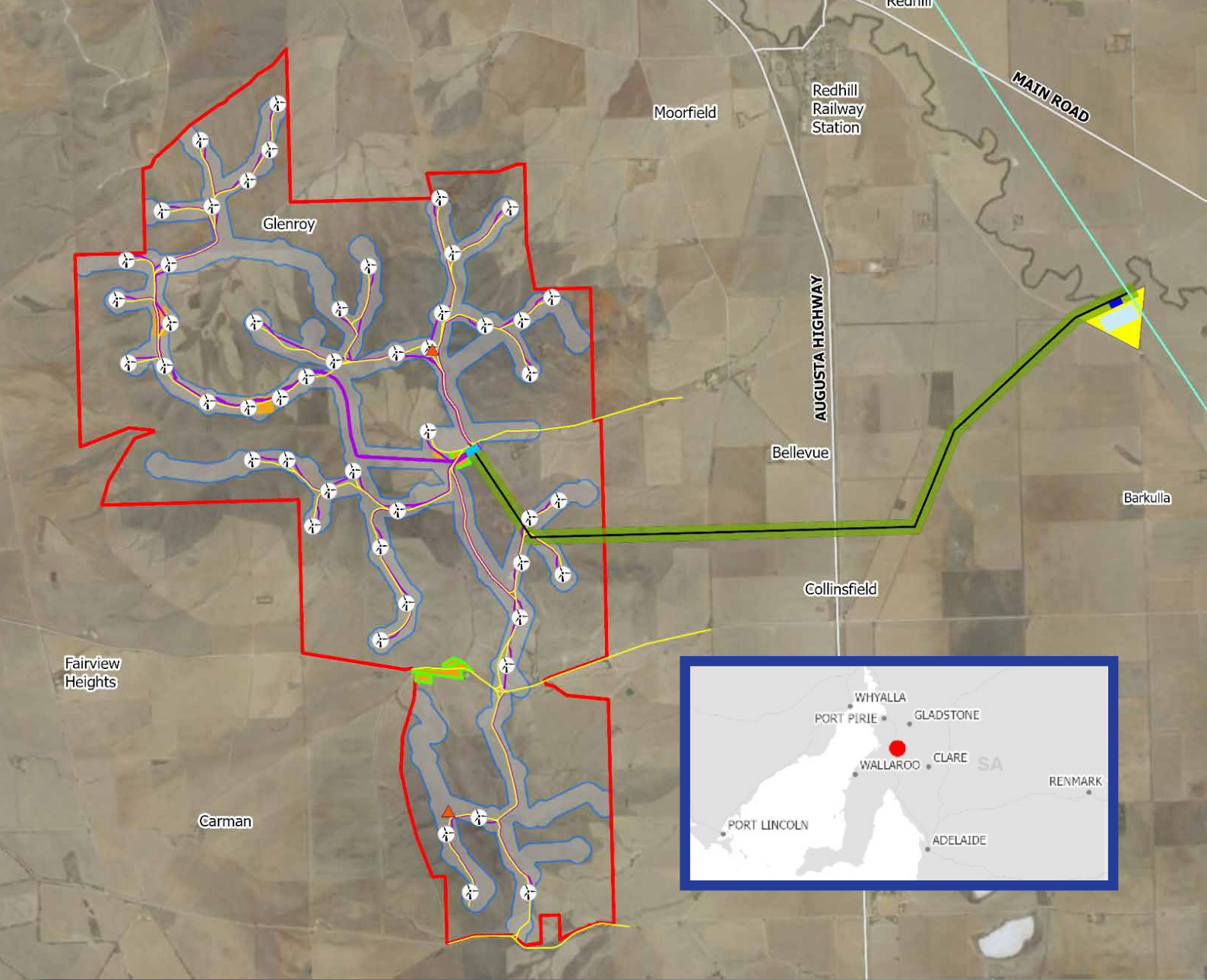
People can view and provide comment on the Project's Development Application by:

- Visiting PlanSA at https://plan.sa.gov.au/have_your_say/notified_developments/state_developments or scanning the QR Code below and following the links



- Attending Port Pirie Regional Council, Wakefield Regional Council or Barunga West Council

Members of the public are invited to make a written representation during the notification period. Instructions on 'how to have your say' are available on the PlanSA website.



Legend

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|-------------------------|---------------------------------------|-----------------------------------|
| Wind Turbine Generator | Bungama Transmission Line | BESS and Switchyard |
| Monitoring Towers | BESS | Construction Compound |
| Road | Switchyard | Concrete Batching Plants |
| Access Road | Substation | Wind Farm Boundary |
| Electrical Reticulation | Operations and Maintenance Facilities | Wind Farm Site Corridor (250m) |
| Transmission Line | | Transmission Line Corridor (200m) |

Visit our website
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