

# Dubbo Firming Power Station

## Factsheet



### The project

Dubbo Firming Power Station is an approved project located in Dubbo, NSW.

Development approval was granted in 2024, which permits the construction and operation of a 64MW power generation facility and a 20MW hydrogen generation facility and associated buildings.

We are lodging a request to modify the development approval to increase the power generation capacity to 180MW. More information about the proposed modification is included overleaf.

The project will help firm and stabilise the intermittent renewable energy generation in the Central-West Orana Renewable Energy Zone which includes Squadron Energy's Ungula and Spicers Creek Wind Farms and the wider east coast of Australia.

Located in the heavy industrial zone in North Dubbo, the project is expected to support up to 150 jobs during construction and 5 ongoing operational jobs.

Firming projects like Dubbo Firming Power Station will play an important role in the transition to renewable energy generation. The project will generate electricity at peak times – when there is a high energy load or when renewables are at low production.

This project is an integral part of Squadron Energy's vision as it leads Australia's energy transition and delivers firming renewable energy.

### Key project info



**Maximum  
capacity**



**Expected  
renewable  
energy firming**



**Expected jobs  
supported**

### About us

Squadron Energy is Australia's leading renewable energy company that develops, operates and owns renewable energy assets in Australia.

We are 100% Australian owned and committed to leaving a lasting legacy for the communities where we operate. We have 2 gigawatts (GW) of renewable energy in operation and under construction.

With proven experience and expertise across the project lifecycle, we work with local communities and our customers to lead the transition to Australia's clean energy future.



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## Location



## Indicative timeline



\*Design work is ongoing

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## Factsheet

### Assessment and timeline

An Environmental Impact Statement (EIS) was prepared in 2023 and development approval for the project at 64MW was obtained from the NSW Department of Planning, Housing and Infrastructure (DPHI) in May 2024. The EIS contained comprehensive assessments on the potential impacts to environmental, cultural heritage and social values associated with the project together with the safety and licensing requirements.

A modification to the development approval will seek to:

- increase the power generation capacity from 64MW to 180MW
- introduce an alternative generation technology in the form of reciprocating engines

- increase the amount of gas which can be stored in the onsite storage pipeline.

A modification report will be prepared which will include:

- a summary of the approved project and a detailed description of the modification
- a description of the strategic and statutory context of the modification
- an assessment of the potential impacts of the modification
- a justification and evaluation of the modified project.

It is anticipated this modification report will be submitted to the DPHI later this year.

### FAQs

#### Why is the modification to the development approval needed?

The modification will allow the project to deliver more firming capacity at greater efficiency using the same footprint at a time when Australia has recognised the increasing importance of firming technologies. Gas powered generation will help maintain grid stability and provide back-up supply during periods of low renewable energy generation and times of extreme peak demand.

Increasing the capacity of the project will allow it to provide greater and longer duration firming capabilities.

Increasing the storage capacity of the onsite pipeline will allow the project to store more gas when it is in abundance for times when gas supply is limited but power generation is in demand.

The introduction of alternative reciprocating engine technology as part of the modification will also allow the project to potentially use a combination of technologies to enhance efficiency, the performance of the power station and start up times.

#### What are the potential impacts of the modification?

The proposed modification will not change:

- the project footprint or land required for the project
- the proposed disturbance on the project site
- the existing hours of operation
- the proposed operational activities on the project site.

A review of the proposed modification against the approved project has identified the following areas where potential for changes to predicted environmental impacts could result from the modification:

- hazards
- noise and vibration
- air quality
- greenhouse gas emissions
- surface water.

Updated technical studies will be undertaken in these areas and further information will be provided once these studies have been completed.



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### **Does the project include a battery? Is there an increased fire risk?**

The project does not involve any battery technology and battery technology is not included in the proposed modification.

The mitigation measures set out in the project EIS with respect to bush fire risk will be implemented as part of any modification.

### **Is hydrogen generation still part of the project? And how much water will be consumed to make the hydrogen?**

The existing project development approval includes construction and operation of a 20MW hydrogen generation facility. This approval continues to apply and will not be modified. Both power generation technologies are capable of operating on hydrogen blends of up to 25%.

The electrolysis process requires approximately nine (9) litres of water for every one (1) kilogram of hydrogen produced. The water in an Olympic sized swimming pool would produce approximately 280,000 kilograms of hydrogen using electrolysis.

Dubbo Firming Power Station will have access to treated water from a new advanced wastewater treatment facility at Dubbo Sewerage Treatment Plant, which is being jointly funded by Squadron Energy and Dubbo Regional Council.

### **What are reciprocating engines?**

Reciprocating engines are used for power generation to harness the controlled ignition of the fuel to drive a piston within a cylinder.

Pistons move sequentially to rotate a crank shaft which turns the generator. This technology is an alternative to the existing project approved turbine technology which involves air being compressed to a high pressure before being admitted into the combustion chamber.

Fuel is injected into the combustion chamber where combustion occurs at very high temperatures and the gases (air and combusted fuel) expand. The resulting hot air is admitted into the turbine causing the turbine to turn, generating power.

Reciprocating engines are commonly used in Australia, especially in mining and utility-scale power generation industries.

### **What are the benefits of the project to the community and region?**

Squadron Energy is committed to creating lasting, positive impact for the communities we operate in. Recent examples of our investment in the Dubbo region include:

- Upgrading infrastructure through our partnership with Dubbo Regional Council to support a new advanced wastewater treatment facility at Dubbo Sewerage Treatment Plant
- Annual sponsorship of the Dubbo Stampede
- Supporting Macquarie Home Stay, providing essential accommodation for patients undergoing treatment at the Western Cancer Centre and those in need across the region.

The project will support over 150 construction jobs, many of which will be sourced locally.

Additional benefits of the project, such as a voluntary planning agreement with Dubbo Regional Council to support the local community, are set out in the EIS and continue to apply to any modification of the project.



Construction is officially underway for a new advanced wastewater treatment facility in Dubbo

## Contact

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