**Alinta Fortescue Solar Gas Hybrid Project**

<https://arena.gov.au/projects/alinta-fortescue-solar-gas-hybrid-project/>

**$24.2m** Funded by ARENA

**$202.4m** Total project cost

* **Lead Organisation** Alinta Energy

**Location** Mount Sheila, Western Australia

* **Start Date** October 2019

**Summary**

The Alinta Fortescue Solar Gas Hybrid Project will be developed, owned and operated by Alinta. The facility consists of 60 MW AC solar PV integrated with a 35 MW battery storage facility at the Newman gas-fired power station in the Pilbara region of WA.

**Need**

The [Alinta Fortescue Solar Gas Hybrid Project](https://www.alintaenergy.com.au/vic/about-alinta-energy/power-generation/chichester-project/) recognises that remote mine sites in the Pilbara are heavily reliant on diesel or gas generation for their energy needs.

To unlock further investment in renewable energy in the sector, more projects are needed to demonstrate how renewable energy solutions can provide secure and reliable electricity for major mining operations and help reduce emissions. The Alinta Fortescue Solar Gas Hybrid Project will aim to demonstrate that the mining operations can be reliably powered by 100 per cent renewable energy at certain times.

**Action**

Alinta will develop a hybrid renewable energy solution to power a number of sites included in the Chichester mining hub.

A 60 MW [solar PV](https://arena.gov.au/renewable-energy/solar-pv-rd/) facility and approximately 60 kilometres of new transmission lines will be constructed to link two of Fortescue Metal Groups’ (FMG) sites – Christmas Creek and Cloudbreak – to the new solar farm.

The transmission lines will also connect the FMG mines to Alinta’s existing 145 MW gas-fired Newman Power Station and its 35 MW / 11 MWh [battery storage system](https://arena.gov.au/renewable-energy/battery-storage/).

Fortescue is to be the main off-taker of the project, which will help to reduce the use of diesel by around 100 million litres annually. This will allow up to 100 per cent of daytime energy requirements for the Chichester mining hub to be powered by renewable energy, with the remaining power requirements to be balanced with gas generation.

**Outcome**

The project aims to demonstrate the effectiveness (both technically and commercially) of a large-scale hybrid power supply solution combining solar, gas and storage, integrated in an off-grid network.

It will also show how interconnection of loads and different generation and storage – including solar, battery storage and gas – can provide secure and reliable electricity.

The project will share knowledge with other miners, generators and networks on the technical challenges relating to using multiple generation technologies and high penetration of renewables to provide reliable power supply to support mining and off-grid operations.

**Additional impact**

Around 200 jobs are expected to be created during construction with an estimated net public benefit of A$221 million, including diversification of generation capacity which increases security of supply in the Pilbara area.

Alinta has committed to Indigenous employment, procurement and spend targets as part of the project.