

Fact Sheet



Concept only - not final design

Private Energy Partners is proposing to build an Energy Hub within the Gladstone State Development Area (SDA).

The Gladstone SDA Energy Hub is proposed as a multi-technology system balancing and grid resiliency solution, designed to help keep the power system in balance between periods of peak renewable supply and periods of peak demand.

The project is planned to be delivered in three stages.

At full capacity, it would be able to generate about 1080 megawatts (MW) of gas via the gas turbines, and store and

dispatch about 780 MW via the BESS.

The project would help keep the electricity network stable by providing extra power when demand is high, when other power sources aren't producing enough, or when unexpected outages occur.

The strategic location of this project supports Queensland's critical heavy industries.

About the gas turbines

A gas turbine makes electricity by burning fuel (in this instance, gas or diesel) to spin a generator.

How do gas turbines work?

A gas turbine makes electricity by burning fuel (in this instance, natural gas or diesel) to spin a generator. Electricity produced would be fed directly to the grid via new (to be delivered by the project) high voltage transmission lines connected to Powerlink's Larcom Creek Substation. The gas turbines would have an operational life of approximately 25 years.

How many gas turbines are needed and how big is each gas turbine?

Six gas turbines are proposed to be included in the Gladstone SDA Energy Hub design. Each gas turbine is approximately 40.5 m tall.

In comparison, the Gladstone Power Station stacks are 153 m tall. Similarly, Mount McCabe (the landform 500 m to the east of the Hub) is 70 m taller than the top of the turbine exhaust stacks, shielding view of the gas turbines from most public angles.

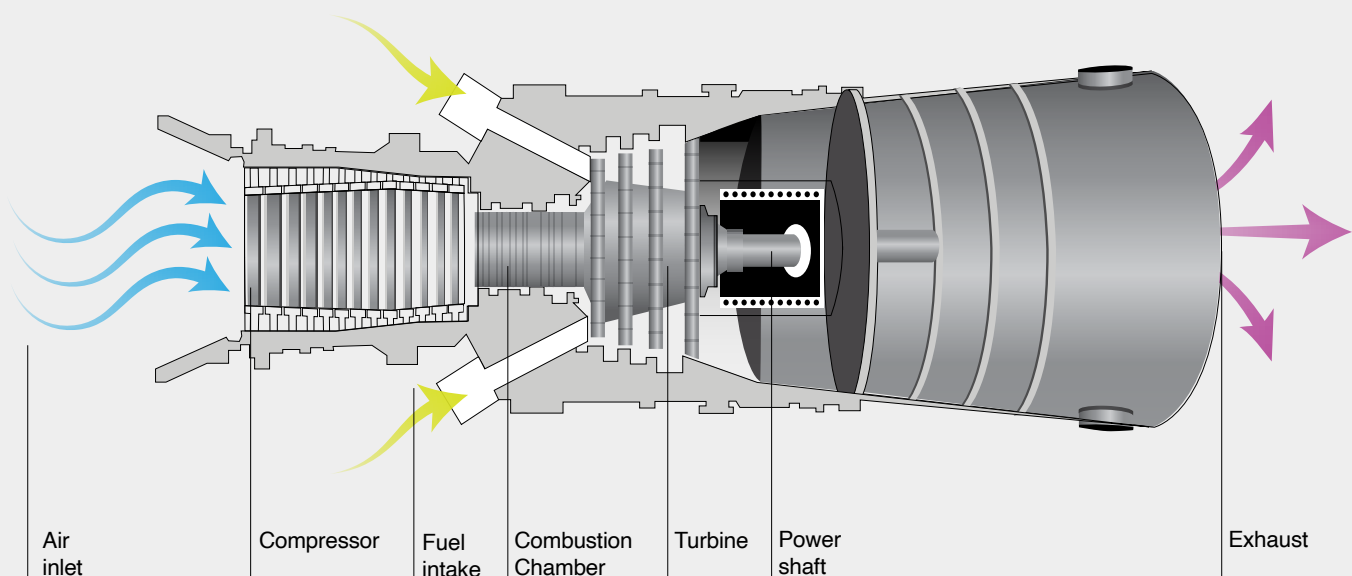
When would the gas turbines operate?

Each gas turbine could operate individually or collectively. They are not proposed to run 24/7 – rather, they would only operate in times of peak electricity demand or when the electricity network needs extra support – for example, in extreme weather events.

Where would the gas come from?

We intend to use natural gas from existing nearby pipelines to power the turbines. If required, the turbines could also run on alternative fuel sources.

The internal components of an open cycle gas turbine





Environmental management during operation

The Gladstone SDA is a defined area of land dedicated for industrial development*.

The SDA was selected as the best location for this project, due to several technical factors and its distance (approximately 4.5 km) from the nearest residence.

In Australia, there are strict safety and environmental standards that will apply to the project proposed for the SDA.

Noise

In operation, gas turbines do create noise. Baseline noise monitoring has been completed to understand existing noise levels. Predictive noise modelling has been undertaken to understand the impact of the project on the local area. Mitigation measures put in place to meet relevant Queensland Environmental Protection (Noise) Policy 2019 limits during the day and night.

Waste

Unlike many large refining or processing projects, open cycle gas turbines don't create solid waste as part of the energy generation process. Instead of burning coal, which leaves behind ash that must be stored, transported, or managed in tailings dams, gas turbines burn natural gas to create electricity.

The combustion of natural gas is highly efficient and produces mainly carbon dioxide (typically half that of coal-fired generation) and water vapour, with no ash, slag, or other solid residues to dispose of.

Air quality

In operation, gas turbines do release some emissions.

Modern gas turbines use a mix of advanced design and after-treatment systems to minimise the impact of the emissions on the environment.

Baseline air quality monitoring has been completed to understand existing conditions, with ongoing monitoring expected to be required during operations to demonstrate compliance with Australia environmental regulations and public safety standards.

* <https://www.coordinatorgeneral.qld.gov.au/work-with-us/state-development-areas/current-state-development-areas/gladstone>

Keeping you informed

The project is in the planning phase.

We will continue to keep you informed about the project as planning progresses which includes about community engagement activities.

Private Energy Partners acknowledges the Traditional Custodians of the lands on which we operate and meet, recognise their continuing connection to Country, waters and communities, and pay our respects to Elders past and present.



Private Energy Partners Gladstone Project Information Centre - 37 Goondoon Street, Gladstone.

Contact us

Have questions or want to learn more about the project, contact us below:



About Private Energy Partners

Private Energy Partners is Australian founded, owned and operated. We are an affiliate enterprise of Quinbrook Infrastructure Partners (Quinbrook). Quinbrook is a global business founded in 2015 by Queenslanders who have invested in more than 200 low carbon, renewable, storage, gas and critical minerals projects over the past 25 years. Private Energy Partners is Quinbrook's dedicated development, delivery and operations service provider, specialising in renewable energy projects across Australia, the US and UK.

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