Jumbun Microgrid
Project FAQ's

Jumbun Microgrid Project - Frequently Asked Questions

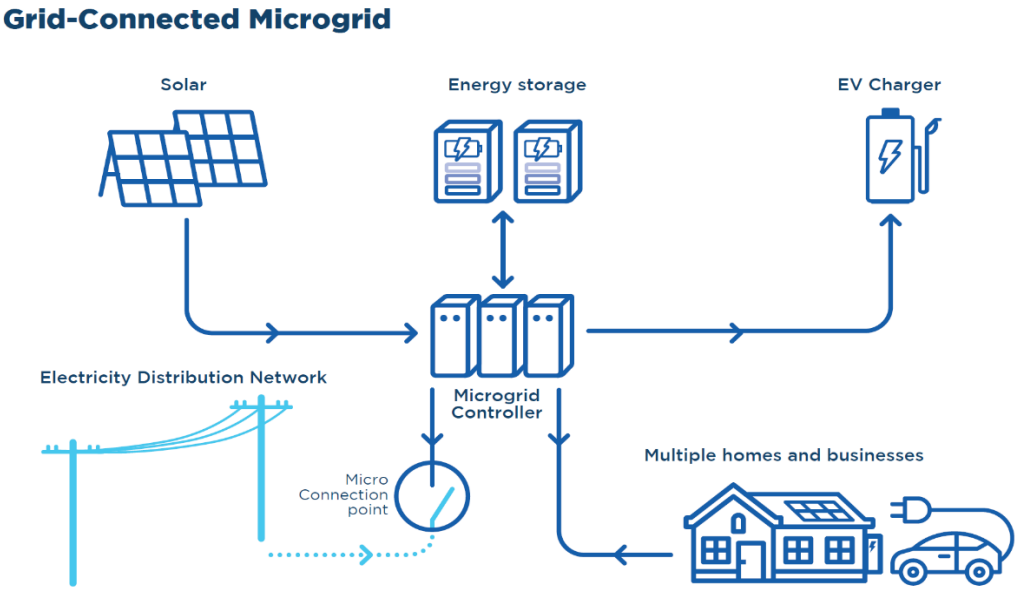
We've heard that you're building a microgrid at Jumbun– is this true, and what is a microgrid?

Yes, it's true, we are building a low-voltage, grid-connected microgrid at Jumbun.

A microgrid is a section of network containing one or many distributed energy resources, such as solar PV, wind, and battery energy storage systems, that can separate from the wider electrical network and operate autonomously when required.

In simple terms, the Jumbun microgrid is a battery, connected to the main electricity network, that can operate independently in 'island mode' to supply backup power when the main grid supply is disrupted or unavailable, like during network outages.

With advances in technology, microgrids are becoming intelligent energy systems, designed to be self-sufficient and to power the electricity needs of a discrete group of customers or small community like Jumbun.



Why is the Jumbun Microgrid project needed?

Communities like Jumbun that are located at the extremity of the electricity network, experience power outages whenever there is a fault upstream of them along the length of the powerline. As a result, these communities face more frequent and longer outages. This is because of the length of the powerlines that supply their electricity, as well as a range of environmental factors, and because they are often in hard-to-reach locations which present access challenges for our crews responding to unplanned outages.

With advances in technology over the past decade or so, we can build a microgrid at Jumbun to improve the reliability of the power supply for the community.

Where will the microgrid be located?

There is a range of factors we need to consider when selecting a suitable site for the microgrid. These include having an area large enough to accommodate the microgrid battery, inverter, and communications equipment.

The site also needs to be clear of underground services and close to the main electricity network. Because of this combination of requirements, we have a limited range of suitable locations.

We have identified a suitable site near the existing electricity network in the road reserve adjacent to Murray Falls Road and opposite the sports ground. We are working closely with the team at Cassowary Coast Regional Council to finalise the requirements to secure the site for the microgrid.

What will the microgrid look like?

The microgrid will comprise of a battery, inverter, and communications equipment, which will be mounted on a concrete slab and housed within a secure enclosure – see the artist impression images below.

The microgrid's battery is made up of several smaller batteries, that are installed in specialised racks and work together to create a big battery – see example below. The batteries will be housed in the specially designed microgrid cabinet, which keeps the batteries and other equipment secure, while still allowing our team access to monitor and maintain the batteries as needed. The equipment in the cabinets will be temperature controlled and remotely monitored for optimal performance and safety.

Ergon's Microgrid Team install a battery unit into a big battery rack.

There may be an option to decorate the microgrid cabinet with artwork. We will be working in collaboration with the Jumbun community during the project to agree on a suitable design for the microgrid artwork.

Will our community be disconnected from the network when the microgrid is complete?

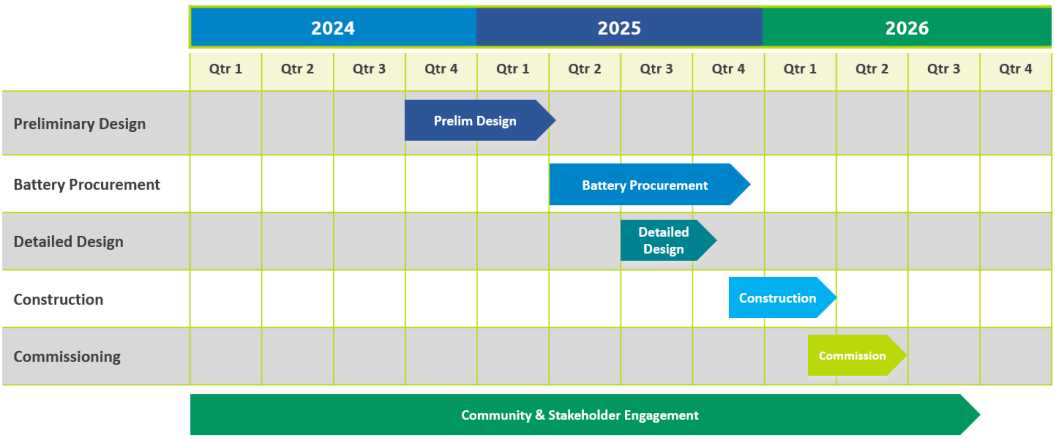
While one of the key benefits of a microgrid is its ability to operate independently of the main electricity network, the Jumbun community will remain connected to the network on a day-to-day basis.

The primary purpose of the microgrid is to allow us the flexibility to separate the community from the main electricity network when there is an interruption to the power supply upstream and operate in ‘island mode’ when needed.

When is the project going to start and how long will it take to complete?

The project commenced in late 2023 when we secured funding and established our small project team. The project will be delivered in stages, as outlined in the Project Timeline, and will be completed by mid-2026.

Jumbun Microgrid Project Timeline



What changes will the project bring? Will it mean changes to our electricity supply?

No, apart from seeing the microgrid equipment in the community, you won't see changes to how electricity is supplied to you, or to your power bill.

When the project is completed and the microgrid is operational, you may notice that the reliability of the electricity supply at Jumbun has improved, as the microgrid will operate when there is an outage on the main electricity network.

Will there be impacts from the project?

Construction projects can be disruptive to the community and the microgrid may present some impacts. The types of impacts typically associated with the construction of a project like this include:

- **Civil works** – civil earth moving works to level the site and establish the microgrid's foundations will be required in the construction phase.
- **Noise, dust, and vibration** – some audible noise, possible dust and localised vibration from construction activities can be expected.
- **Construction traffic** – a small increase in vehicles and equipment moving around the site during the construction and commissioning phases.
- **Access and disruptions to traffic** – from time to time during construction, we may introduce traffic control and/or speed limitations around the site to keep our crews and the public safe. This may include when heavy equipment is being delivered to site and is not expected to cause major delays.

There will also be positive impacts associated with the project including:

- Improved electricity reliability for the community.
- And the opportunity for the community to be involved in a range of planned activities and events throughout the project.

We anticipate the impacts associated with the construction of the Jumbun Microgrid will be very minor, and the project team will continue to keep the community and key stakeholders updated throughout the project.

Will Ergon continue to own and operate the new and existing network assets?

Yes – Ergon Energy Network will own, and continue to operate and maintain, the new microgrid and the existing network assets.

What is a BESS and what does it do?

BESS stands for Battery Energy Storage System, but they are commonly known as batteries.

They are a type of energy storage system, that uses batteries to store energy from the grid, to be used when it's needed.

BESS come in various shapes and sizes, and they can use different technologies. They are like a rechargeable battery that can store energy from the grid and be used later when it's needed.

In the case of the Jumbun Microgrid, the stored energy will be able to be used during power outages, like when Ergon needs to turn off power to safely work on the powerline, or during unplanned outages when there is a fault on the upstream network.

Batteries also help with smoothing the power output when the solar system is intermittent, like when a cloud passes over.

As part of the microgrid, the BESS will be connected to and charged by the existing electricity network.

We've heard stories about batteries and their safety - will the batteries at Jumbun be safe?

The battery will be installed and maintained to the same high standard we would for any of our other electricity network assets. The operational practices for the batteries in the trial will also minimise the safety risks.

All chemical or energy infrastructure in the community, whether a petrol station or other electricity infrastructure, have some risks.

To address this, we will use the latest technology batteries and built the microgrid in a cleared area. The batteries and microgrid equipment will also be monitored remotely 24/7.

The likelihood of an incident is very low, however in the unlikely event the batteries' alarms are triggered, we will have protocols in place to respond. Prior to commissioning the microgrid, we will engage with the local fire brigade and other emergency services, and we'll have an appropriate Emergency Management Plan established.

What is the life of the batteries and are they able to be recycled?

The lithium-ion batteries we are using are expected to have a minimum life of 10 years, depending on how they are operated. They could have a life of up to 15 years.

Yes, batteries are already being recycled. We have several battery projects across Queensland, and we have engaged with an Australian recycling company to work with us to reduce our impact on country.

We will continue to review what is best practice, and our preferred recycler or recyclers, as our investment in battery technology continues to scale up.

We expect recycling services to evolve, potentially with economic opportunities for Queensland, as electric vehicle batteries drive demand for these services.

Will the batteries be noisy?

The batteries have cooling fans enclosed in the unit that will operate to keep the battery at the required temperature for safe operation. Although there is some noise emitted from the fans, the microgrid site is some distance from residents, so it's unlikely the community will hear noise from the microgrid.

Do the batteries emit electromagnetic fields?

When new electrical infrastructure projects, like the Boulia solar farm and battery are discussed, many people ask about electric and magnetic fields (EMF). EMF are generated by any object with electric current flowing through it, including powerlines and all electrical appliances used in homes, such as televisions, washing machines, microwaves, hair dryers and computers.

The level of EMF from the batteries will depend on the amount of current and the fields decrease in strength the further you move away from the source.

All the equipment Ergon uses and installs onto our network must comply with strict industry standards and our standards for EMF emissions continue to be better than those required by Australian and international health authorities.

We've got more detailed information on EMF and links to other relevant organisations on our Electric and magnetic fields web page.

Will there be engagement with our community to explain the project and how the microgrid will operate?

Yes! Ergon's community engagement team – pictured below - will be working with the Jumbun community and other key stakeholders throughout the project.

We will have a range of information, updates, and events to keep the community up to date on project progress and to explain how the microgrid will work.

Get in touch with us

Senior Community Engagement Advisor, Kate Austin - on 1300 653 055 or email us at: NetworkProjectEngagement@energyq.com.au or visit our project website.