Yabulu South BESS

Frequently Asked Questions

April 2026

GENERAL

What is proposed?

The Yabulu South Battery Energy Storage System (BESS) Project is a proposed large-scale energy storage facility located at 582 Mill Road, Black River, approximately 25 kilometers west of Townsville city in Queensland. It aims to store renewable energy for later use, supporting grid reliability and Queensland's renewable energy goals.

Who is Trina Solar?

Trina Solar is an internationally recognised leader in solar farm developments, known for its supply of PV modules with its own manufacturing divisions of solar modules, trackers, electrolysers, and Battery Energy Storage Systems (BESS).

With local offices in Melbourne, Sydney, Perth and Brisbane, the company has demonstrated its capability to deliver renewable energy projects by developing, constructing, and operating over 8GW of solar farm projects worldwide. Trina also has a strong pipeline of new projects currently in the development and construction phase, indicating its ongoing global commitment with the transition to clean energy and reaching net zero.

With an enviable global manufacturing division, significant record of accomplishment, Trina Solar brings its demonstrated capability in renewable energy projects to the local Australian market. The company's expertise and experience make it well-positioned to play a leading role in Australia's transition to renewable energy.

Why is this proposal needed?

Battery Energy Storage Systems (BESS) are technology-neutral and store electricity, releasing it during peak times or when the network needs support. This helps keep the power supply stable and reduces pressure on the grid.

The project will help improve reliability for local homes and businesses, support a more efficient energy system, and contribute to more stable electricity prices over time.

What is a BESS?

A BESS is an energy storage system that uses a group of batteries to store electrical energy from a variety of sources, including solar. The system compensates for the intermittency of sources, providing backup power to address certain constraints such as weather conditions and lack of grid space. They are crucial to the increased adoption of dispersed energy sources and infrastructure, reducing the risk of widespread power outages. BESS is also major type of generators apart of synchronous machines to support system strength during contingencies and normal operation for network security.

What stage is the proposal at?

Trinasolar is currently in the early stages of preparing a development application and is undertaking environmental assessments and stakeholder engagement to better understand the project's opportunities and constraints.

In line with recent planning reforms introduced by the Queensland Government, large-scale battery storage projects are now required to undertake a Social Impact Assessment (SIA) and establish a Community Benefit Agreement (CBA). These processes are designed to identify potential social impacts, develop appropriate mitigation measures, and ensure projects deliver meaningful benefits to the local community.

As part of this, we are currently preparing the SIA and working toward the development of a Community Benefit Agreement for the Yabulu South BESS. Over the coming months, we will be undertaking more detailed and structured engagement with local stakeholders and the broader community.

Who approves the project?

The Yabulu South BESS project will be assessed and approved by the State Assessment and Referral Agency (SARA) under Queensland's current planning framework.

When will construction commences and how long will construction take?

The construction start date is dependent on a variety of factors, including obtaining Development Approval from relevant authorities, selecting a construction company, and receiving grid connection approvals, negotiation of a Power Purchase Agreement (PPA) and completion of the Financial Close process. Once construction contractors are appointed, works on site are to take approximately 18 months.

How long will this project operate for? What happens after that?

The operational life of the project is expected to be at least 20 years. After this time, the site will be decommissioned and the land rehabilitated and returned to its original use. The decommissioning process is a critical part of the development application process, and a decommissioning plan will be included for the development to be considered.

DESIGN CONSIDERATIONS

What does a BESS look like?

BESS are container-like modular systems grouped with multiple inverter stations that are configured based on site and capacity obligations and can be compared to shipping container-like objects.

Trina Storage Elementa Series

Containerized form of BESS will reduce install and maintenance duration, improve electrical and environmental safety of whole plant, reduce impact on original landscape. As technology improves, the systems are becoming increasingly efficient and more compact.

Why has this specific site been chosen?

The development site was selected for its proximity to the Yabulu South Substation— one of the largest grid substations in QLD. The site also features setbacks designed to minimise any impact on neighbouring properties, and the Mill Road can be utilized for cable route, allowing for reduced disturbance to connect the BESS to electrical infrastructure.

Will there be any visual impact?

Inevitably, the installation of a BESS will have some effect on the current look of the landscape, though the BESS cubicles are unlikely to emit glare or reflection. The Development Application process consists of independent technical assessments, and visual impact will be assessed as part of this. If required, BESS facilities can be screened (by either vegetative or artificial means) to minimise any potential visual impacts.

The project is located in a predominantly rural setting, and we will take particular care to engage with neighbouring properties in the vicinity to understand and address any concerns. Trina Solar is committed to working closely with the local community to address any concerns and encourages the community to approach them with any issues that may arise.

Will I be able to hear the BESS?

Like all large-scale developments, BESS facilities may generate noise, however, in Queensland, due to the state's environmental protection regulations and the BESS's location with propose designs, it is not expected to be heard by nearby residents or the community. The main source of the sound include (1) inverter station and unit transformer, (2) HV transformer in voltage step-up substation, (3) internal cooling fans required to regulate the operating temperature of the individual battery cells. The inverter stations are built in containerized cabinet to reduce noise level naturally. The sound of battery cooling load make is similar to an air conditioning unit or a dull whirring noise. All the noise level decrease with distance and can be further reduced by install of acoustic enclosures or barriers. Studies are ongoing to assess noise levels, the impact this may have on the area, and clear mitigation recommendations.

TECHNICAL

What type of BESS units will be used?

Safety is our top priority, which is why we have specifically chosen Lithium Iron Phosphate (LFP) technology for this project. While people are more familiar with Lithium-ion (L-ion) batteries in phones or e-scooters, the ones we use are based on more stable

technology and built differently to ensure maximum stability in a community setting.

Why LFP is the safer choice

Not all batteries are the same. LFP chemistry is widely recognized by safety experts and regulators as one of the most stable options available today.

- Heat stability: Unlike some other battery types (such as those in older electronics), LFP materials do not release oxygen if they get hot. This is a huge safety advantage because it significantly reduces the risk of fire.
- Community first: Because of this built-in stability, LFP is the globally preferred "gold standard" for large-scale energy projects located near residential areas.

How high will the BESS units be?

BESS units will be installed on low-lying structures and are expected to not exceed 3m above the natural ground level. It is expected that the project area will be at the same height or lower than other existing features in the landscape.

How will construction and operation traffic and road impacts be managed?

Access to the development site is anticipated to be from Mill Road. The anticipated 18 months construction period including (1) early works period like site levelling, clearing, fencing, survey, design, procurement, etc. (2) approximate half year as peak period for equipment delivery, install and civil works, (3) rest of period testing and commissioning time. During the peak construction period, construction vehicles would range from light vehicles to B-Doubles. Light vehicles would arrive during AM/PM peaks with heavy vehicle deliveries to be spaced out during the day. The rest of period, there will be much less transportation on local traffic. During the operation phase, traffic impact will be minimal, with fewer than 10 contractors required for maintenance.

Will there be outages during construction?

There will be no outages expected during the construction phase. Trina will work closely with Powerlink during the different phases of the project to minimise the impact to any distribution power line. Once the BESS is built and operational, it will help to increase the grid stability.

Are there health risks associated with living near a BESS?

There are no situations in which being in the proximity of a BESS can have adverse health effects. The operation of a BESS generates no emissions such as CO2 or any other harmful gases.

ENVIRONMENTAL

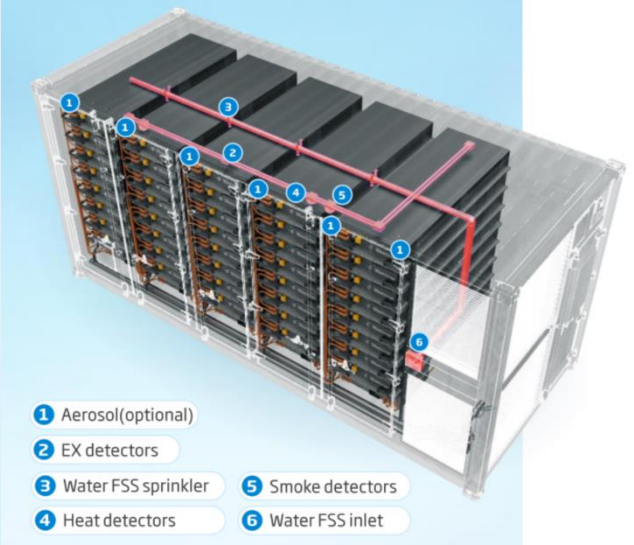
What happens in the case of a chemical spill?

BESS facilities are designed to manage chemicals and avoid chemical spills on site. Battery pack protection level is IP67 and the liquid-cooled bottom plate of pack can prevent spills. In addition, the container is sealed from bottom side to avoid any leak. In the unlikely event of a leak, containment measures such as bunding (a form of secondary containment consisting of a raised, impermeable barrier used to retain

liquids), spill trays at BESS foundation, and chemical absorbents are in place to capture materials on site.

Do batteries increase fire risk?

The project layout design considers and is compliant with latest QFD Design guidelines and model requirements for this facilities document regarding clearance, accessibility, firefighting water supply, fire break buffer zones, etc. Site specific fire management plan and emergency response plan will be prepared in detail design and pre-construction stage.



The Proposal will not increase the risk of bushfires in the area. Trina Solar will work closely with the relevant fire service agencies to confirm access requirements for the BESS if there is a bushfire that moves into the area, or if a fire starts in the BESS.

Trinasolar will continue to seek and take guidance from the Queensland Fire Department (QFD) to ensure the final design meets all requirements and standards.

Do the batteries have their own protection system?

The Yabulu South BESS incorporates advanced “smart” technology to continuously monitor the system across the entire site. Each battery unit is equipped with its own dedicated safety mechanisms, including:

- Self-shutdown: If the system detects anything unusual, each battery can automatically turn itself off instantly.
- Isolation: We can disconnect individual units to prevent a small issue from reaching the rest of the system.
- Internal suppression: Each unit has its own automatic internal fire-fighting tools designed to manage faults right where they start.

Is the site affected by flooding?

Assessments completed to date indicate that the site is not flood-prone. Stormwater drainage will be built along natural waterways. In the unlikely event of stormwater flooding, where water may pool from heavy rainfall events, BESS infrastructure is expected to remain stable.

Are batteries recyclable?

Battery manufacturing has greatly improved in efficiency and scale in the past decade, driven by the critical growth phase of battery recycling. Nearly all materials in a LFP battery, including nickel, cobalt, graphite, copper, aluminium, iron, and lithium, can be recycled, with up to 99% recovery rate.

CSIRO is actively involved in supporting lithium-ion battery recycling through research on metal and material recovery processes, new

battery materials development, and fostering a circular economy for battery reuse and recycling.

Australia's lithium battery recycling industry, though in its early stages, is already demonstrating progress towards a cleaner and more sustainable future, with operational recycling facilities like Envirostream in Victoria.

SOCIAL AND ECONOMIC

How many jobs will be created by the construction and operation of the project?

Employment opportunities will range from skilled to manual labour, with an estimated up to 90 full time equivalent (FTE) construction jobs at peak construction, and up to 10 contractors annually. Using qualified local contractors is always a key element for Trina when developing a project, and they intend to work with local service and product suppliers to boost the local economy.

What other benefits will the community receive?

As the project will be operating for more than 20 years, Trina is committed to delivering long-term investment in the regions and the communities in which we operate. Engaging with your community is essential to us and ensures that our project offers mutually beneficial economic and social outcomes.

Trina will be continuing to engage and update all stakeholders that have an interest in – or may be impacted by – the project and will use information gathered to develop the most appropriate community benefit programs that foster positive outcomes and provides value to the local community.

Benefits will also include diversified income within the community, and clean, zero-emissions electricity to meet the region's energy needs.

Will there be always a contact onsite in case of emergency?

There will be a 24/7 contact and other staff members will be based near the project. The project will also be monitored continuously by a remote Control Center and CCTV.

Insurance

The Yabulu South BESS will have a range of insurance policies to cover the site in case of damage or fire. We have been discussing with insurance experts, have not indicated that there would be any impact to neighbours' ability to get appropriate insurance. We are not aware of this happening on any of our previous projects. However, we are committed to investigating this further.

We are committed to continuing to investigate this and ensuring transparency. If you have had discussions with your insurer or received advice from other sources, we welcome you to get in touch with us and share any information. Your input will help us ensure the community remains fully informed and supported.

What about the toxic waste in obtaining the materials for making the batteries?

Where possible, balance of plant material (such as steel and concrete) will be recycled. Whilst inverters, control systems and other electronic

equipment may be more challenging to recycle, useful materials from these components can often be recovered.

Do the batteries become toxic landfill when they are no longer useful?

We will not landfill the batteries when it decommissioned and we will transport the whole infrastructure to the processing plant. The recyclable percentage of a lithium battery varies, but generally, around 95-99% of a lithium battery can currently be recycled. The recyclable components include cobalt, nickel, copper, aluminium, and, to a lesser extent, lithium itself. Currently, in some cases, BESS recycling is not completely profitable and can result in financial losses. However, with advancements in recycling technology and the increasing demand for recycled materials, profitability could improve in the future.

Details of the decommissioning process are typically outlined by way of a Decommissioning Management Plan, that is prepared prior to a BESS being decommissioned and identifies all infrastructure, equipment, buildings and structures to be removed and details of how these will be removed.

Who manages the power to and from BESS? Will it be controlled by the community or will some other entity be able to turn it off and on at will?

The charging and discharging of the battery, as well as the operation and management of the power plant, will be subject to the conditions of the Connection Agreement signed with TSNP, Powerlink, and regulated by the requirements of the Australian Energy Market Operator (AEMO). Additionally, there will be an operations and maintenance team to ensure proper performance, and an asset management team to optimize production.

Further Information:

If you're a member of the local community and have any questions, suggestions, or interest in the project, we encourage you to reach out to us via email:

Web: https://YabuluSouthBESS.com.au/

Email: YabuluSouthBESS@trinasolar.com