Harrogate BESS

Frequently Asked Questions

This image is indicative of a Battery Energy Storage System (BESS) project.

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Project Overview	**What is the project?**	The proposed Harrogate BESS project would involve the construction and operation of a Battery Energy Storage System (BESS). A BESS uses rechargeable batteries to store electricity from the grid, during times of low demand for example, and then releases it when needed, such as during peak demand periods or power outages. By doing so, BESS aim at optimising and reducing energy costs in the long term. They also provide auxiliary services to the grid, improving its reliability and stability.
	Where is it located?	The proposed project would be located at 1201 Black Heath Rd Tungkillo, South Australia. Subject to obtaining the necessary approval, the Harrogate BESS would comprise of containerised battery units and control equipment associated with inverters and power transformers. The layout would be arranged in a grid pattern with enough space to allow access around each unit. The proposed project would be connected to Electranet's 275kV Tungkillo – Mt Barker transmission line.
	Why was the location chosen?	The site is within close proximity to a transmission line with capacity available. It is the ideal location for a BESS, as it will be able to store renewable electricity during times of low demand and release it back to the grid when needed.
	What is the investment value of the project?	The construction of the proposed project would have an estimated value of $390M.
	What's the status of the project?	The project is at an early development stage. All relevant assessments required to obtain the Associated Infrastructure Licence are underway. This includes assessments and reports such as noise, community, cultural heritage, environmental impact assessment, traffic impact study and fire management, amongst others.

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Project Overview	**Who approves the project?**	The assessment and approval of the proposed project is the responsibility of the State Government. The planning and approval assessment process ensures that the proposed project complies with state regulations, environmental standards, and community considerations. Consultation with relevant Local and State Government Departments is currently underway. Early community consultation with relevant stakeholders including Councils, neighbours, and community organisations will commence soon.
Project Ownership	**Who owns the project?**	Potentia Energy (previously known as Enel Green Power Australia) is the owner of the Harrogate BESS project.
	Who is Potentia Energy?	Potentia Energy is a joint venture entity co-owned by Enel Green Power and INPEX. Potentia Energy is currently operating over 800 megawatts (MW) of renewable energy assets across Australia, with construction underway on a further approximate 200 MW of capacity. Potentia Energy has rights secured for a development pipeline of over 9 GW across Australia and is committed to an ambitious growth agenda, targeting a significant increase to its installed capacity across wind, solar, storage and hybrid projects across Australia. Potentia Energy is committed to accelerating Australia's energy transition, driving the potential for a sustainable future.
	Who owns the land where the proposed project is situated?	The land is owned by a local landholder. Potentia Energy has a long-term commercial lease agreement in place for the construction and operation of renewable energy projects on the site.

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Project Construction	**Who would construct the proposed project?**	Potentia Energy would manage the construction phase of the project and would engage with construction contractors to undertake the construction works. Local subcontractors would be prioritised whenever possible.
	How many jobs would be created during construction?	Typically for a project of this nature, approximately 80 to 120 construction staff would be expected to be on site during construction peaks. Potentia Energy would work closely with the main construction contractors to identify local capability and capacity for construction roles and prioritise local engagement where possible.
	Will there be apprenticeships and traineeships available during the construction phase?	Potentia Energy would work closely with the main construction contractors to identify on site trainee and apprenticeship opportunities where possible.
	What transmission infrastructure will be built for the project?	The proposed project will connect to the existing Mt Barker–Tungkillo transmission line, which runs adjacent to the property, through a substation to be designed and constructed by ElectraNet. The substation will accommodate both Stage 1 with provision to connect Stage 2
Project Operation	**Who will operate the project?**	Potentia Energy would manage the operational phase of the project, mainly remotely. An Operations & Maintenance (O&M) contractor would be engaged to manage the operations and maintenance activities on site.
	When will the project start operating?	Operation of the proposed project is targeted to commence in the second half of 2028

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Project Operation	**How long will the project operate for?**	The approximate timeframe for the operational life of the project is 20 to 30 years.
	What will happen at the end of the lifecycle of the BESS?	Potentia Energy will adhere to the waste hierarchy and comply with all relevant environmental legislation in effect at the time. Primary efforts will focus on reusing, recycling, or donating materials whenever it is safe to do so. At the end of operation, the site would be restored to its original condition, and all materials used will be removed and treated appropriately.
Project Benefits and Impacts	**What benefits will there be for the local community from the project?**	Potentia Energy is committed to a Creating Shared Value (CSV) approach during construction and operation of all of its renewable energy assets. CSV means Potentia Energy intends to work closely with the local community to enhance the economic and social conditions in the local area to all projects and proactively share benefits within the local community. Potentia Energy's overall objective is for the proposed project to be considered as an integrated and valued component of the social and economic fabric of the local community. Potentia Energy is committed to local sourcing where feasible. It's anticipated the proposed project would create local employment and supply opportunities, with approximately 80-120 construction staff anticipated to be on site during construction peaks; and a small operational and maintenance team for the operational phase.

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Project Benefits and Impacts	**Why is this Project needed? Isn't there enough strength within the energy grid?**	SA has long been a national leader in renewable energy, with more than 70% of the state's electricity generation now coming from renewable sources such as wind and solar (SA Government, 2024). The state has committed to achieving net 100% renewable energy generation by the mid-2030s and is actively investing in technologies that support grid stability and emissions reduction. Projects like this one support SA's clean energy transition by strengthening the electricity grid and enabling more reliable integration of renewables. In doing so, they help maintain downward pressure on electricity prices, reduce reliance on fossil fuels, and contribute to broader carbon reduction goals. These developments also bring economic benefits, particularly to regional areas, by supporting local employment and procurement during both construction and operation phases.
	Will this have a big visual impact?	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. A BESS cubicle can be described as similar to a 20 ft shipping container and are approximately 2.6 m high. The SA Department for Energy and Mining (DEM) assessment 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.

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Project Benefits and Impacts	**Will I be able to hear the BESS?**	Like all large-scale developments, BESS facilities may generate noise, and detailed noise assessments and the impacts on the surrounding area will be investigated and assessed as part of the Environmental Impact Statement (EIS). The main source of the sound includes: • Inverter station and unit transformer, • HV transformer in voltage step-up substation, • Cooling fans required to regulate the operating temperature of the individual battery cells. The inverter stations are built in a containerised cabinet to reduce noise level. The sound of the battery cooling load is like an air conditioning unit or a dull whirring noise. The noise level will decrease with distance and can be further reduced by the installation of acoustic enclosures or barriers. A detailed Noise Impact Assessment will be undertaken during the development application and will assess noise levels, the impact this may have on the area, and clear mitigation recommendations.
	What other benefits will the community receive?	Potentia Energy is committed to delivering long-term investment in the regions and the communities in which they operate. Engaging with the local community is essential to us and ensures that the Harrogate BESS offers mutually beneficial economic and social outcomes. Potentia Energy will be engaging with local stakeholders and will use information gathered to develop the most appropriate community benefit sharing programs that will foster positive outcomes and provide value to the local community.

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Project Benefits and Impacts	**Are there health risks associated with Electromagnetic fields (EMFs) and living near a BESS?**	Electromagnetic fields (EMFs) are naturally occurring in the environment. Electric fields exist in the earth's atmosphere, while static magnetic fields are created by the earth's core. EMFs are also generated wherever electricity is produced, transmitted, or used — including from everyday household appliances such as fridges, microwaves, and hairdryers, as well as infrastructure like powerlines and substations. In daily life, we are regularly exposed to low-frequency EMFs, which are not considered harmful to human health at typical exposure levels. For context, a kitchen stove typically produces EMFs in the range of 2–30 milligauss (mG), a hairdryer between 1–70 mG, and standing directly under a transmission line may expose a person to levels between 20–200 mG. By comparison, the international safety guideline set by the International Commission on Non-Ionizing Radiation Protection (ICNIRP) limits public exposure to 2000 mG. BESS emit very low levels of EMF — often well below household appliances — and these levels typically reduce to background levels at the boundary of the site. According to the Australian Radiation Protection and Nuclear Safety Agency (ARPANSA), there is no established evidence of health risks from the low-level EMF exposure associated with electricity infrastructure, including BESS.

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Project Benefits and Impacts	**Do batteries increase fire risk?**	In SA, hazard and risk assessments for developments such as BESS are guided by requirements under the Planning, Development and Infrastructure Act 2016 and the assessment pathways administered by the Department for Energy and Mining (DEM), including those under the Hydrogen and Renewable Energy Act 2023 where applicable. Potentia Energy is committed to working closely with the South Australian Country Fire Service (CFS) and other emergency service providers to confirm access, design, and fire management requirements for the proposed BESS. Should the project be approved, detailed Fire, Risk and Emergency Management Plans will be prepared prior to construction. These will address fire prevention, emergency response procedures, and risk management during construction, operation, and decommissioning stages. Potentia Energy will continue to collaborate with relevant state and local agencies to ensure the Project's final design meets all safety, planning, and operational standards.
	Do batteries have their own fire suppression systems?	To mitigate potential fire risk the following steps are undertaken: 1) The substation and BESS have in-built protection to avoid overcurrent or any electric faults that may cause fire. It would constantly monitored, and the BESS would shut itself down should it detect heat rising too high or falling too low 2) Plant facility will have a Battery Management System and multiple detectors, including heat detectors and smoke detectors as standard. The units themselves will also have fire extinguishing system, such as: Aerosol fire extinguishing system; and Dry pipe sprinkler system 3) Water tanks, water pipeline system, and fire extinguishing tools will be installed on site for managing any spot fires.

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Project Benefits and Impacts	**How will power supply be affected in the local area – will there be outages during construction?**	No outages are expected during the construction phase. Once the BESS is built and operational, it will help to increase the grid stability.
	How will construction traffic and road impacts be managed?	During the anticipated 18-24-month total construction period, construction vehicles would range from light vehicles to 26m B-Doubles. Light vehicles would arrive during AM/PM peaks with heavy vehicle deliveries to be spaced out during the day.
	Why did Potentia Energy choose this site for the potential BESS?	Careful consideration is needed to select the most appropriate site for a BESS. The site is within close proximity to a transmission line with capacity available. It is the ideal location for a BESS, as it will be able to store renewable electricity during times of low demand and release it back to the grid when needed.
	Will this battery technology still be relevant once it is constructed?	Yes. The BESS can be adapted to utilise updates in technology closer to the construction and operation period. The BESS equipment manufacturers are global leaders in battery research and development and are well placed to make these adaptations.
	Will neighbouring insurance premiums be impacted by the development?	Based on available information, there is no indication that the development of energy infrastructure will have a direct impact on neighbouring insurance premiums. As confirmed by the Insurance Council (May 2024), there have been no reported cases where their members have denied coverage or increased premiums solely due to the presence of energy infrastructure on a property or nearby. The Clean Energy Council similarly highlights that any adjustments to insurance premiums are unlikely to be directly tied to clean energy developments. Instead, rising insurance costs are largely driven by broader factors, including the escalating frequency and costs of natural disasters, inflation affecting building and vehicle repair expenses, the increasing value of homes and vehicles, and higher operational costs for insurers.

More Information:

Visit the project webpage

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