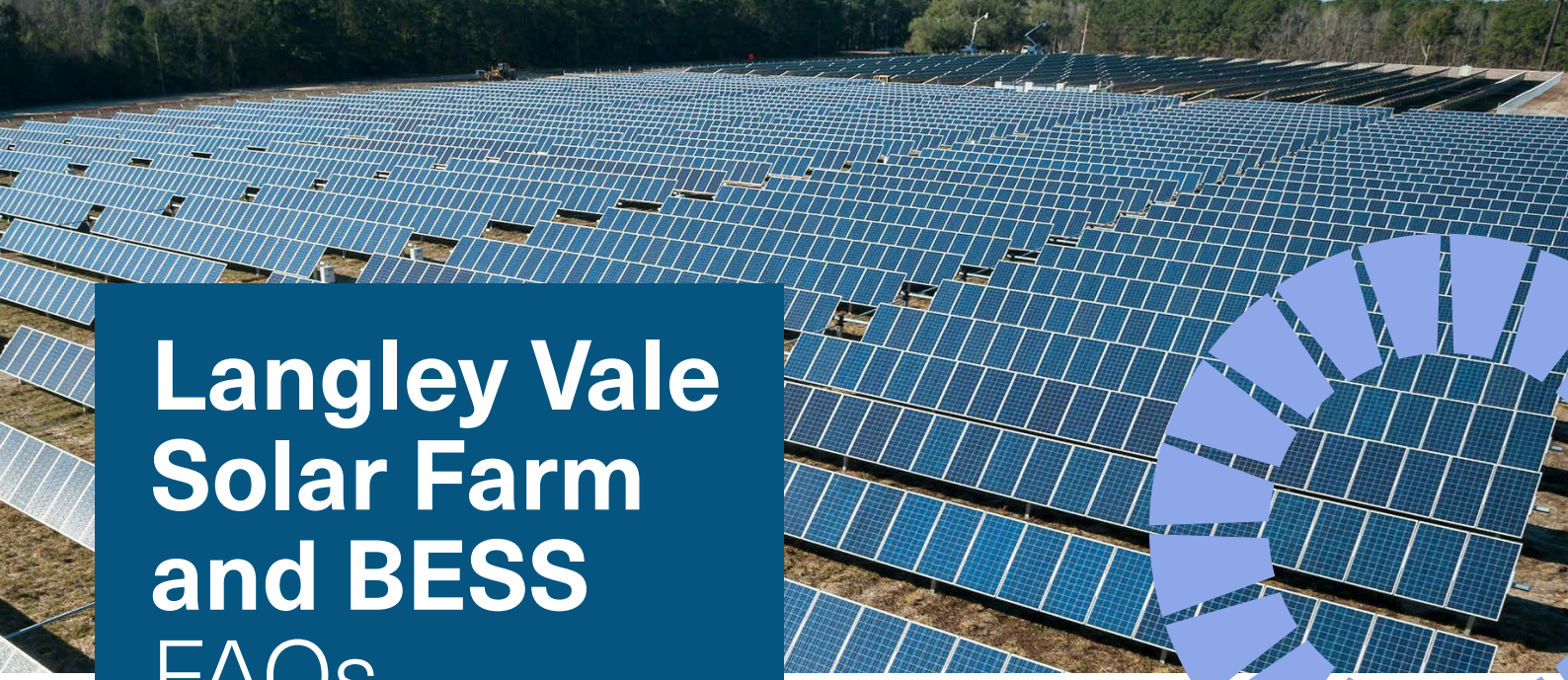

Langley Vale Solar Farm and BESS FAQs

General

What is proposed?

Elgin Energy is proposing to construct and operate a solar farm and battery energy storage system (BESS) in Lerida NSW, located 5km southeast of Gunning NSW. The development would capture energy from the sun and store it, producing and suppling clean power to the national energy grid both day and night. The Project would have a generating capacity of approximately 250 megawatts (MW) (AC) and would include a BESS up to 500 MW (four hour duration).

A Project of this size would produce enough clean solar energy to power up to 110,000 NSW homes. The BESS would enable energy storage for sue during peak demand or low sunlight periods, improve grid stability, and maximise the value of the solar generation.

What stage is the Project at?

The Langley Vale Solar Farm and BESS has compiled and submitted a Scoping Report. Secretary's environmental assessment requirements (SEARs) will be issued, outlining the technical assessments required for the next phase of the NSW state significant development (SSD) timeline, called the Environmental Impact Statement (EIS). You can view the Scoping Report on the NSW Major Projects Portal.

Who is Elgin Energy?

Elgin Energy is a global leader in large-scale solar and battery storage projects. Headquartered in Dublin and backed by Copenhagen Infrastructure Partners, Elgin has delivered over 1 GW of ready-to-build projects and has a 15 GW+ pipeline across the UK, Europe, and Australia.

In Australia, Elgin is advancing several hybrid solar and battery projects, including the 150 MW Elaine Solar Farm and the approved 330 MW Barwon Solar Farm in Victoria, as well as projects in New South Wales such as the approved 80 MW Glanmire Solar Farm, located near Bathurst.

Who approves the Project?

As a state significant development (SSD), the Project will be reviewed by the NSW Department of Planning Housing and Infrastructure (DPHI).

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General

Why not build the Project in a Renewable Energy Zone (REZ)?

A project doesn't need to be located within a Renewable Energy Zone (REZ) to be approved or provide benefits. While REZs are areas that have been identified within NSW for coordinated development, renewable energy projects outside these zones still play a valuable role in supplying clean energy, supporting the electricity grid, and helping meet NSW's emissions reduction targets.

All projects must still go through the proper NSW Government environmental and planning assessments to ensure they're suitable for the location.

When will construction commence and how long will construction take?

The construction start date is dependent on a variety of factors, including development approval, selecting a construction company, 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 - 24 months.

What is a BESS?

A Battery Energy Storage System (BESS) is a large-scale energy storage solution that stores excess electricity generated by the solar farm for use at a later time.

By storing solar energy when generation is high (such as during the middle of the day) and releasing it when demand increases or solar output drops (such as in the evening or during cloudy weather), a BESS helps stabilise the energy supply and improve the reliability of renewable generation.

In large-scale projects, BESS also plays a vital role in managing grid constraints, supporting energy security, and maximising the efficiency and value of the solar energy produced.

Why is this Project needed? Isn't there enough energy infrastructure being produced in the area?

While many renewable energy projects are underway, NSW still needs more clean energy infrastructure to meet its emissions reduction and energy reliability goals. The NSW Government has committed to reducing greenhouse gas emissions by 70% by 2035 (compared to 2005 levels) and reaching net zero by 2050. To achieve this, more renewable energy projects like this one are essential to replace aging coal-fired power stations and ensure a reliable, affordable power supply.

Renewable energy currently makes up about 53% of electricity generation in NSW, which includes solar, wind, hydro and other sources (Energy NSW, 2024). However, as demand for electricity continues to grow and older fossil fuel infrastructure retires, new projects are needed to support the grid, reduce power prices, and cut emissions even further.

This Project will help by delivering clean, locally generated power, backed by battery storage that ensures energy is available when it's needed most. Projects like this also contribute to local and regional economies, creating thousands of jobs and helping to lower electricity prices for households and businesses across the state (NSW Government, 2020).

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Design considerations

Will there be a big visual impact?

The installation of solar panels will inevitably have some effect on the current look of the landscape. A visual impact assessment (VIA) will be undertaken within the EIS, which will work to determine the visual impact of the solar farm. If required, developments can also be screened (by either vegetative or artificial means) to minimise any potential visual impacts.

Elgin Energy 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 glare be an issue?

The primary function of solar panels is to absorb sunlight rather than reflect it. The technical process in manufacturing solar panels includes anti-reflection, hydrophobic layers that minimise the potential for sunlight reflection. CASA has approved projects close to the airport reporting that more glare is expected from the local waterways and the sun itself.

A Glint and Glare Assessment will also be undertaken as part of the VIA to ensure that there are no negative glint and glare effects to receivers.

What does a BESS look like?

The BESS will be made up of modular units, similar in size and shape to shipping containers. This design allows for quicker installation and easier maintenance, improves safety, and reduces the overall impact on the landscape. As technology advances, these battery units are becoming smaller and more efficient.

Why did Elgin choose this site for the Langley Vale Solar Farm and BESS?

Careful consideration is needed to select the most appropriate site for a solar farm. There are many factors to consider including:

- Access to the electricity grid
- Current land use
- High solar irradiance (i.e.. areas exposed to consistently high levels of solar radiation).

Will I be able to hear the Project?

Like all large-scale developments, the Project may generate some noise – although this is generally related to the BESS. As part of the EIS process, a detailed noise assessment will be completed for both the construction and operation phases of the project.

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.

BESS projects must comply with all relevant Environmental Protection Authority (EPA) noise regulations. This requires the facility to be designed and operated so that noise emissions remain within prescribed limits at all times, ensuring there is no adverse impact on nearby residents or sensitive receivers. Where necessary, the project will implement acoustic controls to meet these regulations.

Do Agri-solar operations impact Livestock Production Assurance (LPA) verification?

The operation of livestock grazing under an Agri-solar system does not affect a producer's ability to meet LPA requirements.

Producers who choose to graze livestock around solar arrays are still required to follow the same practices and record-keeping as they would on a conventional farm.

The presence of solar infrastructure does not change these obligations or the process for LPA accreditation or audit. In fact, many Agri-solar projects are designed to ensure grazing can continue safely, with fencing, access arrangements and land management plans developed to support both renewable energy generation and livestock production. Additional, Agri-solar projects have routine maintenance during operation to avoid degradation of infrastructure.

For more information,
visit https://www.integritysystems.com.au/

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Technical

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.

A Traffic Impact Assessment will also be undertaken during the EIS to better understand the potential impacts of the Project on local roads.

How will power supply be affected in the local area – will there be outages during construction?

Whilst planned outages aren't anticipated during the construction of the Project, we appreciate that sometimes unplanned outages occur during electricity network works.

Should there, for some reason, be a planned outage, communication will be circulated with you prior to the event. Once the Project is built and operational, it will help to increase supply energy and increase the grid stability.

What type of BESS units will be used?

Battery technology is advancing rapidly and becoming more affordable, making it an important option for renewable energy projects. The final battery technology will use Lithium-ion batteries and the supplier will be chosen during detailed design to ensure the system meets all relevant Australian and international safety standards.

Will this technology still be relevant once it is constructed?

Yes. Solar panels are becoming increasingly efficient, and the BESS can be adapted to utilise in technology closer to the construction and operation period. The BESS equipment manufacturers are global leaders in research and development and are well placed to make these adaptations.

Are there health risks associated with EMF's and living near a solar farm and BESS?

EMFs (electro-magnetic fields) are naturally present in the environment and are also produced wherever electricity or electrical equipment is in use (e.g. fridges).

Your kitchen stove has an EMF range of 2-30 milligauss (mG) and your hairdryer 1-70mG. The current international standard for limiting human exposure is 2000mG (NSW Government, 2022).

EMFs from a BESS are typically less than household appliances (NSW Government, 2022), and there has been no known or documented electromagnetic radiation impacts associated with big batteries (Australian Radiation Protection and Nuclear Safety Agency 2022).

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Environmental

Do solar farms impact native flora and fauna?

Elgin Energy has engaged expert consultants who will undertake flora and fauna surveys to understand the ecological characteristics of the site. They are committed to minimising impacts on native flora and fauna by designing the Project to allow species to continue to thrive during the construction and operation phases. During these phases, management plans will be developed to ensure this is maintained.

Are state fire authorities consulted on projects and plans?

Planning legislation in every jurisdiction outline that the relevant fire authority must be consulted and given the opportunity to make recommendations on management plans and mitigation measures. This is mutually beneficial as it ensures expert insights are incorporated into the design and operation of the facility.

Is the site affected by flooding?

Assessments are currently underway to determine whether the site is flood prone. While it's not expected, in the small chance that stormwater flooding could occur in the form of surface pooling during intense rainfall events, the infrastructure is designed to remain stable and secure, with all critical components either elevated or adequately protected. Further analysis of flood risk and mitigation measures will be carried out as part of the EIS.

What happens with the Project at the end of life? Can it be recycled?

At the end of life, the solar panels and BESS components will be removed and decommissioned. The land will be rehabilitated and returned to its original use. The decommissioning process is a critical part of the development application process, and a decommissioning plan must be included for the development to be considered.

Recycling facilities for solar panels and BESS in Australia are steadily improving as the renewable energy industry grows and matures. With the expected increase in retired solar panels and battery systems over the coming decades, both government and industry are investing in solutions to reduce waste and recover valuable materials.

Do batteries have their own fire suppression systems?

To mitigate potential fire risk the following steps are undertaken:

- The substation and BESS have in-built protection to avoid overcurrent or any electric faults that may cause fire. It is constantly monitored, and the BESS will shut itself down should it detect heat rising too high or falling too low

- 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

- Water tanks, water pipeline system, and fire extinguishing tools will be installed on site for managing any spot fires.

Do solar panels or batteries increase fire risk?

Solar panels pose a low fire risk and rarely cause a fire independently. DPHI have implemented Preliminary Hazard Analysis (PHA) guidelines for safety assurance of development projects. This process is applied as part of the EIS procedures under the Environmental Planning and Assessment Act 1979. The objective of a hazard analysis is to develop a comprehensive understanding of the hazards and risks associated with an operation or facility and the adequacy of safeguards.

Elgin Energy will work closely with the relevant fire service agencies to confirm access requirements for the Project. Management Plans will be produced prior to construction commencing (should the Project be approved) that will include site-specific Fire, Risk and Emergency Management Plans to address the management of potential fires during construction, operations, and decommissioning.

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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 300 full-time equivalent (FTE) construction jobs at peak construction, and up to 1-3 operation roles annually. If the project is approved, Elgin Energy will explore the opportunity to work with local service and product suppliers to boost the local economy.

What other benefits will the community receive?

Elgin Energy is committed to making long-term investments that support both regional areas and the local communities where we operate. We believe meaningful engagement with the community is key to ensuring the Project delivers shared economic and social benefits.

We'll be working closely with local stakeholders throughout the development process, using their feedback to shape tailored community benefit-sharing programs that reflect local priorities and deliver real value. These benefits may include dedicated community grants, increased economic opportunities through diversified income streams, and support for a more stable and reliable energy network.

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

The Project would operate 24 hours a day, seven days a week and be monitored remotely, with infrastructure maintenance undertaken on-site. The Project will also be monitored continuously by CCTV.

Do large-scale renewable energy projects affect nearby property values?

We understand there are concerns across regional NSW about how renewable energy projects may impact those in the immediate region. There is currently no documented evidence of land devaluation related to solar farms in the area. As part of the EIS phase, we will prepare impressions for our neighbours to understand what the future outlook may be should the project be approved.

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 been denied coverage or have had 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.

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