SEBASTOPOL SOLAR FARM
FREQUENTLY ASKED QUESTIONS

FRV
Powering a Sustainable Future

GENERAL

Q What is proposed?

A FRV is proposing to construct and operate a 90 megawatt (MWac) solar farm for the purposes of providing a critical new source of clean energy for NSW. The solar farm will be capable of supplying 40,000 homes across the State and will reduce carbon emissions by more than 77,000 tonnes per year.

Q Why did the previous developer sell this project?

A Based on FRV's discussions with ib vogt, they believed that it was the right time for them to exit the project. FRV is an experienced and capable developer and has developed 1.6 gigawatts (GW) of renewable energy globally. We have four solar farms in operation in Australia with a further two projects currently in construction.

Q What stage is this project at?

A The Sebastopol Solar Farm was assessed as State Significant Development (SSD 9098) and received Development Consent in February 2019. FRV will oversee site preparation and construction by a subcontractor and will own and operate the solar farm.

Q Where will this project connect to?

A The project will connect to the existing 132kV Wagga Wagga North to Temora overhead transmission line, which is owned and operated by Essential Energy. This power line runs parallel with the western boundary of the project.

Q When will construction commence and how long will construction take?

A The construction start date is dependent on a variety of factors, including preparation of pre-construction plans, a Grid Connection Agreement, a Power Purchase Agreement and Financial Close. If all aspects are achieved, FRV anticipates construction could commence Q1 2021. Construction is expected to take approximately 12 months.

Q Will FRV stay on as the project owner?

A Our approach is to develop and acquire large-scale solar energy projects that we can then own and operate for the long-term. FRV have sold assets in the past but our core business model is to retain assets as this provides us with a sustainable return on investment and ensures we manage the running of our solar farms directly. For us, it is important that our assets are operated responsibly and perform well over their lifetime.

Q How long will this project operate for?

A The operational life of the project is expected to be 30 years. After this time, the site will either be rehabilitated and returned to its original purpose as freehold land or depending on future energy requirements the project may be reutilised, subject to landowner agreements and planning approvals.

DESIGN CONSIDERATIONS

Q Why has this specific site been chosen?

A A combination of conditions needs to be analysed when choosing an appropriate solar farm site. These key conditions help narrow the search to specific geographical areas. One of the main factors is economical and low-impact access to the electricity network. The choice of this location for Sebastopol Solar Farm is driven by a combination of:

- Excellent solar irradiation
- Low level of environmental impact – the site has been largely cleared and heavily disturbed by previous cultivation and cropping
- Level terrain for cost effective construction
- Ideal location on the national electricity grid for exporting the solar farm's electricity into the existing network.
- Excellent access to local and major roads

Most suitable sites present some degree of restrictions such as creek lines, vegetation to be retained, etc. FRV works to incorporate these restrictions so that they can co-exist alongside the solar farm footprint. FRV have developed projects across Australia with similar restrictions to those on the Sebastopol Solar Farm site.

Q What about loss of agricultural land?

A FRV have examined data from operational solar farms and have found that the grass growth is maintained underneath the panels thus allowing the continued grazing of the land within a solar farm.

The Sebastopol Solar Farm site is located within an agricultural area with proven crop and stock yields. The solar farm site would occupy around 248 hectares of land, which represents a fraction of the larger farming district.

Allowing sheep grazing with the solar farm can provide a dual use of the land and further sustains the local economy through job retention in the agricultural sector. The term 'AgriSolar' is commonly used to show the symbiotic relationship between both enterprises.

TECHNICAL

Q What type of panels will be used?

A The latest technology solar photovoltaic (PV) panels will be used on this project. These will be mounted on single axis trackers that change their orientation throughout the day to follow the sun from sunrise to sunset to maximise the energy captured.

Q How high will the panels be?

A Panels will be installed on low-lying structures expected to not exceed 4m above the natural ground level. The PV array will be at the same height or lower than other existing features in the landscape.

Q Do solar panels cause glare?

A The purpose of solar panels is to absorb the sunlight, not reflect it. The cells in solar panels are covered in an anti-reflective coating and only reflect a small amount of the sunlight that falls on them compared to most other everyday objects like water surfaces and the glass windows on your home.

Q Will the site contain a battery?

A Battery Energy Storage System (BESS) is not planned at present for this project, but with changing requirements it may be required and implemented at a future date.

Q Are there known health risks associated with living near solar technology?

A No. Power generation from an individual solar panel is less than that used by your vacuum cleaner, hairdryer or electric heater at home. Many Australian homes, airports, schools, hospitals, aged care homes etc have solar panels placed on their roofs. The operation of a solar panel generates no emissions such as CO_2 or any other harmful gases. There are no situations in which being in the proximity of a solar farm can have adverse health effects and has been demonstrated by the gigawatts of solar farm installations throughout the world.

ENVIRONMENTAL

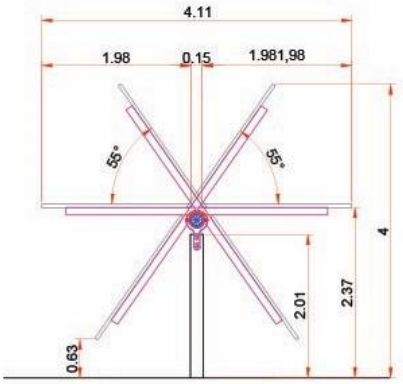
Q Will neighbouring livestock and crops be impacted by any 'heat island' effects?

A Around the world and in Australia, sheep graze **within** solar farms. Livestock and crops – including those proposed to be within the Sebastopol Solar Farm site during operations - will not be impacted as the design of the solar farm will ensure no significant build-up of heat at the site. Likewise, animals and crops on neighbouring properties will not be affected.

This is because the structure of the solar farm will not be thermally massive, i.e. there is no significant structure bulky enough to absorb and re-radiate an unsafe level of heat. Sebastopol Solar Farm will also use single axis tracking technology, not 'fixed' panels, therefore avoiding 'trapping' heat underneath. These solar panels are thin (< 4cm) so they do not retain heat over the long term. During the daytime, panels track the sun, moving through the positions shown below, from sunrise to sunset.

Spacing between rows will be between 6-14 metres. The mount system will be programmed to store panels in stow position (i.e. facing up to the sky, approx. horizontal to the ground) at night. In the stow position panels are approx. 2 metres off the ground.

Additionally, the design provides significant setbacks between the solar farm components and the property boundary.



***Left**: Sheep grazing at FRV's operational Lilyvale Solar Farm.*
***Right**: Indicative profile view of panels on tracking mount (Dimensions in metres).*

SOCIAL AND ECONOMIC

Q How many jobs will be created by the construction of the Solar Farm?

A Employment opportunities will range from skilled to manual labour with jobs reaching 150 during the peak of construction. Utilising qualified local content is always key element for FRV when developing a project. FRV is keen to work with local service and product suppliers to simulate the local economy. We strongly encourage local individuals to put forward their interest in employment either for labouring or as a supplier via our website

Q How many jobs will be available during operations of the Solar Farm?

A 2 to 3 permanent roles are likely to be required for the operation of the Solar Farm. Maintenance contracts for panel cleaning, fence repair, road grading, etc. would also be required and would likely be met by local contractors.

Q Apart from job creation, what other benefits will the community receive?

A As the solar farm will be operating for 30 years, FRV see ourselves as part of a community and are committed to continuing to engage and update all stakeholders that have interest in – or may be impacted by – the Sebastopol Solar Farm project.
Benefits in addition to job creation include the upgrade to the intersection of Goldfields Way and Eurolee Road and the delivery of clean, zero emissions electricity to meet the region's energy needs.

Q Will there be a contact onsite at all times in case of emergency?

A The plant is fully maintained throughout the life of the solar farm. There will be a 24/7 contact. An Operations Manager and other staff members will be based in close proximity to the solar farm. The Solar Farm will also be monitored 24/7 by remote CCTV.

Q What is a Power Purchase Agreement (PPA)?

A A power purchase agreement or a PPA is simply a contract to buy power at a specific the price. The 'Seller' in this type of agreement is usually a utility scale generator e.g. Solar and Wind Farms. The 'Purchaser' in this type of agreement will have significant electricity requirements which allows them to purchase all or some of the output of a project. Examples of buyers include utilities, governments and major corporates. Examples of companies which have entered into PPAs across Australia include Telstra, Mars, Blue Scope Steel, Snowy Hydro, UNSW and Coles, with many others considering this option.