



**MAFFRA SOLAR FARM**

**COMMUNITY & STAKEHOLDER ENGAGEMENT**

**REPORT**



Issue Date: Sept 2022

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## 1 INTRODUCTION

The Maffra solar farm is being developed by BNRG Leeson (BRNGL), a Melbourne based renewable energy partnership which has successfully developed multiple solar farms in Victoria and elsewhere in Australia.

A number of locations were considered for the solar farm. The current site at Lot 13 Maffra-Briagalong Rd, Maffra, was chosen because the grid location offers capacity and the ability to accommodate generation, there are relatively few houses nearby, the land is agricultural so risks to flora and fauna values are low, and there is capacity for a straightforward connection to the 22kV powerline already in place.

BNRGL developed a community engagement plan with two main aims:

- Providing for our team to listen to, understand and provide information for our stakeholders.
- Delivering information that helps build support for the growth of renewable energy activities in Victoria.

## 2 STAKEHOLDERS

The Seaspray solar farm proposal has two main stakeholder groups:

- Approvals and review bodies, including the Victorian Department of Environment, Land, Water and Planning (DELWP); Wellington; Ausnet; Council (roads); emergency service providers.
- Community: potentially affected or interested community members and groups, including adjacent landowners, tenants and businesses, environment groups and representative Aboriginal groups.

## 3 CONSULTATION ACTIVITIES

Prior to lodging the planning permit application BNRGL and its consultants completed a variety of consultation and engagement activities.

### Approvals and review authorities

Consultation activities and outcomes with approvals and review authorities are included in the Planning Report.

### Community

Activities	Stakeholder	Reason for activity	Desired outcome
Emailed plans, August 2022	GLAWAC	Presentation of project proposal so we could understand any potential areas of sensitivity on Country	No potential areas of sensitivity identified; or suitably management plan able to be developed. <b>Outcome</b> No issues raised.
Door knock 1 <sup>st</sup> Sept 2022	Neighbouring landowners (within 1 kilometres)	<ul style="list-style-type: none"> <li>• Discuss the proposal, proximity to the dwelling and suggested screening, potential impact on farm business.</li> <li>• Answer questions and provide information about the project.</li> <li>• Understand likely activities and understand how they may be affected during construction.</li> </ul>	<ul style="list-style-type: none"> <li>• Confirm BNRGL's intent to be a good neighbour.</li> <li>• Develop relationship so stakeholders feel they can come directly to BNRGL with any questions or suggestions.</li> <li>• Arrange meetings if further discussion is required.</li> </ul> <b>Outcome</b> – see Section 4, below.

Activities	Stakeholder	Reason for activity	Desired outcome
		<ul style="list-style-type: none"> <li>• Discuss any specific issues raised.</li> <li>• Gather local knowledge about climate, environment and business operations.</li> </ul>	
Fact sheets* Provided online and at information session	Community	Provide plain English information: <ol style="list-style-type: none"> <li>1. Fast Facts: what are we building, timeline, employment, benefits for Victoria and the region.</li> <li>2. What is a solar farm? why are farms designed and built the way they are?</li> <li>3. Solar panels and glare: how the panels move, how glare is managed, some misconceptions explained.</li> <li>4. Protecting the environment: flora and fauna, sustainable farming, eventual decommissioning.</li> </ol>	<ul style="list-style-type: none"> <li>• Community is better informed about the planning process and the project.</li> </ul>
Print and associated online advertising (two regional newspapers) w/b 5 <sup>th</sup> Sept 2022	Community	<ul style="list-style-type: none"> <li>• Advertise drop-in session.</li> <li>• Provide contact details.</li> </ul>	<ul style="list-style-type: none"> <li>• Increase awareness beyond immediate neighbours &amp; maximise attendance at drop-in session.</li> </ul>
Flyers at Maffra IGA w/b 30 <sup>th</sup> Aug 2022	Community	<ul style="list-style-type: none"> <li>• Advertise drop-in session.</li> <li>• Provide contact details.</li> </ul>	<ul style="list-style-type: none"> <li>• Increase awareness beyond immediate neighbours.</li> </ul>
Drop in session 14 <sup>th</sup> Sept 2022	Neighbouring landowners Community	<ul style="list-style-type: none"> <li>• Provide details of project, answer specific questions, gather local knowledge.</li> </ul>	Community regards the project favourably and is comfortable their questions will be answered. <b>Outcome</b> – see Section 4, below.
Meeting with Wellington Council 28 <sup>th</sup> Sept 2022	Council	<ul style="list-style-type: none"> <li>• Wellington Council had been told about the project from a community member and wanted more information to share when questions were raised.</li> </ul>	Provided all documentation that we had to council. Council was very supportive of the project and discussed a ‘One-Stop-Shop’ website that is under development for all renewable projects in the area, where our project could be shared in the future.
On-site meeting with Southern Rural Water	Southern Rural Water	<ul style="list-style-type: none"> <li>• Confirm site integration with water easements near the solar farm.</li> </ul>	Provided updated plans which showed the solar farm is clear of the water easement as well as providing access ways to the easement.
Community engagement report (when	Council Community	<ul style="list-style-type: none"> <li>• Feedback what we’ve heard during consultation, and how it has informed the proposal.</li> </ul>	<ul style="list-style-type: none"> <li>• Provides opportunity for further feedback.</li> <li>• Builds trust about the process.</li> </ul>

Activities	Stakeholder	Reason for activity	Desired outcome
planning process is complete.)			

\* Fact Sheets and key messages are included in Appendix A.

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## 4 WHAT WE HEARD

Based on previous experience, we expect most feedback would be about the areas shown in the table below, often with some specific local matters.

Planning documents, fact sheets and other information were provided at meetings, the drop-in session and on our website. In conversation, community members were advised of the timeframes and extent of the proposed project, and some of the questions that are frequently asked about similar projects.

Potential issue or opportunity	Feedback from Local community
Potential employment opportunities	Not raised.
Landscaping and visual impact	Not raised.
Ecology and habitat	Not raised.
Potential for glare	Not raised.
Traffic impact & any damage to roads during construction	Not raised.
Construction impacts: noise, dust, access	Not raised.
Operational issues: noise, security, lighting, land management	Not raised.
Impact on farming in the region	Not raised.
Impact on electrical power lines and grid	Not raised.

### Level of involvement

The drop-in session was held from 4pm to 7pm on a Wednesday evening at the Maffra Community House. To advertise the session, flyers were left at the IGA and the session was advertised in two regional newspapers. Letters were hand delivered or dropped into letterboxes around the site. Two people attended the session.

As a result, our main consultation was with the neighbours adjoining the proposed site, and living on Maffra-Briagalong Road.

In the meantime, direct contact details for a senior representative are provided on our website and have been left with the neighbouring properties.

## 5 ONGOING CONSULTATION

BNRGL is committed to continuing consultation as the project develops. The consultation plan will be revised in response to any feedback we receive; directly from the community or as a result of planning permit conditions.

Further fact sheets may be produced in response to specific areas of interest as the project progresses.

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## **APPENDIX A: FACT SHEETS & KEY MESSAGES**

### **KEY MESSAGES**

#### **Overarching messages**

- BNRGL is an Australian company working with local farmers and businesspeople to develop Victoria's renewable energy industry.
- Solar farms are an ideal use of underutilised agricultural areas of land in regional Victoria.
- Solar farms have a minimal environmental impact, especially given the exceptional benefits they provide.
- The project will have a positive impact on the Victorian State Renewable Energy Target.

#### **Project specific messages**

- BNRGL is leasing the land for the farm. It has not purchased any property.
- The solar farm has been carefully planned to use land that is less productive. It is intended that grazing will be carried out on the site, and farming will continue on the property.
- We estimate the project will generate 12,000MWh in the first year, the equivalent to supplying over 1,500 households with renewable electricity.
- The project will create a positive social impact with local employment and improved electricity supply.
- The farm has a design life of 60 years. If after that time it does not continue, the land can easily return to agricultural use.

### **FACT SHEETS**

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# PLANNING FOR A SOLAR FARM AT MAFFRA

## FAST FACTS



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- |                                       |  |
|---------------------------------------|--|
| <b>What is proposed?</b>              | <ul style="list-style-type: none"><li>• A 5MW solar farm (approx. 15 ha site)</li></ul>  |
| <b>Where will it be?</b>              | <ul style="list-style-type: none"><li>• Lot 13 Maffra-Briagalong Rd, Maffra VIC 3860</li></ul>   |
| <b>What will it cost?</b>             | <ul style="list-style-type: none"><li>• \$7-8million</li></ul>   |
| <b>What about jobs?</b>               | <ul style="list-style-type: none"><li>• Jobs for up to 25-50 people at peak construction</li><li>• Ongoing jobs:<ul style="list-style-type: none"><li>• Up to 2-4 technicians</li><li>• Up to 5-10 horticultural/ cleaning contractors</li></ul></li></ul>   |
| <b>What is the timeframe?</b>         | <ul style="list-style-type: none"><li>• Final timing depends on approvals from Council and the Department of Environment, Land, Water and Planning (DELWP), final design, and availability of materials for construction We're working towards:<ul style="list-style-type: none"><li>○ Mid 2022 – Planning Permit application finalised. This will include comprehensive reports including: traffic; environment; glint and glare; noise; biodiversity; bushfire</li><li>○ Start of 2023 – construction starts</li><li>○ End 2023 – farm is operational</li></ul></li></ul>  |
| <b>Who is developing the project?</b> | <ul style="list-style-type: none"><li>• The project is owned and developed by the Leeson Group (an Australian owned, Melbourne based renewable energy company), In partnership with BNRG, an established multi-national developer of solar farms, based in Dublin. The two companies have combined as a joint venture – BNRG Leeson – who intend to operate the solar farm, once built.</li><li>• Leeson Group has developed several large scale solar developments in Victoria as well as having a well established business in smaller scale commercial and residential solar installations. BNRG maintains an operating portfolio of solar farms.</li></ul> |





# PLANNING FOR A SOLAR FARM AT MAFFRA

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## FAST FACTS

**What's so good about the site you've chosen?**

- The site meets all the requirements the Victorian Government has for siting large scale solar facilities. It
- The site also:
  - Is a substantially altered agricultural landscape (so we remove very little native vegetation)
  - Has good capacity for solar energy generation

**How much power will it generate?**

- We estimate the project will generate over 11,000MWh in the first year.

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## What will be built on the site?

- Solar panels and mounting system**
  - Around 9,000 solar panels mounted on metal structures (pile driven to minimise ground disturbance and the use of concrete).
  - The panels are up to 2 metres high when horizontal and up to approx. 4 metres high as they rotate to track the sun during the day.
  - Rows of panels are around six metres apart. This minimises shading and allows for groundcover growth and access for maintenance.
- Inverter stations**
  - There will be 1-2 inverter stations, similar in size to shipping containers: around 12m long, 2.4m wide and 2.8m high.
  - Inverters convert power from direct current (DC) to alternating current (AC).
- Access roads**
  - There will be all weather access tracks for emergency vehicles and maintenance.
- Electrical Substation**
  - At the powerline, there will be a 5MW battery system, a switching station and cabling to connect to the high voltage network.
- Other infrastructure**
  - A water tank and carparking space.
  - Access will be from Maffra-Briagalong Road.
- Security fencing**
  - Chain mesh fencing will secure the site.
- Visual screens**
  - The site is currently well screened by bush.

### Helping Victoria meet its Renewable Energy Target (VRET)

Putting more renewable energy on the grid will help reduce the cost of power and help drive down emissions. Achieving a VRET of 50 per cent by 2030 is the equivalent of taking 655,000 cars off the road for a year. A strong renewable energy target also encourages businesses to invest in the local employment – particularly in regional Victoria.

*Targets are: 40 per cent by 2025 and 50 per cent by 2030.*

- In 2018-19 renewable energy accounted for around 21.3 per cent of Victoria's electricity generation, up from 18.3 per cent in 2017-18
- Victoria is well on track to meet the VRET 2020 target
- The Maffra project's 4.9 MW represents an important contribution to achieving the 2025 target

#### Like to know more? See our other fact sheets:

- What is a solar farm?
- Maintaining a solar farm
- Community benefits
- Solar panels and glare
- Protecting the environment

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*Fig: Point of grid connection at Maffra site*



# PLANNING FOR A SOLAR FARM IN MAFFRA

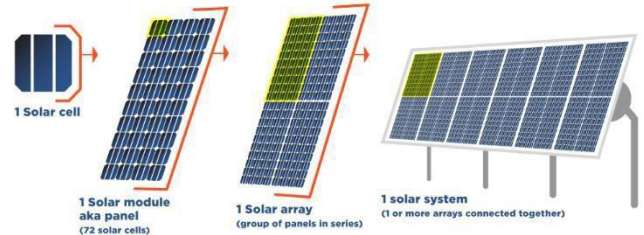
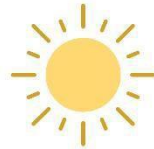
## WHAT IS A SOLAR FARM?

The most obvious part of any source of solar energy is the photovoltaic (PV) panels. You see them everywhere – the tiny cell on a simple calculator or watch, on top of garden light fittings, powering temporary road signs, through to complex industrial uses.

We're pretty much used to seeing solar panels on roof tops providing power for single homes and farms: what's different about a solar farm?

### What will be built on the site?

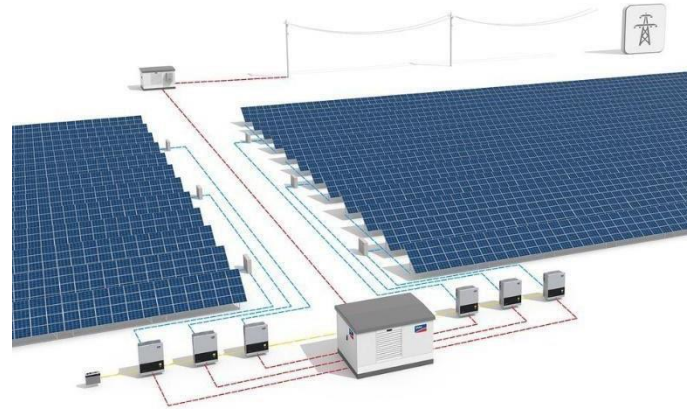
A solar farm is made up of groups of PV panels (called arrays). The panels contain crystalline cells which convert sunlight into electricity, generating a direct current (DC).



**A solar farm has extra components you don't see in household situations:**

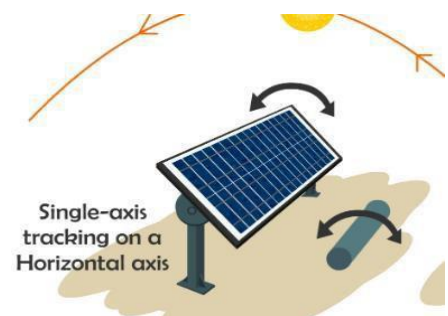
- An inverter system to transform direct current into alternating current (AC).
- A monitoring system that tracks the sun from morning to evening and rotates the solar panel from east to west on a north/south axis.
- Transformers to step the power to 22 thousand volts (22kV) so it can connect to the distribution network.
- Connections from the plant to the external power grid.

The Maffra solar farm will also have a battery system to store excess energy during the day and support the electricity grid at night and when the sun is not shining.



### The solar panels

Solar panels are made of lead-free, optically transparent, anti-reflective glass. They will be mounted on steel supporting structures attached to pylons driven straight into the ground. This means they can be easily removed if the plant is ever decommissioned, and the land could be reinstated to agricultural use.



The panels are equipped with **trackers** so they can follow the movement of the sun from east to west during the day to maximise the farm's energy output

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## The inverter system

The solar panels are connected in groups to inverters. The inverters are the 'brain' of the whole PV plant. They efficiently convert DC from the solar panels into AC power for the external grid.

Inverters have combiner boxes to connect the successive chains of the solar panels. The power then feeds from an on-site substation Victoria's external grid.



## What makes a good site for a solar farm in Victoria?

The Victorian Department of Environment, Land, Water and Planning (DELWP) Solar Energy Facilities Design and Development Guideline (2019) provides the following information on siting of solar farms.

### DELWP guidelines

- *On land with topographical conditions that avoids the need for unnecessary or excessive earthworks or changes to the natural landscape.*
- *To avoid the loss of native vegetation and biodiversity and if losses cannot be avoided, they are minimised and can be offset.*
- *Close to the electricity grid network, to minimise the need for additional infrastructure and associated impacts.*
- *A sufficient distance from existing urban areas or designated urban growth areas.*
- *Where there can be adequate space between facilities within an area to avoid cumulative impacts of built form concentration.*
- *Away from the floodplain of a major water course or wetland.*
- *Where it has ready access to main roads.*

### How the Longford farm measures up

- ✓ The land is very flat so installing the solar panels and other fittings doesn't require earthworks.
- ✓ We have chosen a site which would require minimal removal of native vegetation.
- ✓ The site is next to Ausnet's 22kV distribution line.
- ✓ The site is 2km north of Maffra.
- ✓ There are no other large facilities nearby.
- ✓ The site is not near a major waterway course or wetland, and has no flood overlay.
- ✓ The proposed entry is off Maffra-Briegalong Rd

## PLANNING FOR A SOLAR FARM AT MAFFRA

### SOLAR PANELS AND GLARE

Whether solar panels are on the roof of a house, in an industrial setting, or in a solar farm, there are often questions about whether they cause glare.

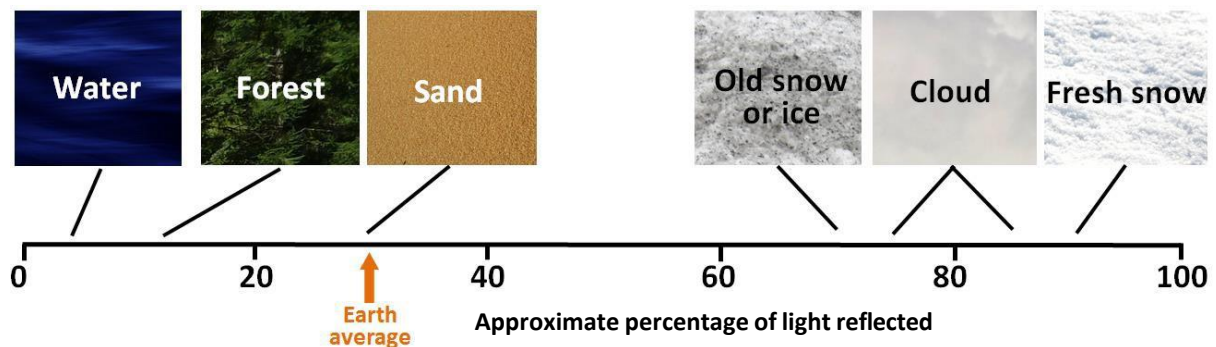
What is glare?

**Glare** (which occurs over a continuous period) or **glint** (a brief flash of light) can be a source of distraction and can leave after-images in the viewer's vision.

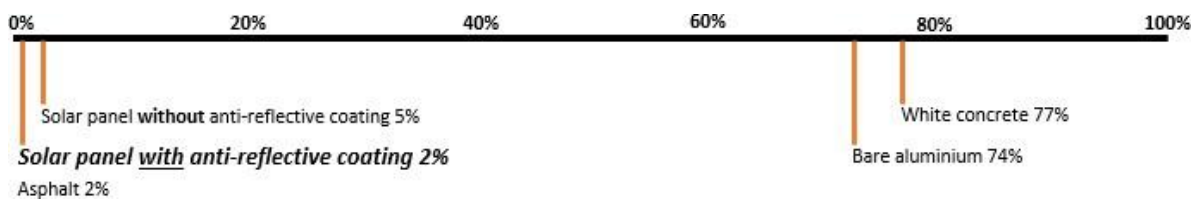
Glare hazard is difficult to define and is not the same for every person. It depends on factors including light intensity, size of the glare source, the portion of your vision it occupies and your distance from the source; as well as individual things like pupil diameter and distance from the pupil to the retina.

Natural and built surfaces can cause glare – the sun itself is of course the most obvious example, especially for drivers.

#### Reflectivity from the Earth's natural surfaces



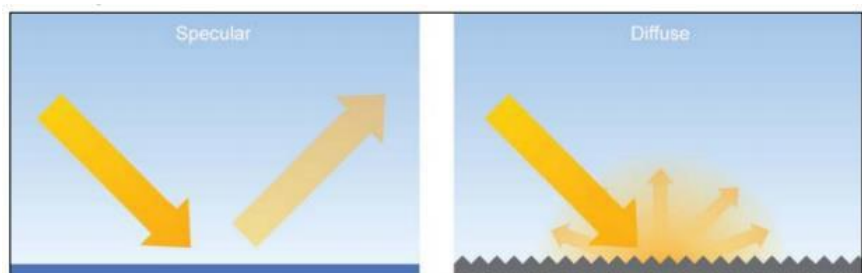
#### Reflectivity from some additional surfaces



#### Maffra solar farm's panels

The solar panels will have an anti-reflective coating so they **absorb** sunlight rather than reflecting it. That's great for reducing glare – and it means a higher energy yield because more light is getting to the solar cells.

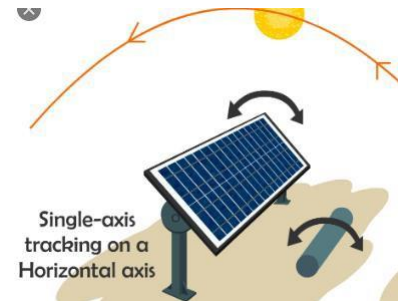
The panels are designed to diffuse any reflection: they reflect the light in many different directions which reduces any impact in a specific location.



## Will there be any effect on nearby houses and roads?

For the most part there is a good distance between Maffra's solar panels and neighbouring houses. Any glare impact is reduced with distance, but we are providing native landscape as screening around the full perimeter of the site. It will grow to at least the same height as the solar panels at their maximum tilt.

The landscape is relatively flat so the screening will eliminate potential impacts for drivers and residents.



The layout of the solar panels also reduces the possibility of glare impacts. They will be aligned north/south so they can track the sun from east to west, moving on a horizontal axis to follow the movement of the sun. The maximum tilt of the panels is 60 degrees, meaning that when the sun is at its lowest (sunset and sunrise) the small amount of light reflected would be upwards.

## Is there any impact for aircraft?

The Civil Aviation Safety Authority requires consideration of any impact on **airports**, because the glare could present a hazard, particularly on approach and landing, and particularly control towers. There are no airports near the Longford site, but there could be private airstrips in the future.

As you can see on the previous page, the glare from our solar panels would be similar to that from an asphalt road. Combined with the minimal amount of air traffic in the area, there is little if any likelihood of issues arising.

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## PROTECTING THE ENVIRONMENT

### Natural environment

**Greenhouse emissions** Renewable energy is one of the best means of controlling our greenhouse emissions while maintaining our lifestyle.

**Native wildlife and plants** A specialist is preparing a Flora and Fauna report. It will provide recommendations about the layout and construction methods for the site so we minimise any impacts to habitat or native flora.

**Surface and ground water** Our planning reports will identify any issues and if relevant, it will identify ways to manage stormwater and flooding.

**Land use** We will follow our reports' recommendations on how to best maintain the land, including appropriate ground planting to preserve soil, ground water conditions and habitat. The site will still have land for agricultural use, most likely grazing or cropping.

**Fire** We are working with relevant agencies to ensure our fire and emergency management plans comply with all state and local regulations. This includes providing adequate access tracks and maintaining water supply and pumping capacity on the site.

### Social and economic environment

The *Solar Energy Facilities Design and Development Guideline* provides a lot of information on how a solar farm can be developed. Our Planning Reports address statutory requirements and explain how we will protect the agricultural and other values.

**Respecting our neighbours and the community** We will work with adjoining farms and council to provide native landscaping where required. The solar panels and other buildings are set back from the boundaries and access will be from Maffra-Briagalong Rd.

Our Traffic Impact Assessment looks at all likely traffic changes during construction and operation of the solar farm. It will provide recommendations on how to minimise any potential effects such as dust.

Once approvals are received and we are ready to proceed, we will work with council and there will be employment and contracting opportunities for local people and businesses.

### Built environment

Aside from solar panels, batteries, inverters and the substation, we will also be constructing internal access tracks, fencing, water supply and some container infrastructure.

We have consulted Wellington Shire, West Gippsland Catchment Management Authority, DELWP and other stakeholders to determine whether any of our activities would affect their assets.

Power infrastructure is integral to the project: one of the main reasons the site was chosen was because of the way it can connect seamlessly to the electricity network. The 22kV power lines running over the site provide the power connection needed.