

Proposed LACEBY SOLAR FARM

Wangaratta-Kilfeera Road, Laceby - VIC



Project Information (as at 24 May 2019)

PROJECT BACKGROUND

ABOUT THE DEVELOPER - BISON ENERGY

Bison Energy is a professional solar farm developer established in Melbourne in 2017. Bison Energy's focus is on renewable energy power generation and, more specifically, solar projects. The company identifies sites, negotiates land arrangements, and network connection, and arranges all key commercial contracts including construction, Power Purchase Agreements (PPAs), financing and investments. The company currently has approximately 600 MW of solar farm projects under development in Australia, across NSW and Victoria.

In addition to solar energy, Bison Energy has also expanded into biomass with 50 MW in preliminary development in Japan.

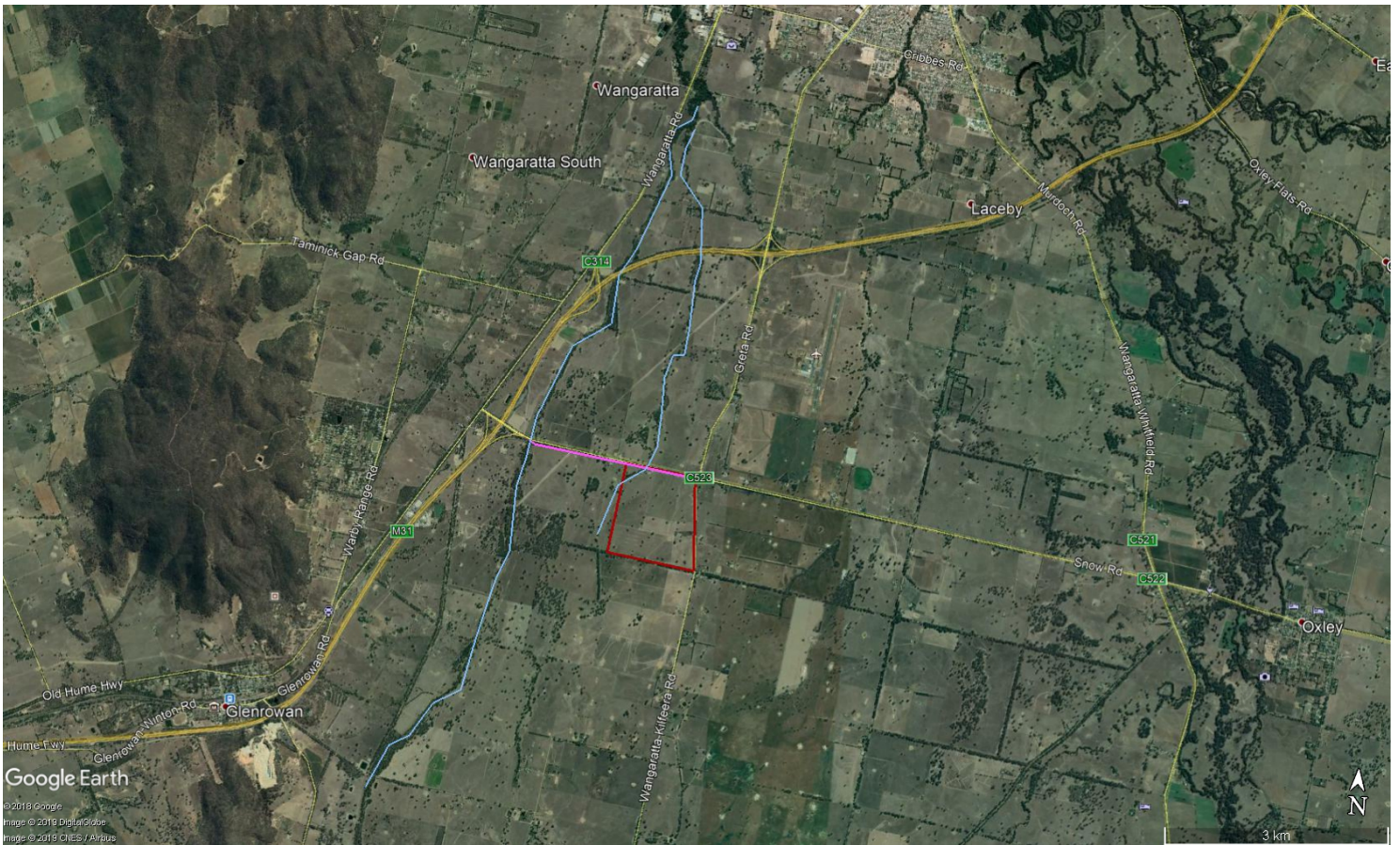
SITE DESCRIPTION

Bison Energy proposes to develop a solar farm at a property located along the Wangaratta-Kilfeera Road at Laceby, Victoria 3678 (sited on Lot 1 TP 253930) (the project). The development site is approximately 9 km south-west of Wangaratta and 6.5 km north-east of Glenrowan. It is located within the Rural City of Wangaratta Council local government area (LGA), North East Catchment Management Area and the Victorian Riverina Bioregion. Snow Road is situated along the site's northern boundary, Wangaratta-Kilfeera Road along its eastern boundary, and O'Connell Lane along the site's southern boundary.

Topographically, the site is low lying with very minor elevation change (< 1.5 m), falling in a north-easterly direction. Scattered large trees and several small patches remain throughout the site, which is otherwise dominated by pasture. The majority of trees on the property as well as those in the bordering road reserves are indigenous native trees. Some introduced non-native trees were planted some time ago in the vicinity of the hay shed. Some smaller trees are present throughout the site. Three watercourses/drainage lines occur within the site. The waterways along the eastern and western sides of the site form separate branches of the Three Mile Creek. The central drainage line approximately follows the original path that the Three Mile Creek took prior to extensive drainage works to support past agricultural activities. Four dams and one water tank occur within the site.

The solar farm would occupy around 130 hectares of rural land that has a long history of agricultural use, including previous cropping. There is no residential dwelling within the site; only one open shed adjacent to the gravel access track accessible via Wangaratta-Kilfeera Road. Under the Victoria Planning Provisions (VPP), the project site is zoned as FZ Farming Zone. It is currently sown to pasture and is grazed by cattle. The surrounding land use pattern is distinctively farming land with large rural residential properties.

An electrical easement runs along the northern boundary of the site.



Proposed Laceby Solar Farm – geographical location

SOLAR FARM DESCRIPTION

The project involves the construction of a ground-mounted photovoltaic solar farm which would generate approximately 60 MW alternating current (AC) of renewable energy. The project would consist of the following components:

- Single-axis tracker photovoltaic solar panels mounted on steel frames (approximately 182,000 PV solar panels);
- On-site sub-station and control building, along the northern portion of the site (south of Snow Road), containing a transformer, associated switch gear and control and lightning protection masts;
- Inverters, a transformer and electrical conduits;
- Site office (not staffed), site compound, vehicle parking areas, access tracks and perimeter fencing (8,034m); and
- One 66 kV overhead electrical transmission line to connect the project to the existing Ausnet transmission line.

Currently only one major site access point is proposed on Snow Road adjacent to the substation. No battery storage facilities are sought by this proposal.

The 1,960 mm x 991 mm solar panels would be arranged in double rows mounted on single axis trackers with a maximum height not exceeding 4 m above the natural ground level.

Why this land for the solar farm?

- Intensity and level of solar exposure;
- Availability and willingness of landowner to participate;
- Proximity and direct connectivity to an existing power grid, such as transmission lines;
- Access to an existing power grid and available capacity;
- Proximity to a road network;
- Proximity to township and urban areas.

PLANNING PROCESS

Development of the Laceby Solar Farm proposal is being undertaken in terms of the requirements of the Victoria Planning and Environment Act 1987. More specifically, the Act's underpinning Victoria Planning Provisions' (VPP's) Planning Policy Framework (PPF) which contains state-level policies on land use and development in Victoria.

Clause 19.01-1S Energy Supply of the PPF aims to facilitate appropriate development of energy supply infrastructure. The objective of this clause is to support the transition to a low-carbon economy through renewable energy development and greenhouse gas emission reductions. State planning policy recognises that local energy generation developments help diversify the local economy and improve sustainability outcomes. When assessing proposals for renewable energy, a key strategy is to consider the economic and environmental benefits to the broader community from renewable energy generation while considering the need to minimise any adverse effects on the local community and environment.

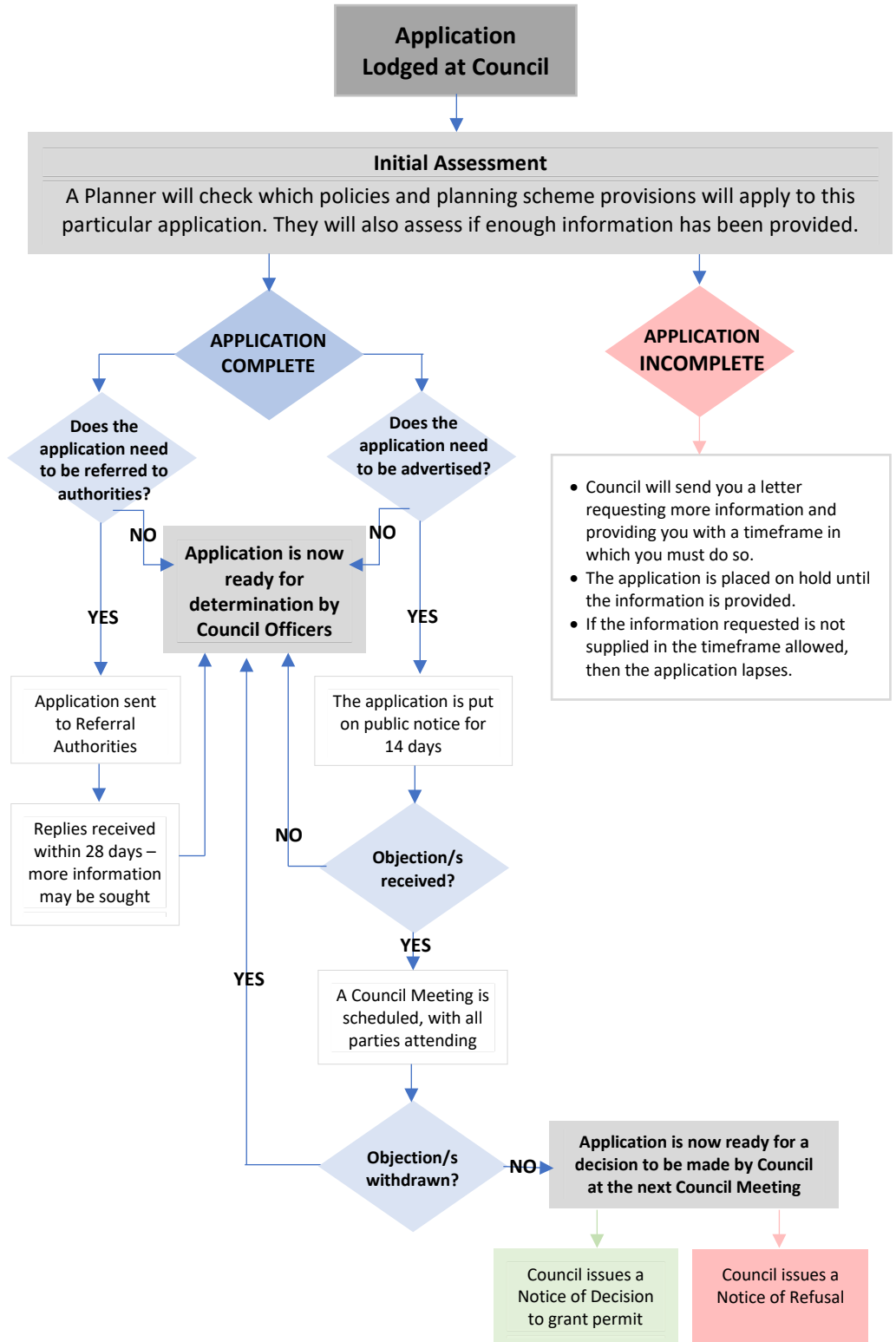
The Rural City of Wangaratta, aligned to the above legislation and through the provisions of the Wangaratta Planning Scheme, is responsible for assessment of the Laceby Solar Farm proposal planning permit application.

The flow diagram to the right indicates the Council's planning process.

Currently, planning, environmental and social studies are being undertaken to understand the proposal's possible impacts and identify feasible solutions.

It is envisaged that the Laceby Solar Farm development application will be submitted to the Rural City of Wangaratta during June/July 2019. Depending on Council's initial assessment of the application, more information may be requested ('Application Incomplete'), or the assessment may be accepted ('Application Complete'). Once the application is complete, Council will load it onto their website and advertise for Public Notice (14 days).

<https://www.wangaratta.vic.gov.au/about-council/documents-policies/public-notices/planning-applications>



Town planning process (source: Rural City of Wangaratta)



PROJECT INFORMATION

CONSTRUCTION, OPERATION AND DECOMMISSIONING CONSIDERATIONS

The construction phase of the project is expected to take 9 to 12 months, commencing in the second half of 2020. If commissioned, the solar farm is expected to operate for 30 years.

Construction of the proposed Laceby Solar Farm will provide employment for up to 150 temporary workers.

All construction materials are to be sourced from within Victoria. Aggregate for road pavement and hardstand areas is likely to be sourced locally from within the Rural City of Wangaratta LGA, whilst the solar farm components are to be sourced from either Melbourne / Geelong or Wodonga.

A series of gravel access roads will provide access around the site, and to the solar modules; these will be accessed from Snow Road (adjacent the substation). Approximately 12 km of internal gravel access roads will be constructed (4 m wide x 0.24 m deep). It is expected that all external public roads will be able to adequately cater for movements generated by the proposed development, and as such no upgrades or improvements are being contemplated to external roads.

Dust settling water deliveries will be used during the drier months of construction. This water will likely be sourced from the north of the site, via the local road network.

During construction, staff will be accommodated in Wangaratta, or other local towns including Oxley and Glenrowan. They will access the site via the Hume Freeway, Snow Road and Greta Road.

After the operating period, the solar farm would be decommissioned, removing all above-ground infrastructure and returning the site to its existing agricultural land use.

The capital investment value of the project is estimated at \$120 million.



STRATEGIC CONSIDERATIONS

As part of the VPP, eight strategic considerations are required to be considered for a solar farm development assessment (DELWP Draft Solar Energy Facilities Design & Development Guidelines: 2018). These strategic considerations are provided below, together with the specialist studies underway to assess associated possible impacts posed by the Laceby Solar Farm proposal, and the most appropriate mitigations, where required.

Strategic DELWP consideration	Laceby Solar Farm	
	Supporting specialist study	Preliminary findings and Possible mitigations, where required
1. Planning policy, zones & overlays		
<p>All land in Victoria is subject to a planning zone, which is defined in the VPP. Each zone establishes a range of potential land uses, which may be 'as-of-right' and do not require planning permission or require a permit or are prohibited.</p>	<p>Agricultural impact assessment</p>	<ul style="list-style-type: none"> The Laceby Solar farm project site is zoned as FZ Farming Zone. The entire property is covered by a Floodway Overlay (FO) associated with flooding from the Fifteen Mile Creek system. The project site has not been identified as 'strategic agricultural land' of national, state, regional or sub-regional significance, and is considered unlikely to be classified as such in the future. The project site represents 0.029% of land use and 0.0004% total value of agricultural production within the Wangaratta LGA, therefore removal of the land from agricultural production would have minimal impact within the region. It is expected that there would be limited and short-term earthworks associated with construction and operation of the site and therefore the majority of the soil surfaces would not be impacted by the development of the project site.
<p>2. Agricultural values</p> <p>Agricultural land, particularly irrigated land, is a valuable resource, and successive governments have invested heavily in improving agricultural production, including by modernising irrigation infrastructure. In most rural areas, renewable energy generation, such as solar energy facilities, can effectively co-exist with agricultural production. Solar energy facilities can contribute to the rural economy and support farm incomes by providing property owners with a diversified revenue stream. Non-agricultural developments may be appropriate in the Farming Zone.</p>		<p>Flood risk report</p> <ul style="list-style-type: none"> There are two designated waterways through the subject property, as well as some shallow drainage depressions. The majority of the development property is subject to flooding from the Fifteen Mile Creek system in a 1% annual exceedance period (AEP) flood. The floodwater in an event of this magnitude is relatively slow moving, with velocities expected to be in the vicinity of 0.5 m/s where the flood depth is 0.4 m. Hence, the property damage flood risk posed to the development is assessed as very low. The proposed development activity appears compatible with the identified flood risk for the site. The development is not expected to cause adverse impacts on flooding conditions on the surrounding rural land use properties.
3. Heritage and Aboriginal cultural values		
<p>Solar energy facility developments may affect heritage assets both above and below ground. Impacts may be on the heritage site, its landscape setting or direct impacts on archaeological deposits through ground disturbance. Proponents must check whether the proposed site for the solar energy facility is an area of heritage sensitivity and should avoid locations of high significance.</p>	<p>Engagement with the Yorta Yorta Nation Aboriginal Corporation</p>	<ul style="list-style-type: none"> Development of a Cultural Heritage Management Plan, after engagement with the Yorta Yorta Nation Aboriginal Corporation.

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4. Landscape values and visual amenity impacts		
<p>The visual impact of a solar energy facility and the transmission lines connecting it to the grid should be considered at the pre-application stage. The most significant environmental effect of solar energy facility development can be its impact on landscape character and visual amenity, and it is vital that this be considered early in the planning process.</p>	<p>Visual impact assessment (VIA)</p>	<ul style="list-style-type: none"> • Of the 15 viewpoints assessed as part of the VIA, the proposal would be visible from a total of 11 viewpoints. Of the 11 viewpoints from which the proposal would be visible 5 received a Visual Impact Rating of low; 3 received a Visual Impact Rating of moderate, and 3 received a Visual Impact Rating of high. • The viewpoints which were rated as having a high visual impact were taken within close proximity of the proposal in locations where there was an absence of existing vegetation to screen views into the site (Snow Road and Wangaratta-Kilfeera Road). • There would be no permanent night lighting installed within the array, but lighting may be included in each Power Control Sub-station (PCS) for conducting night maintenance when the solar plant is de-energised. Any lighting installed should be in accordance with AS4228-1997 - Control of Obtrusive Effects of Outdoor Lighting. • The level of glare and reflectance from the PV solar panels are considerably lower than the level of glare and reflectance of common surfaces, particularly those surrounding the proposed solar plant. The PV panels would reflect approximately 7-18 % of energy which is less than typical rural environments which have a reflectivity of approximately 15-30%. • Implement planting of a band of screen planting approximately 5 m wide or equivalent to 3 rows of vegetation in high visibility areas and 2 rows in low visibility areas (positioned between the property boundary and the security fencing in locations where there is no existing vegetation and where the arrays are immediately adjacent to viewpoints in the public land). Screen planting should consist of native trees, tall shrubs and understorey grass mix. • Use materials and colours in the construction of site sheds and associated infrastructure that ensure visual impacts are minimised. (Non-reflective materials, neutral colours).
5. Biodiversity and native vegetation		
<p>Proponents must consider how the proposed development would affect local biodiversity and native vegetation, and the impact on any species listed under the Flora and Fauna Guarantee Act 1988 and the Commonwealth Environment Protection and Biodiversity Conservation Act 1999.</p> <p>All developments must avoid the removal of native vegetation, or minimise impacts where removal cannot be avoided, before</p>	<p>Flora and fauna assessment</p>	<ul style="list-style-type: none"> • The study site is highly degraded and is now dominated by non-native vegetation (including weed infestation) interspersed with remnant eucalypt species. • Approximately 0.85 ha of native vegetation (EVC 55_62 Riverine Plains Grassy Woodland) persists, containing a total of 37 large trees. • Most patches of vegetation are in poor condition and have limited value with respect to their contribution to Victoria's biodiversity, but are representative of the former vegetation of the area.

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considering mitigation by offsetting residual impacts. The overall requirement is to ensure that there is no net loss to biodiversity because of the removal, destruction or lopping of native vegetation.		<ul style="list-style-type: none"> An additional 81 scattered trees were also recorded in the study site. Despite the degraded nature of the vegetation, the study site does provide potential habitat for numerous threatened fauna species including the Superb Parrot, Squirrel Glider and Bush Stone-Curlew. No EPBC Act listed flora or communities are expected to occur within the study site and a significant impact under the EPBC Act is not expected. No rare or threatened flora or communities listed under either the FFG Act or included on the DELWP Advisory List are expected to occur within the study site and impacts are not expected Develop an Environmental Management Plan to minimise the potential for ecological impacts within and around the site before, during and after the construction process
6. Electricity grid connection and transmission and distribution infrastructure		
<p>Any electricity generation facility anticipating connection to the NEM (including solar energy facilities) will be required to submit a grid connection application in accordance with the National Electricity Rules. In Victoria, transmission level (large scale) connection applications are administered by the Australian Energy Market Operator (AEMO).</p> <p>A developer of a solar energy facility will be required to identify a point of connection if connecting to the NEM.</p>	Project feasibility and economic viability assessment	The Laceby Solar Farm will not include ancillary power infrastructure requirements such as sub stations or extensions to existing power lines beyond the site boundaries.
7. Other infrastructure requirements		
Consideration of ancillary infrastructure requirements such as road/bridge upgrades.	-	The Laceby Solar Farm does not require ancillary infrastructure requirements.
8. Cumulative effect of solar energy facilities in an area		
<p>Clustering of a solar energy facility with other solar energy facilities or other renewable energy facilities in an area can provide efficiencies in facilities sharing existing or augmented grid network infrastructure, but may also have cumulative effects, such as visual impacts.</p> <p>Proponents should consider the cumulative impact of the proposed facility with other nearby development, and the potential effects on the community or locality.</p>	<p>-</p> <p>Traffic impact assessment</p>	<ul style="list-style-type: none"> There are no existing, approved or proposed solar farms within 5 km of the Laceby proposal site. Based on initial AusNet Services advice, there will be no remaining capacity within this line for any additional solar farms to feed into, should the proposal be approved. At the time of peak construction activity, external solar farm traffic will add approximately 460 vehicle movements per day (60 heavy vehicle trips). (The peak construction period will likely only be a small portion of the total construction period). For the majority of time, the solar farm will operate with limited maintenance staff and generate minimal traffic movements.

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		<ul style="list-style-type: none"> • Apart from the initial construction phase, the proposal is anticipated to have a negligible impact upon traffic on the local road network ○ Traffic Management Plan detailing ,at least, hours of operation, attention to school bus routes and timeframes and internal site management.
	Agricultural impact assessment	See point 2 above.
	Visual impact assessment	See point 4 above.



Current layout of the proposed subject land





COMMUNITY CONSIDERATIONS

Engagement with local community members, stakeholders and other interested and affected parties is considered a vital part of the Laceby Solar Farm proposal. As a first step, discussions were held with the following stakeholders: Department of Environment, Land, Water and Planning (DELWP); Rural City of Wangaratta; North East Catchment Management Authority; Country Fire Authority; and Yorta Yorta Nation Aboriginal Corporation. This engagement formed part of the upfront pre-application discussions to determine key studies required as part of the VPP's eight strategic considerations.

This information pamphlet has since been compiled as the next step in the community engagement, aimed at discussing the content with landowners within a 3km radius from the proposed development site. Feedback and comments received during this engagement will be documented as part of a Consultation Register. The feedback and comments will also be discussed with the project's development application process team, Oxley + Co., to ensure the appropriate specialist studies have been undertaken to address and suitably mitigate raised comments. Where comments require a response, these will be provided in writing.

A summary of the Community Engagement, Consultation Register and key comments raised will be documented and submitted as part of the project's development application.

Bison Energy continues to welcome further feedback as the project progresses. Importantly, it is noted that should the project be approved, conditions of approval usually include the need for detailed environmental management plans to be compiled prior to construction. This includes plans around landscaping, traffic management, water management, dust and erosion control, etcetera, that cannot be prepared until the detailed design stage of the project.

STAY INFORMED

The project team will continue working with the community to answer questions, understand concerns and provide information as requested. Please contact us using the details provided to find out more. We also encourage you to sign up to our mailing list so you can stay informed about the project: <http://www.lacebysolarfarm.com.au/> or community@lacebysolarfarm.com.au

