Bendemeer
Renewable Energy Hub

SOLAR FACTS

Noise

As outlined in the **NSW Farmers Association's Renewable Energy Landholder Guide,** solar farms typically generate minimal noise, with any noise generated generally coming from inverters, transformers and tracking motors. Because of this, solar farms are unlikely to disturb local residents or communities. The solar project site sits within a rural setting, subject to regular background noise impacts including farming equipment, and road traffic from the Oxley Highway adjacent to project's proposed location. Construction vehicles and machinery during the construction phase would be most relevant in contributing to noise and vibration impacts from the solar project. However, this noise would only be temporary, as it is during the construction phase.

A construction and operational noise and vibration assessment will be included as part of the EIS to assess potential noise impacts for affected residents. The report will include an assessment of road traffic noise as a qualitative assessment of offsite traffic movements inclusive of a review of existing and future traffic movements for the Project. The assessment will be undertaken in accordance with the **Interim Construction Noise Guideline** (Department of Environment & Climate Change, 2009), **NSW Noise Policy for Industry** (NSW Environment Protection Authority, 2017), **Assessing Vibration: A Technical Guideline** (Department of Environment and Conservation NSW, 2006) and **NSW 'Road Noise Policy'** (Department of Environment, Climate Change and Water, 2011).

Visual

Scoping Report

The Scoping Report identified 103 properties and dwellings within two-kilometres of the solar project site. Of those 103, approximately eight were predicted to have direct views to the project site. The solar project would also be visible by commuters along the Oxley Highway. Generally these views would be considered of limited duration for passing motorists. It was also identified that the proposed location of the project's solar farm offers significant natural tree screening assets which will assist in reducing visual impacts.

EIS landscape and visual impact assessment

The Solar Environmental Impact Statement is currently in preparation and will build on the work undertaken for the Scoping report into a detailed landscape and visual impact assessment in accordance with the NSW Department of Planning and Environment's Large Scale Solar Energy Guidelines 2022.

The purpose of a landscape character assessment is to understand the sensitivities of the proposed solar project location to help determine the impact of the project on an area's character and sense of place. This ongoing assessment has been informed by baseline analysis prepared in consultation with the local stakeholders to ensure landscape values and characteristics are identified.

The visual impact assessment will involve an assessment of specific receivers or viewpoints. Viewpoints will be determined based on distance from the project and relative height difference. The level of potential visual impact will be determined based on several factors and a rating from very low to high will be assigned in accordance with the guidelines. Mitigation measure will be developed for impacted receivers and viewpoints, with avoidance being required for impacts assigned a high rating.

Glint and Glare

All solar panels are designed to absorb light as much light as possible, rather than reflect it. The Bendemeer solar project is proposed to be fitted with tracking panels that can be adjusted to avoid or minimise any potential for glare.

A glint and glare assessment will be undertaken for the solar project to model and assess these impacts to ensure any potential significant impact is avoided or mitigated appropriately.

Solar

Stay up to date with project developments and sign up to our project newsletter

Want more information?
Call us on **0402 949 462,** head to our website **https://www.bendemeerenergyhub.com.au/**
Or send us an email **community@metisenergy.com**

Bendemeer
Renewable Energy Hub

Decommissioning

Decommissioning refers to the process of ceasing operations and removing infrastructure at the end of the project's operating life. The NSW Government requires renewable energy projects to be decommissioned at the end of their operational life and land to be returned to its original condition.

It involves dismantling and removing solar panels, structures and ancillary infrastructure (cables, inverters, fencing) from the site and recycling, reusing or disposing materials and waste products, and returning the site to its pre-existing use and land and soil capability class. It also involves disconnecting the development from the electricity network.

If a proponent fails to meet the decommissioning and rehabilitation obligations as prescribed by the NSW Department of Planning and Environment, the proponent is then liable and subject to prosecution by the Department.

The proponent of any solar energy project should be responsible for decommissioning and rehabilitation, and this should be reflected in an agreement with the host landholder. Bendemeer Renewable Energy Hub already has this agreement in place for the proposed site.

As prescribed by the NSW Department of Planning and Environment, all proponents of large scale solar developments must identify the decommissioning and rehabilitation activities that will take place and address all relevant issues for decommissioning and rehabilitation in the project EIS. This includes dust and noise impacts from earthworks, traffic, and risks to bio security.

The solar EIS is currently being developed for the Bendemeer Renewable Energy Hub and will include a description of the proposed decommissioning activities, addressing all relevant issues for decommissioning and rehabilitation. The consent authority, due to the noted relatively simple construction and straightforward decommissioning process, is then expected to impose outcomes-based conditions of consent to ensure that the decommissioning principles are met.

Community Benefits

According to the NSW Farmers Association's Renewable Energy Landholder Guide, renewable energy projects can have significant social and economic benefits to the host communities.

The impact of renewable projects on social and economic factors has been outlined in several studies both in Australia and Internationally, which include the below:

Social Benefits:

- environmental benefits from reduced CO_2 emissions
- creation of deeper social connections to community
- community development and liveability
- education and training of contractors and local residents

Economic Benefits:

- allow the local community to share in the benefits of the project
- boost of jobs and skills in the area increasing local employment
- improvements in local infrastructure
- energy & income security are not impacted by weather with landholders drought proofed
- increase in property value

Several studies have been completed in both Australia and overseas exploring the impact of renewable energy projects on property value. It was concluded that property markets and regional economies greatly improved in value. The key drivers for these increases include:

- population growth, meaning higher property demand
- increased job opportunities
- higher average incomes, leading to growth in local business spend
- lower unemployment rates in region
- reduced rental vacancy rates and rent increases

All these are driving forces behind growth and prosperity from renewable projects, leading to a positive impact on property prices and the economic value of the communities they operate in as a whole.

Community Benefits Scheme:

The proponent has developed a community benefits scheme for the project, which would see a financial commitment contributed annually for the lifetime of the project. The community benefit scheme would be managed and administered by a committee of local community members. The monies accumulated in the scheme would be used to fund local community projects or infrastructure. The proponent is committing to the below contribution each year for the lifetime on the project. The final contribution total will be dependent on the finalised registered capacity of the project:

COMMUNITY BENEFIT SCHEME

Bendemeer Renewable Energy Hub	(MWac) Registered	Contribution $/MWac	Total $/yr
Solar and Battery	200	$250	$50,000

Solar

Mitigation Strategies

The visual assessments for large-scale wind and solar projects will also include proposed mitigation strategies, which will be determined by the level of defined visual impacts. Some common mitigation strategies include:

The Bendemeer Renewable Energy Hub team will work closely with stakeholders to ensure they understand the location and detail of the solar and wind farms, so effective mitigation strategies can be implemented.

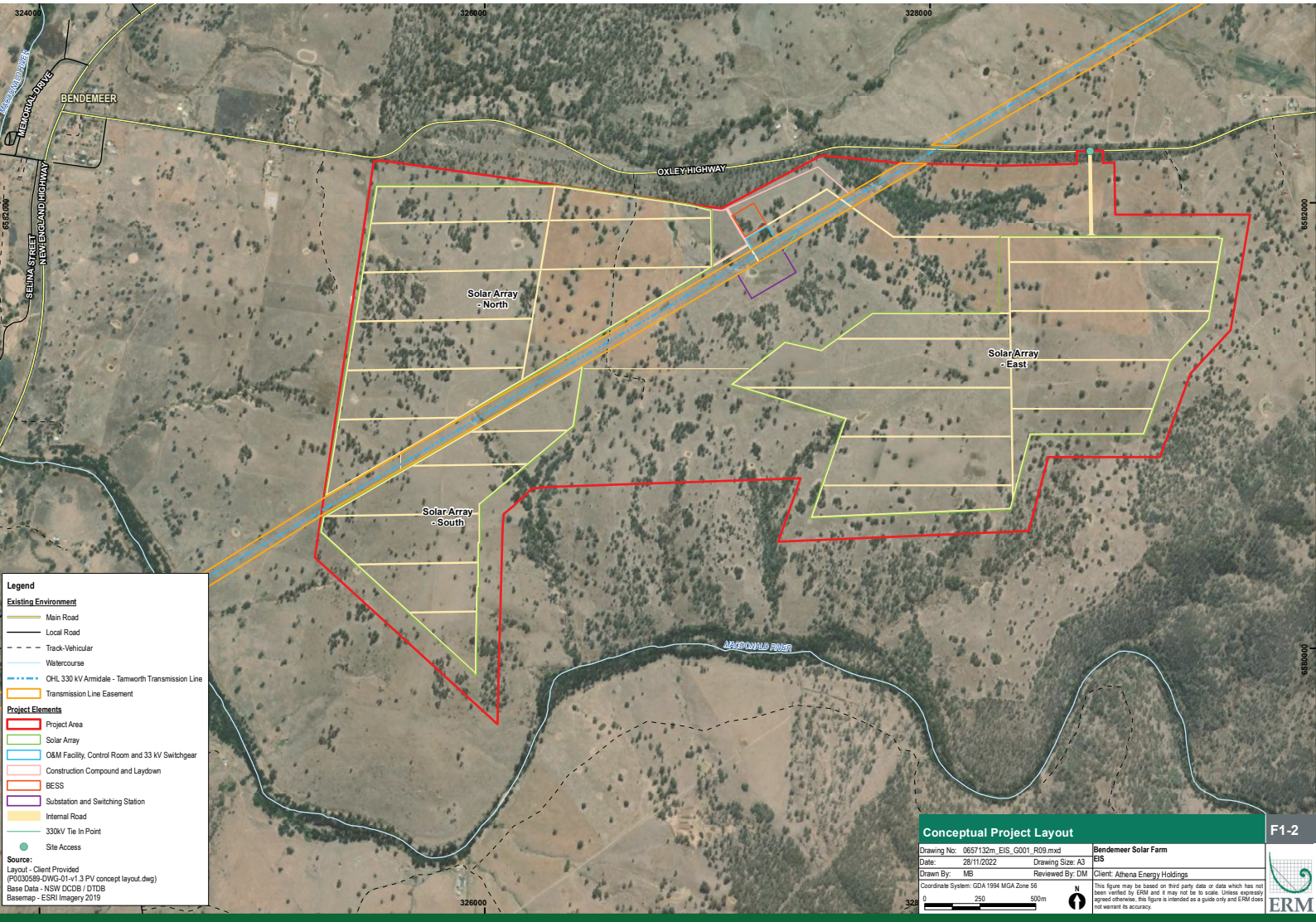
LANDSCAPING

VEGETATION SCREENING

NEIGHBOUR AGREEMENTS

The NSW Climate and Energy Action highlight that solar farms can offer a range of social and economic benefits to the community.

Solar farms are shown to drive growth and investment in Regional NSW, reduce greenhouse gas emissions, improve energy security and create new economic stimulation for long-term community sustainability.



Solar FAQs

Q There are several renewable energy projects proposed in our region. Are cumulative impacts taken into account?

A The NSW Government requires cumulative impacts of State Significant Developments to be assessed as part of the Environmental Impact Statement (EIS).

These requirements are described in the Cumulative Impact Assessment Guideline (DPIE, 2021) and specified in the Secretary's Environmental Assessment Requirements (SEARs), which are the minimum requirements for the EIS to be accepted by the Department of Planning and Environment. This means that you cannot progress to public exhibition and approval of the EIS without addressing the cumulative impacts of the proposal.

The Bendemeer Solar Farm includes the following requirements in its SEARs:

An assessment of the likely impacts of the development on the environment, focusing on the specific issues identified including:

- an assessment of the likely impacts of all stages of the development (which is commensurate with the level of impact), including any cumulative impacts of the site and existing or proposed developments in the region, taking into consideration any relevant legislation, environmental planning instruments, guidelines, policies, plans and industry codes of practice...'

The Bendemeer Solar Farm EIS will include cumulative impact assessment of potential impacts including transport and traffic, biodiversity, noise, and visual.

Other solar and wind developments would include a similar requirement, including the proposed wind development for the Bendemeer Renewable Energy Hub.

Q Can solar panels cause harm or injury to diving birds of prey?

A The Bendemeer Solar Farm EIS will include assessment of all scientifically verified potential impacts to wildlife from solar developments during construction and operation. This will include any indirect impacts from installation of solar modules. Experienced and accredited ecologists experienced in renewable energy project impact assessments have been engaged to undertake bird impact assessments, the outcomes of which will be presented in the biodiversity study.

Solar photovoltaics, the technology proposed for the Bendemeer Solar Farm, does not utilise solar mirrors as would otherwise be the case for inherently different technologies such as concentrated solar power. The Bendemeer Solar Farm, like the vast majority of solar farms in Australia, will utilise solar modules (or panels) that are designed to as absorb, rather than reflect, as much light as much possible. Glass is utilised to provide mechanical protection and to also enable light to pass through onto the silicon solar cell surface to be converted to electrical energy. This glass is treated and coated with anti-reflective technologies to further reduce potential reflectivity. The EIS will include an assessment of any impacts associated with potential reflectivity and glare however we are not aware of any verified scientific studies showing that solar modules cause death or injury to diving birds of prey as a result of reflected light.

Q How are noise impacts from the solar farm assessed?

A The NSW Government has several guidelines and policies that must be addressed when for assessing noise impacts of renewable energy projects.

In relation to the Bendemeer Solar Farm detailed modelling is currently being undertaken, with the results to be included in a Noise Impact Assessment, which is required as a part of the project's EIS. Modelling is undertaken for noise sources during daytime and night time periods, noting that construction would be restricted to the following standard construction hours:

- Monday to Friday: 7 am to 6 pm;
- Saturday: 8 am to 1 pm; and
- No work on Sundays or public holidays.

Noise modelling will predict the noise levels from construction, operation and traffic of the Bendemeer Solar Farm and compare with the allowable limits set by the NSW Government.

Q How will visual impact be assessed for the solar farm?

A The visual assessment will be undertaken by recognised experts for visual impact assessments for renewable energy developments.

The visual impact assessment for the Bendemeer Solar Farm will be undertaken in accordance with the recently revised NSW Large Scale Solar Guidelines (DPIE, 2022) which places further burden of assessment than previously required.

The solar visual impact assessments will include a combination of:

Zone of visual influence – to determine the potential locations and dwellings in the area which may be able to see the solar farm.

Public viewpoint analysis – assessment of potential impacts from public locations.

Detailed dwelling assessments – where desktop analysis, modelling and site visits identifies dwellings they may have visual impacts. This may include undertaking photomontages at specific dwellings.

Assessment of impact significance – assessing the sensitivity (e.g. dwellings have high sensitivity) and the visual effect (how much of the solar or wind development can be seen) to calculate the overall potential visual impact.

Cumulative visual assessment – considers other proposed developments in the area.

Glint and glare assessment – assessing glint and glare from public roads and dwellings surrounding the solar development.

Mitigation measures – proposed mitigation measures to reduce visual impacts if determined to be required based on the level of impact assessment (e.g. visual screening).

Solar FAQs (continued)

Q Will the project impact the value of my property?

A There have been several studies undertaken both in Australia and overseas in regard to land and property values and renewable energy projects. A study completed by Preston Rowe Paterson in 2013 looked into the impact of wind farms on surrounding land values.

The NSW Farmers Association has also developed the Renewable Energy Landholder Guide, which includes a section on land values. The guides includes the following commentary:

"A 2016 review considered the potential impact of wind farm developments on nearby property values. The review used the best available data and traditional valuation sales analysis techniques, to compare the change in values around wind farms over time and qualitative information from a review of the international literature on the impact of wind farms on property values."

The review concluded as follows:

"Based on the outcome of these research techniques, it is our expert opinion that windfarms may not significantly impact rural properties used for agricultural purposes. The literature review of Australian and international studies on the impact of wind farms on property values revealed that the majority of published reports conclude that there is no impact or a limited definable impact of wind farms on property values."

Q How close is the proposed project to Bendemeer?

A The nearest point of the property boundary associated with the Bendemeer solar project is approximately 1.8km from the Bendemeer Hotel. There are 11 dwellings with 1 km of the project site.

The Environmental Impact Statement (EIS) will assess impacts on all dwellings (e.g. visual, noise) regardless of the distance described from the Bendemeer village or otherwise.

Q What happens if project ownership is transferred or sold?

A The Bendemeer Renewable Energy Hub is the flagship project of Athena Energy Australia (Holdings) Pty Ltd (Athena), a member of the Metis Group. Athena is committed to developing, constructing, and operating renewable energy projects across Australia. However, in the event project ownership is transferred, all land agreements have been structured so that any incoming owner will be legally bound by the same terms including those established for decommissioning and rehabilitation. Furthermore, the development consent conditions expected to be imposed for the project will be applied to the development directly, not the development company. Consequently, any existing or future asset owners will be bound by the same conditions of consent for the life of the project.

Q How is the project team engaging with the local community?

A The Bendemeer Renewable Energy Hub team have been engaging with the Bendemeer community and surrounds since early 2022. As well as regular meetings with host landholders and neighbours to the project, the BREH team has also proactively engaged with local community groups, including the Bendemeer CWA and McDonald River Land Care Group. The project team have also been engaging with local business, Council and suppliers from the wider region, who are keen to learn about what opportunities this project may bring to the region.

In addition to providing updates to the community through our monthly newsletter, factsheets and website, we also continue to hold bi-monthly community information sessions at the Bendemeer Hotel. As the project progresses we remain open to discussion and feedback and encourage all members of the community to reach out to us with any questions either via email or call 0402 949 462 number. We can also arrange face to face discussions where necessary.

Q How is BREH proposing to engage with project neighbours?

A The BREH aims to minimise impact to project neighbours through impact avoidance, optimised design and the adoption of mitigation strategies where necessary. We have commenced consultation with a number of neighbours to the Bendemeer solar project to provide updates on the planning assessment process and seek feedback. This consultation will continue prior to, during and post development approval.

Q Are renewable energy projects considered industrial development?

A Renewable energy projects meet the definition of "electricity generating works" which are defined in Clause 2.35 of Transport and Infrastructure State Environmental Planning Policy (T&I SEPP).

Renewable energy developments in NSW are permissible with consent on rural zoned land (e.g. RU1). Industrial developments are prohibited on rural zoned lands and require the land to be zoned as industrial (either General Industrial or Heavy Industrial).

This is because the potential impacts during construction and operation of renewable energy projects would not be considered to result in the same level of impacts on the environment and neighbouring properties as industrial developments.

Solar FAQs (continued)

Q **Will existing land management practices including farming continue on the project site?**

A Absolutely. Renewable energy developments such as large scale solar can work in harmony with existing agricultural activities. Grazing livestock such as sheep has been proven time and again for solar farms in Australia. In fact, grazing is a key part of the operation and maintenance strategies for land and weed management and are intended to be adopted on the Bendemeer project.

Q **How will the project impact water flows onsite?**

A As required on all renewable energy developments, post-development water flows must be equivalent to pre-development flows in terms of both water quality, path and volume. Extensive hydrology models will be developed for the site to inform the design process to ensure these objectives are achieved after construction.

Q **How are bushfire hazards being managed for the project?**

A The project will be designed to comply the NSW Rural Fire Service Planning for Bushfire Prevention 2019, which requires asset protection zones to be established around the perimeter of the solar arrays, substation and battery compound. In these areas, vegetation must be strictly managed to a high standard for the life of the project.

Stay up to date with project developments and sign up to our project newsletter

Want more information?
Call us on **0402 949 462**, head to our website **https://www.bendemeerenergyhub.com.au/**
Or send us an email **community@metisenergy.com**

Bendemeer
Renewable Energy Hub