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Social Impact Statement

Coleambally Solar Farm

ACEnergy

May 2021

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Client	ACEnergy
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1. Introduction

1.1 Overview

ACEnergy is seeking development consent from Murrumbidgee Council to develop a solar farm at 1207 Donald Ross Drive, Coleambally NSW 2707 (Lot 135 DP750903), refer to Figure 1.

The site is located approximately 20 km north east of Coleambally town centre, within the Murrumbidgee Council Local Government Area (LGA). The lot is approximately 212 hectares, with two homesteads that are unused located on it. There are three sheds used for agricultural purposes on site. The remainder of the site is used for agricultural purposes. The surrounding area includes large rural lots, with agricultural infrastructure.

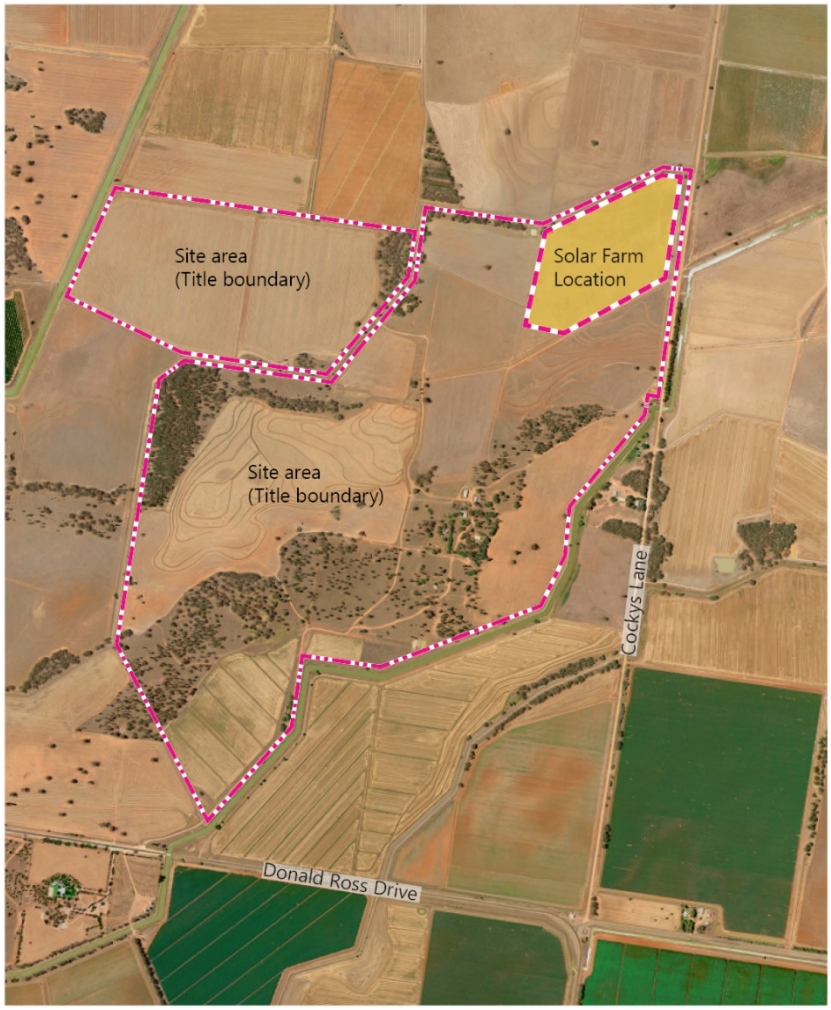
The generated electricity will be transmitted via overhead powerlines to the Essential Energy network adjacent to the site. The electricity will be fed to a substation located approximately 2.5 km south of the site.

Mara Consulting (Mara) has been engaged by ACEnergy to complete a Social Impact Statement (SIS) for the proposal. This SIS includes consideration of:

- the social baseline of Murrumbidgee Council LGA
- assessment of the likely social impacts of the proposed development based on the scale, intensity and duration of the potential impacts.
- proposed mitigation and enhancement strategies of impacts that may have a potentially significant impact on the community.
- conclusions and recommendations that arise from the assessment in relation to the project.

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Figure 1 The proposed site



1.2 Project description

The development proposal is for a micro solar farm and associated infrastructure including photovoltaic panels and a power station consisting of inverter, transformer and switchgears. The power station would act as the primary conduit for electricity from the facility prior to it being transferred via overhead powerlines to the nearby Essential Energy transformer.

A 'micro' solar farm differs from a conventional solar farm in that it occupies less land area and has a maximum output of less than 5 megawatts. The project would include the installation of a total of approximately 16,128 PV panels with the entire development having a footprint of approximately 18 hectares. It is noted that the entire property has an area of approximately 212 hectares and as such the proposal will still allow agricultural land uses to continue to be undertaken on other areas of the property. Further to this, the solar farm would have a life span of 31 years from construction, after which it would be decommissioned, and all assets removed from the site. The site would then be rehabilitated

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as required and the development area could easily be returned to agricultural use should this be desired by the landowner.

The solar farm area would be surrounded by a fully secured 1.8-metre-high steel wire fence with a landscaped vegetation located on the interior of the boundary. The landscape buffer would take the form of two rows of plantings, row one being offset approximately 3.5 metres from the site fence, and row two being offset approximately 1.5 metres from the southern site fence. The buffer would have an expected combined width at maturity of approximately 5 metres. The vegetation would include shrubs with a mature height of approximately 3 metres, and understorey plantings with a mature height of approximately 1.5 metres which would assist in lessening visual impacts of the proposal on the nearby residences.

The solar farm would be remotely monitored allowing for constant surveillance without the requirement of onsite staff, however a maximum of two contractors would attend the site a maximum of three times per month for general inspections and maintenance of equipment or landscaping or for security inspection purposes.

Access to the solar farm would be via a security gate with a width of approximately 8 metres on the eastern side of the compound. An all-weather internal access track, with a width of approximately 4 metres, would connect the development area to Cockys Lane to the east.

1.3 Regulatory context

The proposed solar farm is defined as 'electricity generating works or solar energy systems' which is a permissible form of development in accordance with the State Environmental Planning Policy (Infrastructure) 2007.

The site is zoned RU1 Primary Production under the Murrumbidgee Local Environmental Plan 2013 (LEP 2013), and therefore electricity generating works may be carried out with consent.

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2. Existing environment

2.1 Community and social baseline

The project is located within the Murrumbidgee Council LGA in the south west area of NSW. The LGA covers 6,880 square kms of land and has an economy driven by agriculture.

Coleambally is located approximately 60 kms south of the regional city of Griffith. It is a local agricultural centre with a growing industrial sector. The main retail precinct is located along Brolga Place, which is central to the community.[1]

The LGA sits within the Riverina Murray Region, which is identified as a growth area for agricultural production, industry and renewable energy. The region is advantageously located near Canberra, with good connections to Sydney, Melbourne and Adelaide. This location offers potential to create a competitive advantage to stimulate the economic growth of the region.[2]

Tourism has also been identified as a key economic driver to be expanded. Key tourism areas include the Murrumbidgee River and the wetlands that it supports. The river forms the northern boundary for the LGA, and is a major tourist attraction in the area.

A social baseline of Murrumbidgee Council LGA was developed to provide context for the assessment of potential impacts on the community as a result of the proposed solar farm. Key demographics are shown in Table 1 and summarised below. The state of NSW has also been shown in the assessment for comparative purposes.

At the 2016 census[3], there were 1,350 occupied dwellings in the LGA. The median weekly rent for the LGA is $150, which is much lower when compared to the NSW median of $380. At $900 per month, median mortgage repayments in the LGA (and Coleambally suburb) were also much lower than the state average ($1,986).

The median weekly household income for the LGA is lower than the NSW median ($1,197 compared to $1,486) with 61 per cent of homes being owned (either outright or with a mortgage). A similar proportion of homes are rented in the LGA compared to the state average (34.4% and 31.8% respectively).

The unemployment rate in Murrumbidgee Council LGA (4.5%) is lower than the state average (6.3%).

The most common occupations of residents in the LGA are managers (29.6%), labourers (16.1%), clerical and administrative workers (10.6%) and technicians and trade workers (10.3%). The top three employment industries are grain growing (11.1%), poultry processing (4.1%) and sheep or beef cattle farming (3.9%).

[1] https://www.murrumbidgee.nsw.gov.au/
[2] NSW Government, Riverina Murray Regional Plan 2036
[3] https://quickstats.censusdata.abs.gov.au/census_services/getproduct/census/2016/quickstat/LGA15560?opendocument.

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In the Murrumbidgee Council LGA, most of the population was born in Australia (81.4%) and primarily only spoke English at home (86.7%). This shows that the communities residing in the LGA are not necessarily as culturally and linguistically diverse (CALD) when compared to the state average, where 26.5 per cent of the population speaks a language other than English at home.

At the 2016 census, there were 3,836 people in Murrumbidgee, there were slightly more males (52.8%) than females (47.2%). Aboriginal and Torres Strait Islander people made up 7.5 per cent of the population, which was almost three times higher than the NSW average of 2.9 per cent.

There are a large number of working age people in Murrumbidgee, with the median age being 41 years old, similar to the NSW state average (38 years). Over half of the LGA's population (55.6%) is aged between 20 and 64 years; a slightly lower proportion than the state proportion for this cohort (59.1%). Those aged over 65 years make up 17.3 per cent of the population.

Table 1 Socio-economic overview of Murrumbidgee LGA and NSW (ABS 2016)

Statistic	Murrumbidgee LGA	NSW
Population (n)	3,836	7,480,228
Median age (years)	41	38
Top three industries of employment (%)	Grain growing (11.1) Poultry processing (4.1) Sheep or beef cattle farming (3.9)	Hospitals (except psychiatric hospitals) (3.5), Cafes and restaurants (2.4), Supermarket and grocery stores (2.2)
Largest occupation of employment (%)	Managers (29.6) Labourers (16.1) Clerical and administrative workers (10.6) Technicians and trade workers (10.3)	Professionals (23.6), Clerical and administrative workers (13.8), Managers (13.5)
Unemployed (%)	4.5	6.3
Median weekly household income ($)	1,197	1,486
Couple family without children (%)	41.5	36.6
Couple family with children (%)	42.3	45.7
Tenure - owned (%)	36.3	32.2
Tenure - mortgage (%)	24.9	32.3
Tenure - rented (%)	34.4	31.8
Median weekly rent ($)	150	380
Median monthly mortgage ($)	900	1,986
Occupied private dwellings (%)	1350 (78.9)	2,604,320 (90.1)
Travel to work - one method (largest %)	Car, as driver (61.7)	Car, as driver (57.8)
Marital status (married %)	49.4	48.7
Born overseas (%)	18.6	34.5
English only spoken at home (%)	86.7	68.5

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Statistic	Murrumbidgee LGA	NSW
Households where a non-English language is spoken (%)	4.2	26.5
Aboriginal and Torres Strait Islander (%)	7.5	2.9
Volunteering (%)	28.7	18.1

The project area is under the Murrumbidgee Council LGA and Council planning is guided by the 'The Community Strategic Plan 2017 – 2027'.[4] This is the major strategic document developed to guide the delivery of services and facilities over the next decade and outlines the goals of the elected council. The plan has the following vision:

"Our communities are welcoming and energetic – fun and friendly places that appeal to all with everything you need."

The community values creativity and innovation to reliably deliver quality service and facilities to support the vision.

The plan identifies key strategic themes that resulted from the community consultation process conducted by Council. These themes include promoting diversity and supporting the community and existing businesses, creating new economic opportunities, protecting the natural environment, exploring and promoting sustainable energy sources. There is an emphasis on enhancing infrastructure and investing in the environment and finding a balance between growth, development and environmental protection.

The Riverina Murray Regional Plan 2036[5] describes one of the key goals for the region as becoming a strong and dynamic regional economy and identifies growing New England North West as a renewable energy hub. One of the key directions of the plan is to:

"Promote the diversification of energy supplies through renewable energy generation".

Actions that are identified in the plan are to encourage renewable energy projects, promote best practice community engagement and maximise community benefits from renewable energy projects; and "promote appropriate smaller-scale renewable energy projects using bioenergy, solar, wind, … or other innovative storage technologies"[6].

Establishing solar farms in the region aligns with Council's strategic planning and the directions of the Riverina Murray Regional Plan.

[4] Murrumbidgee Council, Community Strategic Plan 2017 -2027
5 NSW Government, Riverina Murray Regional Plan 2036
6 Riverina Murray Regional Plan 2036, p28.

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3. Potential positive and negative impacts

3.1 Community attitudes to renewable energy

Outcomes of community research commissioned in 2015 by the former NSW Office of Environment and Heritage regarding attitudes to renewable energy found that generally, solar energy developments enjoy community support.[7]

The research found that 89 per cent of people support the use of renewable energy in the form of solar farms in NSW and that 78 per cent of respondents supported having a solar farm within 1-2 km of where they lived. Among the reasons for this were benefits to the environment and local economy.

Specific to the South West Region:

- 91 per cent of respondents supported using renewables to generate electricity in NSW
- 79 per cent believed NSW should increase the use of renewables over the next five years
- 93 per cent supported the use of solar farms in NSW, 85 per cent in their local region, and 77 per cent within 1–2 kilometres of where they lived.

The most common perceived advantages of renewables (unprompted) included environmental benefits and lower cost of electricity. The most common perceived disadvantages (unprompted) included higher cost and concerns about efficiency and reliability. In the South West, 74 per cent were prepared to use renewables 'provided I don't have to pay more for my electricity' and 20 per cent were prepared to pay more to support them.

3.2 Access to renewable energy

The renewable energy sector has responded contributes to 17 per cent of Australia's overall electricity supply.[8]

An analysis of electricity price increases between 2006 and 2016 was conducted by the Australian National University (ANU). The ANU reported that those states with relatively low levels renewable energy experienced higher electricity prices (NSW, QLD and VIC). States with higher levels of renewable energy, in particular South Australia which generated almost half of its energy from renewables, had a far lower electricity price.[9]

The potential to generate 5MW of electricity at the Coleambally solar farm could power 1,000 homes during daylight hours and reduce CO2 emissions by over 100,000 tonnes during the 31-year life of the project.

[7] NSW Office of Environment and Heritage, Community Attitudes to Renewable Energy in NSW, 2015
[8] https://assets.cleanenergycouncil.org.au/documents/resources/reports/CEC-briefing-paper-Australias-clean-energy-investment-outlook-September-2019.pdf
[9] https://assets.cleanenergycouncil.org.au/documents/resources/reports/CEC-briefing-paper-Australias-clean-energy-investment-outlook-September-2019.pdf

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3.3 Population

Due to the nature of the development, there is not an expected population change associated with the site either temporarily in the construction of the development or permanently once the development is complete.

3.4 Social amenity (visual impacts, noise and air quality)

The impact of the project on social amenity, including those related to noise, dust and visual impacts are key issues to consider in relation to both construction and operation of the proposed solar farm.

Visual impact, glare and reflectivity

The site of this proposal is located approximately 20 km north east of Coleambally town centre. The landscape surrounding the site is predominantly agricultural land. There are two residential dwellings with associated structures 850m south of the site, but within the title boundary that includes the solar farm. There is one residential dwelling 650m south of the site, and along Cockys Lane. These are the closest residential dwellings to the solar farm and are currently uninhabited. The next closest residence is 2km east of the site.

The proposal also includes a 5m wide landscape buffer along the inside of the perimeter fencing. This will reduce the visibility of the solar panels and provide a vegetated screen. The development should have little visual impact on residents due to the orientation of the solar panels, vegetation and distance to the residential dwellings.

A visual impact assessment has not been conducted on the proposed development. However, it is unlikely to adversely impact the surrounding landscape. The solar farm will be visible from Cockys Lane, which runs along the eastern boundary of the site. As the landscape buffer matures, these views will be screened and views of the solar panels and associated infrastructure will be blocked.

Noise

The potential for noise is primarily during construction. The key issues surrounding noise is the affect it has on nearby residents' quality and duration of sleep and way of life. Since the nearest inhabited residence is 2 km away from the site, there is little anticipated impact. A more in-depth analysis of the noise impact is addressed in the Statement of Environmental Effects (SEE).[10]

During the operational stages of the solar farm, there will be little potential for noise impacts.

Air quality

The potential nuisance of dust on a stakeholder's way of life and amenity will primarily be experienced during construction. A construction management plan has been developed to mitigate potential impacts, including dust. Dust will be suppressed with imported water during the construction period.

[10] MJM Consulting Engineers, Statement of Environmental Effects, 2021

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3.5 Property value

The study referenced previously, *Community Attitudes to Renewable Energy in NSW* (2015) indicates that 78% of respondents support having a solar farm within 1-2km of where they lived. There was a very small number of respondents who raised concerns about the effect on property values due to having a solar farm nearby. Only 2 respondents out of 1200 total respondents opposed solar farms within 1-2km because of a perceived effect on property values.[11]

The study above does not indicate an actual effect of solar farms on property values but is a survey that captures peoples' attitudes toward renewable energy in NSW, which is overwhelmingly positive. There is insufficient sales data to provide a definitive answer to the question of whether solar farm development in NSW impacts on surrounding land values. The location, size and design of the proposed solar farm lends itself to mitigating potential risks to property value and aims to prevent, minimize and/or offset adverse environmental impacts and impacts on the community.

3.6 Land use history and management

The site has been used for agricultural purposes (grazing and arable cultivation) over the last few decades. It continues to be used for this purpose and is considered to be suitable for a solar farm.[12]

Aboriginal archaeological

A search of the Office of the Environment and Heritage AHIMS has shown that there are no recorded sites or declared places on or near the subject site. The site has also undergone land clearing and intensive agriculture, which reduces the likelihood of any remains. The project is therefore deemed to have a very low potential for archaeological deposits.

Land use

A construction environmental management plan[13] has been developed to prevent damage to the environment and existing agricultural operations (onsite and neighbouring properties). The design of the solar farm also accommodates grazing within the solar farm.

With these measures in place, and the relatively low impacts associated with the solar farm, the project is not considered to have a significant impact on the agricultural operations of neighbouring landholders.

Stormwater

The proposed solar development aims to impact existing stormwater systems as little as possible. A stormwater assessment will be carried out during the detailed design stage, and any required systems will be developed and installed. It is anticipated that any flows will be limited to pre-development flow rates, and therefore the impact from stormwater runoff is considered low.

[11] NSW Office of Environment and Heritage, Community Attitudes to Renewable Energy in NSW, 2015, pp 34-37.
[12] MJM Consulting Engineers, Statement of Environmental Effects, 2021
[13] ACLE, Construction Management Plan, 2021

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3.7 Traffic impacts

The project is unlikely to result in any changes to population. A traffic assessment has been carried out and notes that, overall, the proposal will not adversely impact on the efficiency and effectiveness of the local and state road network during construction or operation. As such, the impact on traffic from a social perspective is considered low.[14]

3.8 Local economy and employment opportunities

Construction of the proposal is expected to take up to 6 months and involve a workforce of up to 50 people.

One of the top occupations of employment in the area is technicians and trades workers (10.3%); therefore, the construction of the development would have the potential to increase employment opportunities of locals for the period of construction only.

It is also plausible that existing businesses proximal to the development experience higher rates of business as a flow on effect during construction. To enhance the positive impact employment opportunities will have on the community, it is recommended that local contractors be used for any construction needs.

During the operations period, a minimum of one electrician and 2-3 local general labour workers will be employed to provide the long-term site maintenance.

Because of the employment offered, there is a positive benefit to the economy in the short term (during construction) and for the life of the project (operations).

3.9 Intergenerational equity

Consideration of intergenerational equity is an emerging key theme in project development processes. Primarily, concerns relate to environmental impacts, including climate change and the costs to future generations. In the context of the proposal, notions of Intergenerational Equity can relate to the rehabilitation of land to facilitate future land use, and broader climatic issues regionally and internationally.

A flora and fauna study has been undertaken with the biodiversity impacts of the project assessed in accordance with the NSW Biodiversity Assessment Method (BAM). The assessment concludes that no significant impacts are considered likely. The assessment suggests avoidance and mitigation measures to reduce any potential impacts.[15]

In terms of climate change, greenhouse gas and energy the construction and operation of the Coleambally solar farm proposal would contribute to Australia's efforts to meet its greenhouse gas

[14] Trafficworks, Traffic Impact Assessment Report 2021
[15] Kleinfelder, Flora and Fauna Assessment Report 2021

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commitments while continuing to provide a reliable supply of electricity for industry and consumers. Specifically, it would provide the following benefits:

- directly contribute to helping Australia in meeting the Renewable Energy Target
- reduce greenhouse gas emissions required to meet Australia's international climate conditions
- assist in the transition towards cleaner electricity generation.

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4. Conclusion and Recommendations

Overall, it is considered that the development:

- is consistent with the regulatory and business development framework, including state government legislation and the Murrumbidgee Council strategic plans (summarised in Section 2)
- will have positive impacts on intergenerational equity, with the provision of cleaner energy in the future
- supports Commonwealth and NSW climate change commitments
- will generate enough clean, renewable energy for about 1,000 homes
- is an appropriate development in relation to the projected changes to population and demographics in the region
- is unlikely to have significant negative social impacts to the locality and region
- would be a benefit contributing to the overall community sustainability of the Murrumbidgee community.

In order to maximise the social benefits anticipated through the development it is recommended that:

- local industry representatives be contacted to maximise the use of local contractors, manufacturing facilities and materials
- visual screening be installed early to minimise the visual impact of the solar farm
- good relations be established with people living in the vicinity of the proposal site at the beginning of the project and maintained throughout the life of the development.

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