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- CIVIL ENGINEERS
- LAND SURVEYORS
- URBAN & REGIONAL PLANNERS
- PROJECT MANAGERS

Approved Company
ISO 9001 - Quality System Management System
ISO 14001 - Environmental Management System
ISO 45001 - OH&S Management System

Statement of Environmental Effects

Electricity Generating System (Solar Farm & Battery Storage)

GREEN GOLD ENERGY

710 Murrumbidgee River Road, Hay

Ref: 23174

Rev. 0 | April 2024

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Document Ref: 23174_R_SEE_Solar Farm, 710 Murrumbidgee River Rd, Hay_230224

Contents

4.95 MW Solar Farm & BESS
710 Murrumbidgee River Road, Hay

1 Introduction

1.1 Overview

This Statement of Environmental Effects (SEE) has been prepared by Chris Smith & Associates on behalf of Green Gold Energy – referred to herein as "Green Gold". The proposal is for *electricity generating works* (a 15-hectare solar farm and ancillary battery energy storage system (BESS)) on a portion of a property with a total area of approximately 3,000 hectares at 710 Murrumbidgee River Road, Hay.

However, this proposal sis limited to development on one of the lots comprising the broader property – Lot 33 on DP756787 – as well as the vehicle access proposed on Lot 1 on DP1049829, referred to herein as the "subject site".

The proposed facility is designed to provide approximately 4.95 MW (megawatts) of electricity to the local distribution network. To generate this electricity, the proposal would occupy approximately 15 hectares of land in the centre of the farmer's property, while leaving the remainder of the farm as-is for ongoing agriculture.

The subject site has been selected based on its suitable attributes, in accordance with the NSW Renewable Energy Action Plan 2018, within the South West Energy Zones. Accordingly, this site represents an ideal connection opportunity to nearby transmission lines.

The Hay Shire Council is located within a region which presents an excellent opportunity for a regional municipality to capitalise upon and become a key player in the growth of the renewable energy industry due to its strategic geographical location and availability of grid connections.

This report is prepared in accordance with the various planning instruments and other planning controls that are relevant to the proposal. Consequently, this SEE provides an assessment and response under each of the respective sub-headings throughout the report.

Key reference documents used to guide the site selection and design process for this proposal are:

- NSW Renewable Energy Action Plan 2018
- Pre-Application Preliminary Assessment
- Hay Local Environmental Plan 2011
- Riverina Murray Regional Plan

The proposal is supported by the below-listed assessments, plans and documents:

- **Certificates of Title**
  Folio 1/1049829 & Folio 3/363382
- **Proposed Development Plans**
  by Green Gold Energy Pty Ltd (Rev. H)
- **Construction Environmental Management Plan**
  by Green Gold Energy Pty Ltd
- **Biodiversity Development Assessment Report**
  by Red-Gum Consulting
- **Aboriginal Cultural Heritage Due Diligence Assessment**
  by Red-Gum Consulting
- **CIV Report**
  by Green Gold Energy

1.2 Development Classification under EP&A Act

Private infrastructure, including electricity generating facilities that have a capital investment value of over $5 million, is declared regionally significant in *SEPP (Planning Systems) 2021* The proposed solar farm and BESS has a CIV of $4.9 million and is therefore identified as **Local Development under the Act**.

1.3 Scope of Statement of Environmental Effects

This Statement of Environmental Effects (SEE) accompanies a development application for the proposed development. On behalf of the applicant and includes the matters referred to in Section 4.15 of the *Environmental Planning and Assessment Act 1979,* and the matters required to be considered by the consent authority.

When considering the application, the consent authority will have regard to Section 4.2 of the Act which states:

"4.2 Development that needs consent

(1) General

If an environmental planning instrument provides that specified development may not be carried out except with development consent, a person must not carry the development out on land to which the provision applies unless:

(a) such a consent has been obtained and is in force, and
(b) *the development is carried out in accordance with the consent and the instrument."*

The purpose of this SEE is therefore to:

- Seek Development Consent from the relevant consent authority;
- Describe the land to which the DA relates and the character of the surrounding area;
- Outline the scope and intention of the proposed development;
- Define the statutory planning framework against which the DA is to be assessed and determined; and,
- Assess the proposed development in the light of all relevant heads of consideration.

2 Green Gold Energy – Company Profile

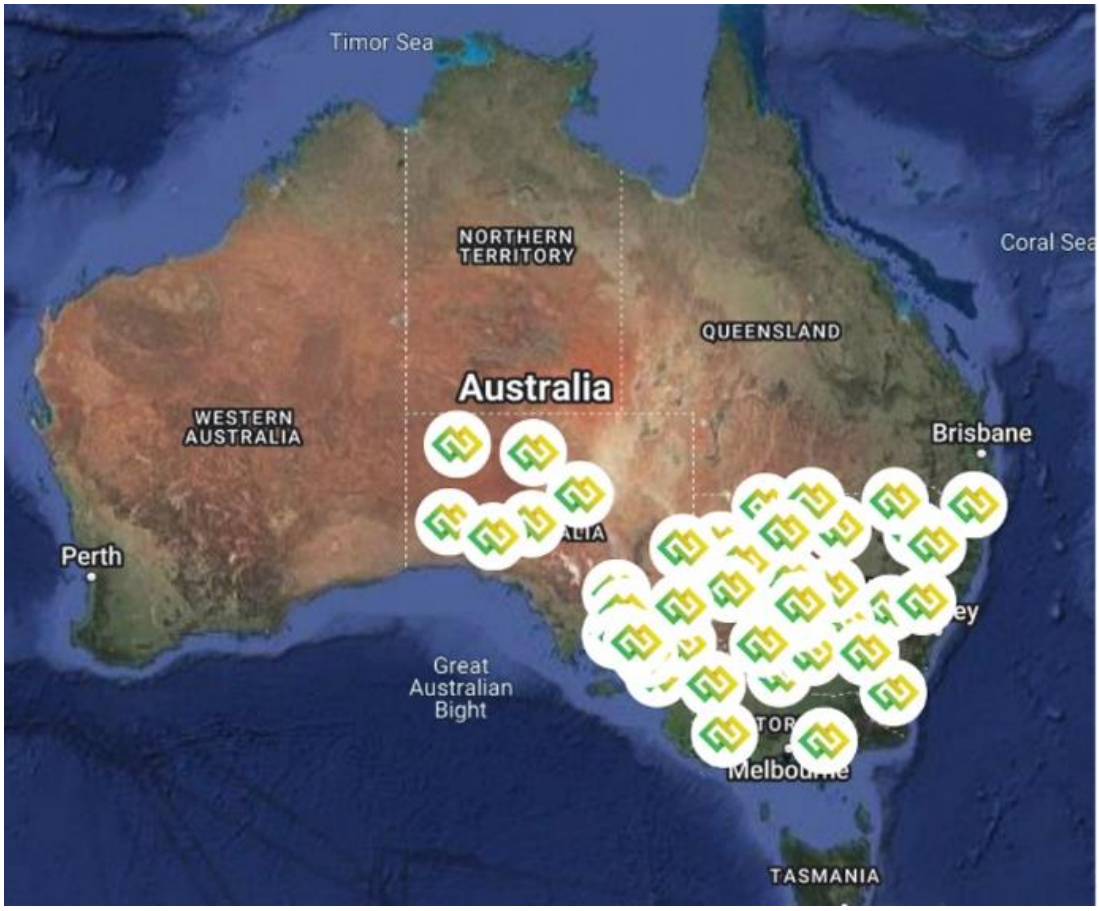
Green Gold is a South Australian-based company that takes a collaborative approach to renewable energy. Green Gold seek to partner with landowners to identify land that balances the farmer's needs with the requirements for Green Gold's solar farms. Green Gold's core business is centred around rural land that is typically no larger than 16 hectares (40 acres) that can support commercially viable Solar Energy Facilities with the necessary investment and infrastructure.

These solar farm projects are designed to export generated energy into the grid, enabling it to be sold on the National Electricity Market using the latest state-of-the-art PV technologies to ensure the most efficient, reliable power generation. Green Gold projects deliver:

- Long-term, secure supplementary income to landowners
- Access to the Australian renewable energy market to investors and shareholders
- Sustainable returns for investors

These projects also bring significant benefits to the regional communities they are located in, by creating jobs, providing local economies with the assets to improve energy infrastructure, and creating stronger, more sustainable communities.

GGE have successfully developed projects in South Australia, Victoria, New South Wales, and Queensland, as shown below. Fifteen of these projects are currently in operation, whilst the rest are under development. Green Gold has a current development pipeline of over 1.1 GW of solar and 1.2 GWh of Battery Energy Storage Systems.



Location of Green Gold Energy's solar farm and BESS projects

3 Application Details

The decision by Green Gold to develop any solar energy facility in New South Wales was based on a sound business model, including consideration of the region's solar access, its trunk electricity network infrastructure and the region's desire for clean, efficient, and affordable electricity.

The subject land is largely flat and cleared with limited remnant vegetation, although there are none remaining on the development site itself.

The subject site was secured by Green Gold because it provides attributes conducive for solar facilities, as well as being proximate to existing 22kV powerlines and a farmer who wants to capitalise on the transition to solar energy. Given that the subject site and surrounding area is within the RU1, the site is considered to be compatible with agriculture in the context of the development of a solar farm.

The site is considered to have the required physical and electricity network attributes – a flat open site, adjacent powerlines that have the capacity to convey electricity generated by the facility and that can feed into the nearby electrical substation for use by the community – an agreement to lease the site was entered into with the farmer.

Site visits and environmental assessments have confirmed the development site's suitability, including being cleared of any native vegetation and any areas of environmental sensitivity. Accordingly, it is submitted that a detailed and balanced approach to all relevant site and planning considerations has been undertaken to provide a sound planning proposal, as set out in this report and supporting documents.

4 Strategic Context

Australia has the highest average solar radiation per square metre of any continent in the world. NSW has an abundance of excellent solar resources and established electricity infrastructure that, along with declining technology costs, makes it an attractive location for solar energy development.

In the strategic context, solar energy projects provide an opportunity to:

- Contribute to NSW achieving net-zero emissions by 2050 as set out in the NSW Climate Change Policy Framework
- Deliver on commitments in the NSW Renewable Energy Action Plan
- Support Australia's commitments to reduce greenhouse gas emissions
- Contribute to any Commonwealth renewable energy targets
- Assist in meeting energy demand and improving energy security for NSW.

4.1 NSW Renewable Energy Action Plan 2018

The *NSW Renewable Energy Action Plan* outlines a comprehensive framework to achieve renewable energy targets by 2030 and details the opportunities and actions underway for renewable energy technologies in NSW.

The Plan also details three (3) goals and twenty-four (24) actions to facilitate the emergence of renewable energy generation most efficiently in NSW:

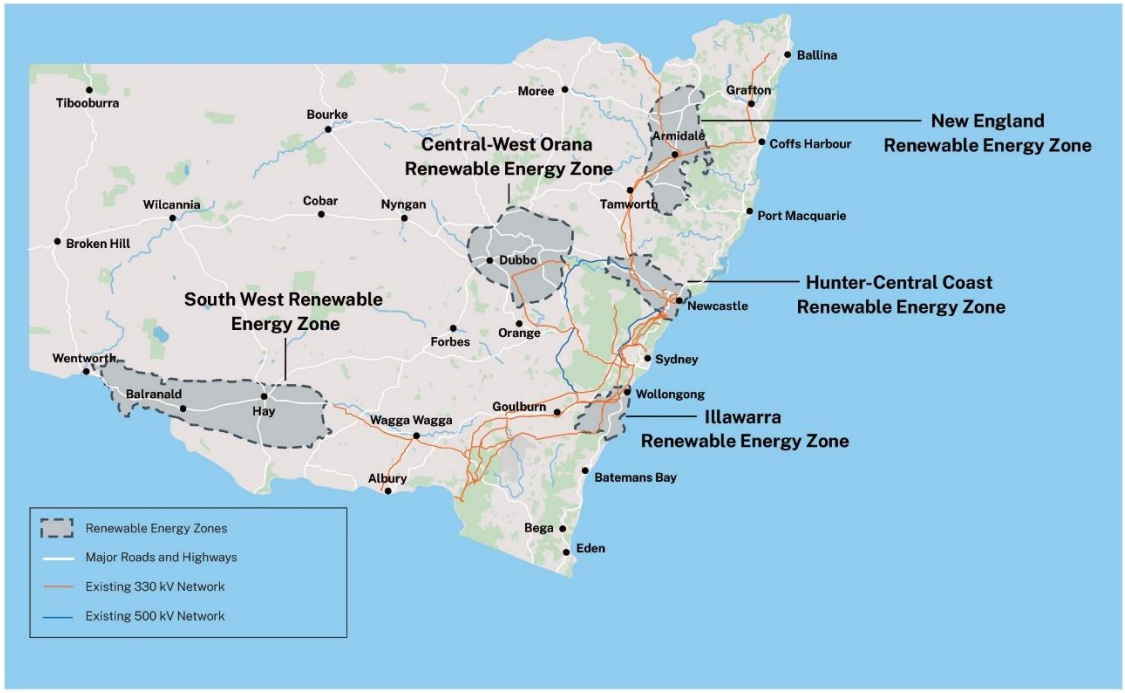
- Attract renewable energy investment and projects
- Build community support for renewable energy
- Attract and grow expertise in renewable energy technology

The Renewable Energy Plan identifies that NSW has a range of competitive advantages as a location for solar power investment, including excellent solar resources and world-class solar research institutions.

The proposed development represents a step for NSW towards a renewable energy future, on land that is currently used for moderate agricultural use and contains limited identifiable biodiversity value.

The development would not require removal of established native trees or significant habitat and would provide a regional municipality with access to affordable renewable energy.

The *NSW Renewable Energy Action Plan 2018* identified Hay in the South West Energy Zone (*see below figure*). There are opportunities around all the transmission lines, including the Transgrid line to the south of the Shire.



NSW Renewable Energy Projects and Potential Priority Zones
The Energy Corporation of NSW (EnergyCo)

4.2 Riverina Murray Regional Plan 2036

The NSW Government states that the Riverina Murray Regional Plan (the 'Regional Plan') provides a 20-year blueprint for the future of the Riverina Murray, the currently adopted plan is subject to review and exhibition in mid-2022. However, the revised Regional Plan was not available at the time of this report being drafted.

In practice, the Regional Plan provides a broad framework and direction for development across southern NSW, which encapsulates twenty (20) municipalities extending from the southern NSW border along the Murray River to central-west NSW north of Wagga Wagga. The Regional Plan is designed to be read in conjunction with more prescriptive frameworks that relate to local municipalities and ensure that local directions remain consistent with the overarching Regional Plan.

To guide development and growth within the Riverina Murray region, the Regional Plan sets out twenty-nine (29) key directions for planning that are divided into four (4) distinct goals relating to economy, environment, infrastructure and community considerations.

For the purposes of this development application, the proposal has been assessed against the directions relevant to agriculture, environment and infrastructure, which are outlined in the below table:

Direction	Response
Direction 1: Protect the region's diverse and productive agricultural land	The proposed use and development is to be undertaken for a fixed leasing period of thirty (30) years. The use of the land for a solar farm will require limited earthworks and would be capable of being fully remediated upon conclusion of the leasing period. The area of the proposed solar farm (15ha) represents a small proportion of the region's expansive agricultural land. Consequently, the proposed development would not lead to any meaningful loss to agriculture to allow for investment in renewable energy.
Direction 2: Promote and grow the agribusiness sector	The proposal is considered a compatible land use with agriculture, which implements the relevant action which seeks "to protect agricultural land and manage the interface with other (non-agricultural) land uses."
Direction 3: Expand advanced and value-added manufacturing	Similar to the above response to direction 3, the proposal would not unduly impact further investment in agricultural operations – either on the subject land or the surrounding properties. The co-location of a solar farm with agriculture is considered a complementary land use that will allow for the farmer to supplement their farm income and further invest in on-farm improvements for the remainder of the property.
Direction 11: Promote the diversification of energy supplies through renewable energy generation	The proposed utility-scale development is directly supported by all facets of this direction. The proposal is a smaller scale facility that has immediate access to the existing electricity network.
Direction 15: Protect and manage the region's many environmental assets	The subject site has been historically cleared and managed for ongoing agriculture. The site is not mapped as being of high biodiversity value, and the development does not seek the removal of any native vegetation.
Direction 16: Increase resilience to natural hazards and climate change	The development avoids any adverse environmental impacts that would lead natural hazards. The proposal also directly facilitates the transition to renewable energy to reduce the broader impacts of climate change.
Direction 21: Align and protect utility infrastructure investment	The proposal represents a private funded utility investment that will directly uphold direction 21, whilst also providing battery storage for electricity so that it will be directly available for the local communities.

4.3 Hay Shire Council Local Strategic Planning Statement

The Hay Shire Council Local Strategic Planning Statement (LSPS) outlines the framework to support the transition toward renewable energy by adopting the NSW Renewable Energy Action Plan.

The transition to renewable energy provides the economic benefits of local job creation and access to cheap, clean energy; environmental benefits in response to climate change as well as social benefits such as education, energy justice and infrastructure investment remaining in the local community.

The LSPS sets out a strategic direction and priorities for what the region is trying to achieve and how it can achieve it in a coordinated and effective manner. It identifies the opportunities for the Hay Shire Council and the reasons why it is suitable for renewable energy investment.

Strategic Priorities – Economy

Priority 4. Agriculture

Direction 1: Protect the region's diverse productive agricultural land

The Riverina Murray Regional Plan identifies that agriculture is integral to the success of the economy and a major force in the State. The Riverina Murray makes the largest regional contribution to agricultural production in NSW ($1.4 billion). The agricultural industry in the Hay Shire contributes over $83 million to the region's gross regional product per year

Agricultural zonings take up the vast majority of land zoning in the Hay Shire, with 1,097,547 ha being zoned RU1 Primary Production, and 1,230 ha being zoned RU4 Primary Production Small Lots. These two zonings make up 97% of land in the Hay Shire.

Identifying and protecting important agricultural land in the Hay Shire is fundamental to the future of agricultural production within the LGA and Region.

The proposed solar farm is located on land zoned under RU1 Primary Production, by siting the facility in close proximity to existing Essential Energy infrastructure (being the overhead 33kV power lines along the western side along Cemetery Road. The proposal reduces the requirement for extensive overhead lines that could further impact productive agricultural uses or landscape amenity, either on the subject land or off-site.

The proposal has been carefully designed to ensure that it will not impede existing agriculture within the surrounding area. In considering the site's agricultural capacity, whilst conducive to a region's economy in regard to agricultural pursuits:

Solar Energy Facilities are considered to be relatively benign in terms of their potential off-site impacts and it would be highly unlikely that any existing and/or future farmers would be impacted by the proposal. In addition, the design of the facility is such that decommissioning of the facility will ensure that the land is capable of being returned to conventional agricultural land uses, therefore compliant with protecting important agricultural land in the Hay Shire.

Accordingly, it is not considered that the use of approximately 13 hectares of productive land out of 98ha would undermine the economic base of either the Hay Shire Council, or the State of New South Wales.

The subject site represents a prime location to promote investment within the Hay Shire. The site is in proximity to the electric substation and provides for a renewable energy

facility responsive to the surrounding agricultural and environmental context in accordance with the relevant Strategy in Hay LSPS 2020.

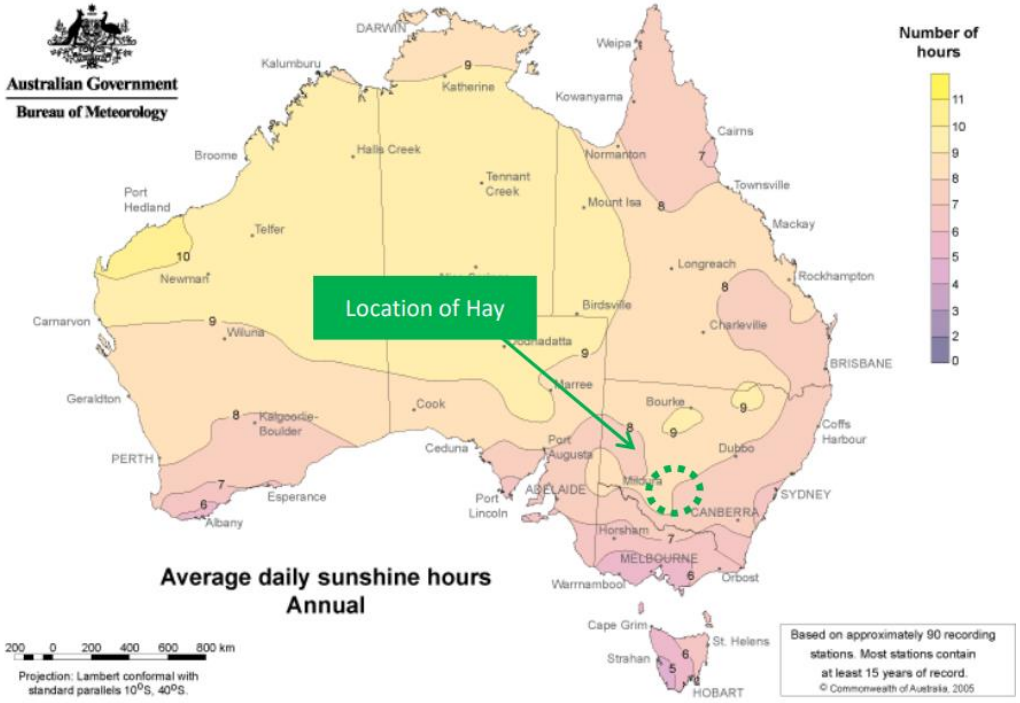
The use and development of a solar farm within Hay Shire Council will promote an opportunity for a regional Shire to transition toward renewable energy and a sustainable energy future, while compromising on a small portion of agricultural land for a definite period of time. The proposal represents a significant opportunity for a low-impact, sustainable diversification of the municipality's economic base, through the facilitation of investment in an emerging industry.

Whilst the proposed land use and development is for a "solar farm", which requires consent within the RU1 Zone, the use of the land for renewable energy production is consistent with Agricultural production – this is supported by the State Environmental Planning Policy (Transport and Infrastructure) 2021which seeks to support renewable energy in appropriate locations.

Environment and Resources

Priority 9. Renewable Energy

Direction 11: Promote the diversification of energy supplies through renewable energy generation



Average Daily Sunshine
Source: Hay Shire Council LSPS

The geographical location of Hay Shire is vital to cater for renewable energy on all scales, there is ample sunshine, levelled topography, affordable land, and readily accessible grid connections, which provide opportunities for all scales - from domestic to large scale renewable energy installations.

5 Design Considerations

The Large-Scale Solar Energy Guideline (LSEG) was published in December 2018, in response to the NSW's transition to renewable solar energy sources. Although *these Guidelines apply to* ***State Significant Development****, only*. Nevertheless, the general themes of the Guidelines are useful for informing the site considerations.

With many projects under way and many others being planned, the NSW Government has been proactive in providing a framework for the assessment, design, operation, and determination of State significant large-scale solar energy projects under the *Environmental Planning and Assessment Act 1979* (EP&A Act).

This guideline aims to ensure that:

- impacts are assessed with best practice methods and in a consistent manner
- effective stakeholder engagement is undertaken that encourages community input on solar energy development
- there is a balance between attracting investment and considering the interests of the community.

These Guidelines set out best practice advice for developers of solar energy facilities in NSW, including recommendations for community consultation, design, consideration of off-site impacts, construction, operation, and decommissioning. In addition to the details throughout this report, the considerations and application requirements set out in the Guidelines have been grouped and responded to under the following sections.

5.1 Identifying Suitable Locations

New South Wales has excellent access to solar energy, and the Hay and Hay Shire region is a prime candidate to see local renewable electricity generation for the use and benefit of its local residents.

Accordingly, Green Gold has embarked on the process of securing a suitable site in NSW for the development of a solar farm. Factors such as land availability, proximity to the electricity network, accessibility, topography, environmental and site constraints are all key considerations when first looking for potential sites.

Cultural Heritage

The Hay locality has some significant cultural heritage value, which is represented by a significant number of artefacts and cultural heritage sites.

As part of the initial site acquisition phase of the project, Red-Gum Consulting were engaged to undertake a cultural heritage due diligence assessment of the proposal. It was identified that there are some sites of cultural heritage value within the road reserve to the south – which the proposed vehicle access has been designed to wholly avoid. The proposed solar farm itself does not contain any sites of cultural significance.

Vegetation

The final site was selected to avoid substantial tracts of remnant native vegetation to the south of the current proposal. The initial location of the facility was intended to be directly adjacent to Murrumbidgee River Road – to reduce development costs and limit the requirement for connection infrastructure.

However, upon formal field assessment by Red-Gum Consulting, it was identified the current site was significantly less affected by native vegetation and would represent a

suitable site to limited potential adverse ecological impacts without the need to enter into the BOS. The location of the initial solar farm location (abandoned) and the current location proposed by this application is shown in the below figure:

Initial location shaded orange, current proposal location shaded green

5.2 Visual Impacts and Site Context

The proposal is for a 4.95 MW facility that will occupy approximately 15 hectares of a 3,000-hectare property – equating to approximately 0.05% of the landholder's property. The subject land represents a very small area of the total property. The development area is in the south-east corner of the property as this reduces the on and off-site amenity impacts significantly.

The proposed solar farm would be approximately 650 metres north of Murrumbidgee River Road, consequently, there is unlikely to be any immediate visual impact on the surrounding properties.

Accordingly, in consideration of the nature of the proposed facility and physical separation to any nearby facilities, the development would not lead to any undue cumulative visual impact on the surrounding area as a result of the proposed solar panels.

However, given that the proposed solar farm will be sited in a central paddock, the visual impact will be distant to any neighbouring properties and roadside views, landscaping is not proposed with this development.

Accordingly, it is submitted that when viewed in the context of their surrounds the cumulative impact of the approved and proposed solar facilities, in terms of both land use and visual impact, is minimal.

5.3 Traffic Management

The peak of construction activities will occur during the mechanical and electrical installation phases of construction. During these times, up to 22 workers could be on site during working hours. Workers will access the site in the morning and leave at the end of the working day in either their private car or work vehicle (ute or small truck). It is anticipated that there will be some car-pooling, therefore it is expectant that **up to 18 cars/utes** would be accessing the site during the height of the construction period.

The Construction Environmental Management Plan prepared by Green Gold Energy outlines the construction timing and process for the facility. The direct road connection to the site is via Murrumbidgee River Road – a sealed road managed by the Murray River Council.

Deliveries of components will be scheduled as required. Solar components (support system, trackers, panels and cabling) are delivered in pre-packed containers that are lifted from the delivery truck onto the lay-down area.

Outside of the construction period, the facility will be un-manned, other than intermittent periodical maintenance. The site will be remotely monitored in real time and local contractors would be rapidly deployed to deal with any fault or other matter, which provides the added benefit of local jobs for the local community.

6 Site and Context Description

6.1 Surrounding Context

The subject land is approximately 15 kilometres northeast of the Hay township – by direct measurement from the property boundary. The surrounding area is predominantly a mix of dryland agriculture, public land, and non-agricultural rural land uses. The land surrounding is primarily used for conventional agriculture – with grazing and some cropping evidenced through historical imagery.

North & East

The prevailing land use to the north and east of the site is agriculture, with some irrigation and dryland uses. Other than farming infrastructure, there is no evidence of buildings or any notable vegetation for a significant distance.

South:

The proposed solar farm site is approximately 450m north of Murrumbidgee River Road, and 1 kilometre north of the Murrumbidgee River corridor. There are a couple of houses along the river frontage, which are illustrated on the following pages of this report.

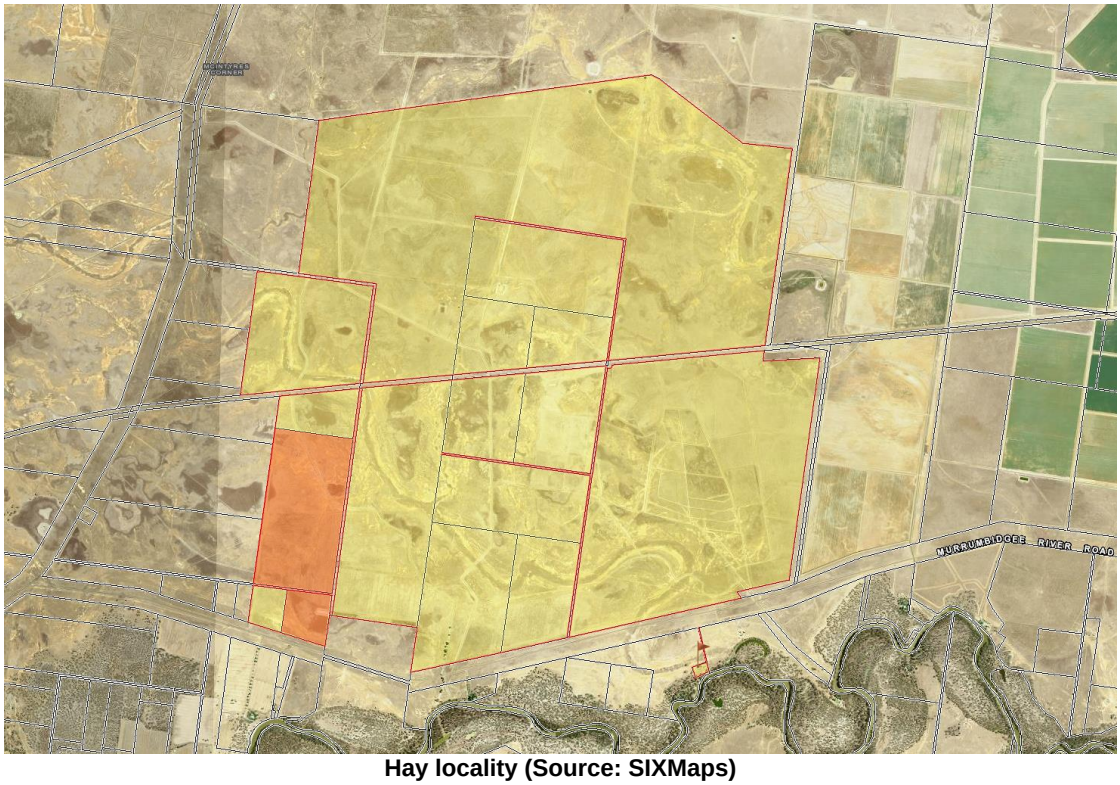
The site is proximate to existing overhead powerlines which run within the existing property – to the west of the proposed facility – which will provide an immediate “plug-in” connection to the Essential Energy grid.

West:

The Mid-Western Highway is approximately 2.3km west of the proposed solar farm, which provides the main arterial to the Hay township beyond.

There are some significant patches of remnant vegetation between the highway and Murrumbidgee River – however, the land appears to be predominantly uses for rural activities, including the predominant agricultural use as well as a motorsport track and lifestyle properties.

Regional Locality Plan
Subject Site marked by green pin (Source: Google Earth)



Hay locality (Source: SIXMaps)
Extent of 710 Murrumbidgee Road property shaded yellow, while subject site shaded orange

6.2 Subject Site

The proposed solar facility is to be built on an existing paddock to the north and west of the crown road that divides the farming property addressed at 710 Murrumbidgee River Road, Hay. This property consists of thirteen (13) parcels in common ownership with a total area of approximately 3,000 hectares.

Green Gold has agreed to terms with the current farmer to lease a portion of Lot 33, DP756787 (total area approximately 15 hectares) to develop it for a solar farm (see below figure) – for a period of approximately thirty (30) years.

In addition to the solar farm vehicle access and overhead electrical connection will be constructed through Lot 1, DP1049829. Consequently, this parcel also forms part of the subject site.

Both parcels are generally rectangular shaped, separated by an unmade crown road which is leased by the landholder as part of farm. The southern parcel has direct road frontage to Murrumbidgee River Road and the existing overhead powerlines.

The remaining allotments which comprise the broader property addressed as 710 Murrumbidgee River Road are not considered to form part of this Development Application. These lots will continue to be farmed in accordance with the existing rural uses. The proposed facility will occupy approximately 15-ha – as illustrated in the figure overpage. The remaining land outside the facility's fence will remain "as is" and will be managed seasonally in accordance with the ongoing agricultural use of the farm. The subject land is abutted by farming land.

The subject site is largely cleared with some remnant vegetation around waterways, tracks, and paddock fence lines.

Development Site from the south
Approximate image of subject site's terrain

710 Murrumbidgee River Road, Hay (Source: Nearmap)
Extent of development site in red dotted line

7 Proposal

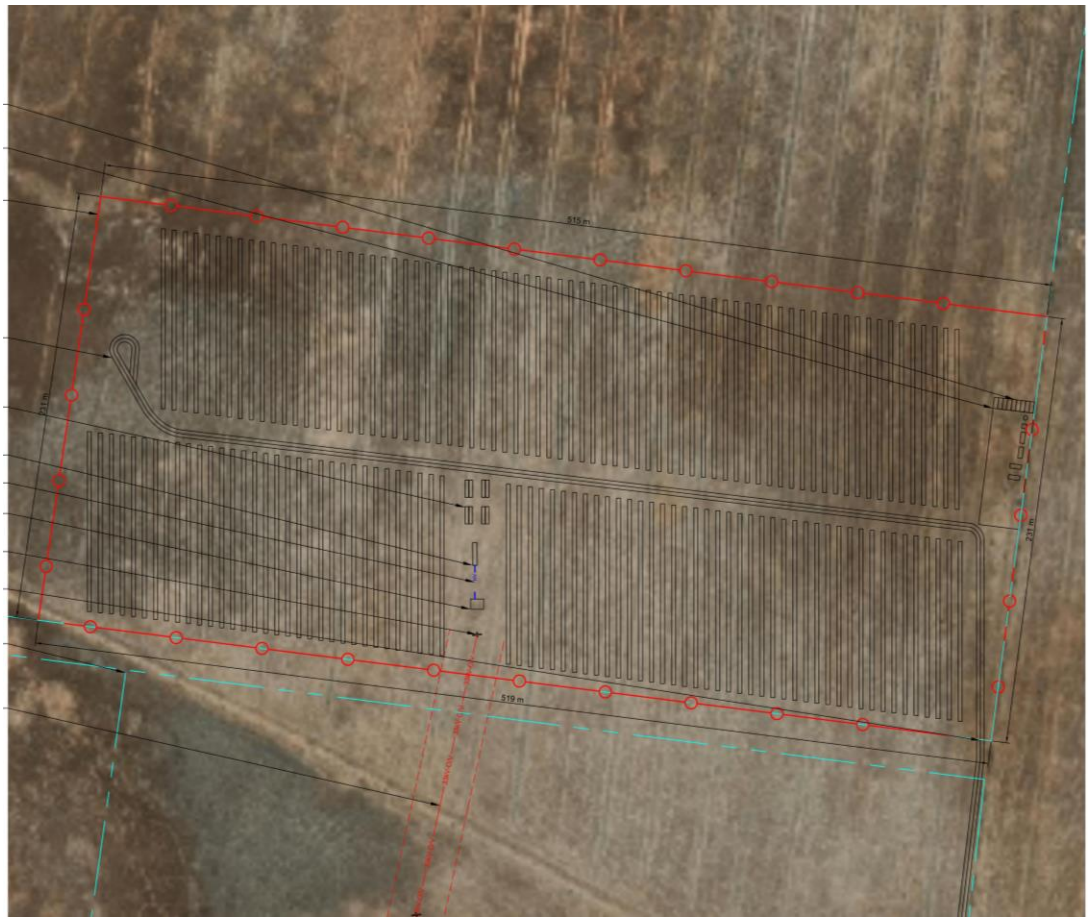
7.1 Facility Equipment and Componentry

This application seeks Development Approval to develop approximately 15 hectares of land at 710 Murrumbidgee River Road, Hay for a **4.95 MW solar farm** – as shown on the attached plans and figures, below.

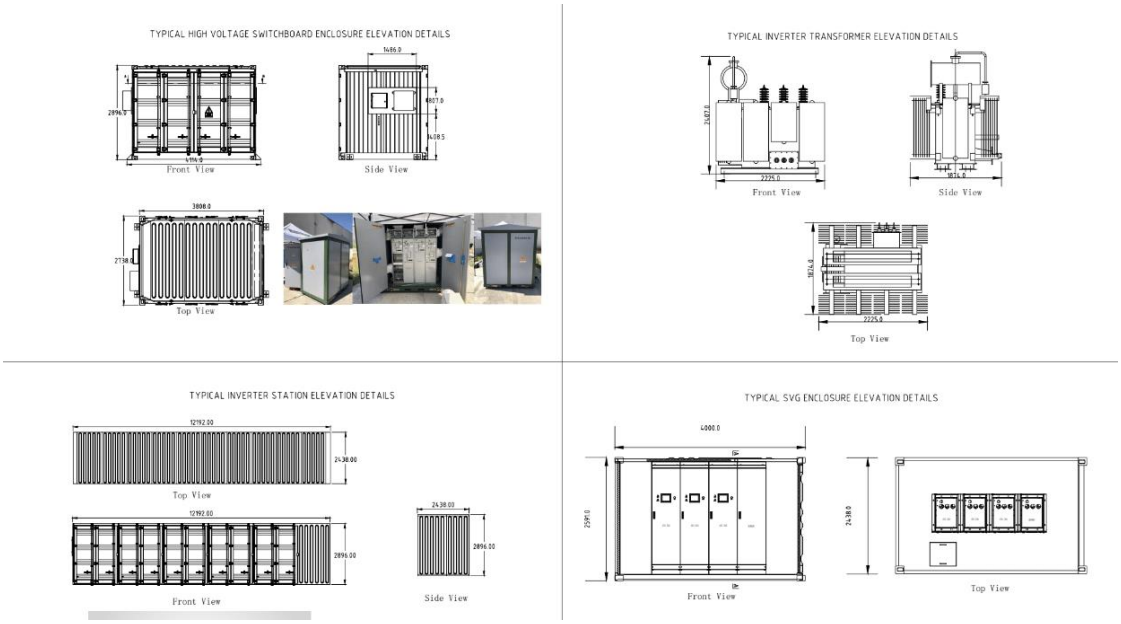
The proposed solar facility and associated works are to be as shown on the attached plans and supporting documents.

Specifically, it will consist of:

- **Approximately 12,000 solar panels**, mounted on single axis tracking arrays, each having the following specification:
  - Nominal dimensions of 2.8m by 1.1m
  - Maximum height of 2.8m above ground (when at maximum rotation)
  - The panels will be arranged in **150 individual arrays.**
- **2.32m high chain mesh perimeter fence** around entire perimeter of facility, with one gate along the southern boundary.
- **One (1) central inverter.**
- **Eight (8) battery energy storage systems** (BESS).
- **Power poles** & overhead lines.
- **New 650m access track**, with a width of 4m.



710 Murrumbidgee River Rd, Hay
Solar farm perimeter in red dotted line



Proposed Inverter Unit Plans

8 Development Details

8.1 Construction Phase

Once built, the facility will remain largely static (with the exception of tracking arrays) and largely unmanned. Accordingly, the construction period will be the most impactful period of the facility's lifespan. However, it is for a short finite period and – if managed appropriately – impacts can be controlled to an acceptable level.

The ***Construction Environmental Management Plan*** by Green Gold Energy – attached herewith details the following expectant parameters:

Stage 1

- Site mobilisation including preparation of any civil/mechanical works;
- Electrical installation of the array including DC, AC, and medium voltage (MV) infrastructure;
- Grid interconnection activities;
- Installation commissioning, usually involving cold, warm, and hot commissioning stages.

Stage 2

- BESS system installation and commissioning.
- Demobilisation and site restoration

It is anticipated that all components will be delivered in containers by semi-trailer trucks and B-doubles and deliveries will be scheduled across the nine-month project construction period.

The Construction Environmental Management Plan sets out how construction activities will be carried out, including site logistics, operations and equipment to be used, construction hours and site management.

The proposed solar array system requires minimal earthworks, limiting the propensity for environmental impacts.

Deliveries of components will be scheduled across Stages 2, 3 and 4, as required. Solar components (support system, trackers, panels and cabling) are delivered in pre-packed containers that are lifted from the delivery truck onto the lay-down area.

The local road network will ultimately connect to the state-managed arterial road network for traffic to and from the site.

8.1.1 Construction Traffic Management

The peak of construction activities will occur during the mechanical and electrical installation phases of construction. During these times, up to 22 workers could be on site during working hours. Workers will access the site in the morning (and leave at the end of the working day in either their private car or work vehicle (ute or small truck).

The standard hours of operation are:

- **6:00am** to **6:00pm** Monday to Friday
- **6:00am** to **2:00pm** Saturday; and

Work outside of these hours would only occur if:

- Agreed and approved by the proponent.
- Activities do not cause a noise nuisance to any neighbouring residential buildings
- Emergency work to avoid loss of lives and/or property
- Delivery of materials which are outside of hours due to safety reasons and request by police or other authorities

Materials deliveries will also occur throughout the construction period, with most components coming in during the mechanical works phase. Deliveries will B-double or semi-trailer and will be scheduled throughout the working day, to ensure efficient unloading and handing. It is anticipated that there will **up to 6 truck deliveries** per day during the height of the construction period.

The road network surrounding are all-weather sealed roads, capable of heavy vehicle access.

8.2 Operational Phase

Beyond the nine-month construction period, the facility will be largely unmanned, other than intermittent periodical maintenance. There is no intention to store any dangerous goods on site.

The site will be remotely monitored in real time and local contractors would be rapidly deployed to deal with any fault or other matter, which provides the added benefit of local jobs for the community.

Considering that the proposed facility will be unmanned, with limited moving componentry (other than the tracking arrays), it is considered that it will have a very minimal impact on the landscape and surrounding road network.

From past project experience, we are aware of community interest in the following matters in relation to solar facilities.

8.2.1 Electromagnetic Radiation (EMR)

Small amounts of electromagnetic radiation (EMR) can be produced (emitted) by electrical componentry associated with a solar facility such as inverter, transformers, and high voltage powerlines. However, the level of radiation dissipates quickly –

becoming largely indistinguishable from background levels over distance from the componentry.

The electromagnetic field (EMF) produced around an electric installation is non-ionising, within a range that exists in our daily lives from natural sources (which are most noticeably manifested in lightning discharges) and from appliances and electrical devices that surround our daily lives.

EMR from these types of components dissipates to indistinguishable levels over about 5-to-10 metres. The inverter is centrally located within the facility.

8.2.2 Heat Island Effect

In some instances, the community has raised concern for the potential of a "heat island effect" being created by solar facilities. This is where ambient temperatures are artificially raised by reflective heat from the facility, which could have impact on adjacent sensitive vegetation or horticultural operations.

Various studies have been undertaken and assessments presented as evidence for other contested solar facility proposals. As a result of these investigations, it was determined that any discernible impacts would be unlikely and would be quickly dissipated over a relatively short separation distance. Further, the facility has observed a 1-kilometre separation distance between the solar farm and any private property boundary not in common ownership.

The proposed layout achieves a significant setback from any nearby properties – even greater when considering properties in the same ownership. Any "heat island effect" created by the proposal would have no discernible effects over these distances.

8.2.3 Environmental, Risk and Emergency Management

There are substantial elements of environmental management provided within the Construction Environmental Management Plan (CEMP) prepared by Green Gold Energy Pty Ltd.

The CEMP sets out the matters, to be approved before construction begins, such as site management, dust and sediment control during construction.

A traffic management plan forms part of the CEMP, which includes an estimate of the traffic generation from the proposed development and determine the suitability of the proposed access.

The proposed facility will be under constant surveillance by remote monitor in real-time. In the event of a fault or potentially dangerous situation an alarm will automatically report to 'on-call' staff. There will be no audible alarm at the facility. The procedures and protocols for these operational arrangements will be set out in an operational management plan, that will be an integral part of the operation of the facility.

The site is subject to planning controls pertaining to ground water vulnerability; however, it is considered that the proposed solar facility development is unlikely to have negative impacts on the ground water resources.

8.2.4 Site Access and Traffic Management

As set out above, during operation, the facility will be monitored remotely; there will be no permanent workers on site. The facility will remain largely unattended, other than

periodical visits by maintenance contractors or the instance of a fault that requires site attendance.

These contractors will carry out seasonal site maintenance (slashing and ground fuel control, etc), cleaning panels and periodical visual checks of componentry and equipment. Accordingly, it could be weeks between site visits and most visits would be no more than one or two contractors in a single vehicle (likely a work ute), carrying out visual checks.

8.3 Waste Management

While there is no demolition to occur on the site, the construction waste generated will be limited to hole boring for pad footings, wire cut-offs and packaging waste.

8.3.1 Construction Phase

A project of this size is expected to have a construction period of nine (9) months. It is anticipated that all components will be delivered by semi-trailer or B-double trucks scheduled across the project construction period.

Accordingly, sub-contractors will be made aware that each trade is to manage and remove their own waste. This agreement should also ensure that the waste is appropriately streamed, and materials recycled where possible to minimise waste going to landfill.

8.3.2 Operational Waste

Once the solar facility is up and running, it will be remotely monitored and will be unmanned, therefore the waste generated during operational phase will be relatively low.

There will be a need for panel cleaning 1-2 times a year, mowing/weed removal as well as any general maintenance to ensure continue operation. It is anticipated that any operational waste will be limited to lunch wrappers and drink containers and any supplies required for maintenance or repair, all of which will be taken away with the contractor when they leave the site.

8.3.3 Site Decommissioning Waste

Decommissioning works will be undertaken in accordance with the conditions of consent in the sought development consent.

8.4 Noise

All construction work will be carried out during standard business hours. The impacts of noise are not anticipated beyond a 1km radius of the solar farm.

The subject site is surrounded by large farming lots with sparsely located farm dwellings. The closest of these receptors are adjacent to the south of the subject site, all of which are beyond 1 km from the development area.

8.4.1 Construction & Decommissioning Phase

The noise issues would primarily and almost exclusively be centered around the construction and de-commissioning of the site, which can be suitably implemented through a construction management plan via permit condition – to the satisfaction of the

responsible authority. In addition, the Construction Environmental Management Plan prepared by Green Gold Energy Pty. Ltd. – submitted herewith, outlines noise and vibration mitigation measures, which shall ensure the impacts are minimised.

Though the work will occur during the approved operating hours, there will be significant noise generated during the installation of fences and solar panels. Noise of a minor nature will be generated by movement of heavy vehicles and other construction equipment.

8.4.2 Operational Phase

It is anticipated that the proposed facility will generate negligible noise once it is operational. The facility will be unmanned and would see only limited active work – generally when contractors are present on site for maintenance purposes.

8.5 Decommissioning

The majority of components of the proposed facility (including panels) have a thirty-year design life expectancy. At this stage, the intention is to maintain/upgrade the facility over its life, as components wear out and new technology becomes available. Accordingly, the facility is likely to remain functional and operating into the foreseeable future.

However, should the facility's useful life end – for any number of commercial or practical reasons – the site can easily be remediated and reverted back to agriculture or converted to another use, as allowable under the planning provisions of the time.

The non-invasive mounting system makes decommissioning and removal of all panels and componentry a relatively simple process and would allow for the full remediation of the subject site to pre-development condition.

9 Statutory Framework and Assessment

9.1 Environmental Planning & Assessment Act 1979

The proposal is subject to the provisions of the *Environmental Planning & Assessment Act 1979* No. 203 (*"the Act"* herein).

Under the Act, the consent authority is required to consider the full range of matters listed under Division 4.3, Section 4.15 of the Act in its assessment of a development application. Each of the relevant matters are addressed below:

Matters for Consideration – General

The consent authority must take into consideration:

(a) the provisions of:

(i) any environmental planning instrument, and

(ii) any proposed instrument that is or has been the subject of public consultation under this Act and that has been notified to the consent authority (unless the Planning Secretary has notified the consent authority that the making of the proposed instrument has been deferred indefinitely or has not been approved), and

(iii) any development control plan, and

(iiia) any planning agreement that has been entered into under section 7.4, or any draft planning agreement that a developer has offered to enter into under section 7.4, and

(iv) the regulations (to the extent that they prescribe matters for the purposes of this paragraph),

that apply to the land to which the development application relates,

(b) the likely impacts of that development, including environmental impacts on both the natural and built environments, and social and economic impacts in the locality,
(c) the suitability of the site for the development,
(d) any submissions made in accordance with this Act or the regulations,
(e) the public interest.

Accordingly, the proposal and potential impacts are now considered – in accordance with the above provisions of Section 4.15, under the following headings:

Impacts on the Natural Environment

The proposed development is to be undertaken on a property zoned RU1 for Primary Production, which consequently, is largely cleared for historical agricultural use. The proposal will therefore not require the removal of any significant vegetation.

The current DA is accompanied by conceptual plans and relevant assessments to demonstrate that there will not be any undue detrimental impacts as a result of the proposal – either on-site or off-site.

The site is approximately 1300 metres away from the nearest significant landscape feature, being the Murrumbidgee River. In considering the size and magnitude of the facility, as well as the flat topography of the site and the proposed built form, any adverse landscape impacts are considered to be unlikely.

The site is entirely cleared of any trees; however, there are tracts of native vegetation that has regenerated across the site due to only intermittent cropping and grazing of the development site.

The site has been site to avoid native grasses, as the original location earmarked by GGE was to the south of the current proposal. However, due to the coverage and impacts on native grasses, the development was moved north – this is detailed in the *"identifying suitable locations"* section of this report.

There is a large nature corridor associated with the Murrumbidgee River. However, the development site is entirely outside of this area, and the proposal would not adversely affect this ecologically significant area or depreciate its value in any way.

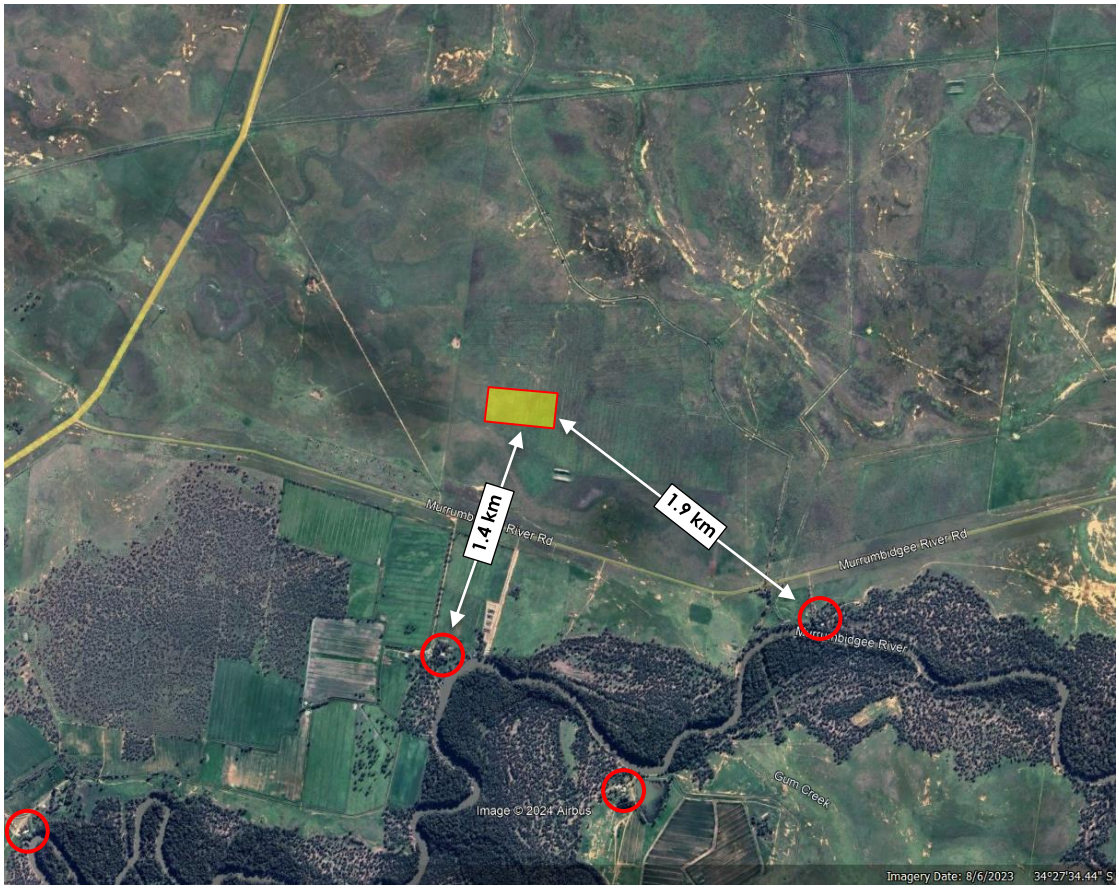
Despite the presence of the wetlands, there are no flooding constraints that affect the land. Particularly in considering the nature of a solar facility – with the development comprising largely permeable fencing and ground-mounted installations – it would significantly impede natural flow paths and increase flood risk.

Impacts on the Built Environment

In considering the existing built environment of the immediate locality, the prevailing land use is that of agriculture, which is undertaken at a range of scales and intensities. Whilst the proposed solar facility will be neighbouring properties, there are no immediate non-agricultural uses nearby such as rural dwellings which may be impacted by this proposal.

Consequently, the *nearest dwelling is located more than a kilometre away* from the development site. It is also noted that all of the nearest dwellings are in the RU1 Zone

and are not considered to be sensitive uses for the purposes of planning, as they are used in conjunction with their respective farming uses.



Locality Plan/Sensitive Land Use Map
Nearest dwellings not in common ownership **circled red**

The distance of the solar farm from Murrumbidgee River Road is also considered to eliminate any visual impacts to passersby; it will be of limited visibility from these roads.

The proposal also includes one (1) centrally located inverter station, eight (8) BESS units, and a switchboard within the compound at the electricity network connection point. None of these components are particularly large or visually intrusive and are considered comparable to a farm shed/shipping container.

It is submitted that the proposed development will have a negligible visual and noise impact on the locality, largely due to the significant distance from surrounding roads and buildings/dwellings. The site has been selected through a careful site selection and design process to ensure this. Additionally, the height and scale of the facility are such so as to further reduce any potential impacts.

There remains a possibility in the future to undertake perimeter landscaping; however, given the negligible impacts, it is considered that this will not be necessary.

Social and Economic Impacts

The proposed development will support the economic growth of Hay and the greater municipality of Hay Shire.

The proposed solar facility has been designed and located to maximise the electricity generation efficiency while limiting the use of rural land – retaining the majority of the broader farming property for continued agricultural use, and ensuring that the farm continues to be economically liable for the landholder.

It is estimated that during construction, a large portion of the work will be undertaken by local contractors. Where additional skilled workers from outside the region would need to be accommodated, this will create an influx of spending within the area. The proposal will also have a positive effect on NSW's electricity prices and lead to affordable energy.

Further, the proposed development will remain under lease from the current farmer, providing for a supplemental income for the farmer and allowing for further investment in agricultural operations on the property, while also supporting the emergence of renewable energy.

The Suitability of the Site

The subject site is a largely cleared farming property that contains limited topographical or environmental constraints. The proposed development site is to be in a location that minimises impacts on surrounding farming uses, the natural environment, and the built environment alike.

There are limited land use conflicts that would arise as a result of the proposal, and due to the location of the proposed site, the solar farm would be located a sufficient distance from all of the nearest surrounding dwellings and roads. Nevertheless, the relative proximity to the Hay township will ensure that a ready supply of workers/contractors is provided, as well as easy access to a range of services.

The site has also been deemed a suitable candidate because of the existing electricity network and its close proximity to the Hay Zone Substation. The connection point for the solar farm will be 5 km from this substation, for transmission to a wider network.

The proposal is for a land use that will be fully contained within the subject land and has been designed in a site-responsive manner mindful of the context of the site (i.e. site constraints and existing servicing and public infrastructure assets in the vicinity).

Any submissions made in accordance with this Act or the Regulations

Any relevant representations will need to be considered by the Council in determination of the development application.

The public interest

The public interest is best served by the orderly and economic use of land for purposes permissible under the relevant context of the site within the Hay Shire Council River LGA and in accordance with the prevailing planning instruments.

9.2 State Environmental Planning Policy (Transport and Infrastructure) 2021

Part 2 – Division 4 – Electricity generating works or solar energy systems

2.36 Development permitted with consent

(1) Development for the purpose of electricity generating works may be carried out by any person with consent on the following land

(b) any land in a prescribed non-residential zone.

In response to the above provision of the SEPP, the RU1 zone is a prescribed non-residential zone under the 2.35 definitions.

The proposed use of the land for an energy generating facility is considered to be compatible with adjoining agricultural land uses and respectful of the nearby terrestrial biodiversity and wetlands.

The use and development of land would generate negligible impacts on the surrounding area – the primary concern for solar energy facilities is the perceived visual impact that solar panels may have on surrounding amenity and the potential loss of agricultural utility. The proposed facility has been designed to minimise any negative amenity or utility impact.

The proposal has been carefully designed to ensure that it will not impede existing agriculture within the surrounding area. The use of land for a solar facility will be a low-impact use and has been carefully sited to avoid any adverse impact upon rural infrastructure.

The proposal will facilitate the transition toward the State government's renewable energy target by 2020. To this end, the proposed facility will contribute approximately 5 MW of renewable energy into the NSW electricity grid.

Furthermore, solar facilities are considered to be relatively benign in terms of their potential off-site impacts and it would be highly improbable that any existing and/or future farmers would be impacted by the proposal – including the landholder, with the vast majority of the farmland at the property being retained.

Division 5 – Subdivision 2 – Development likely to affect an electricity transmission or distribution network

2.48 Determination of development applications—other development

The proposed development site has been selected due to its proximity to existing electrical infrastructure – which includes the Hay zone substation, and the distribution network to the south of the site.

(1) This clause applies to a development application (or an application for modification of a consent) for development comprising or involving any of the following—

(a) the penetration of ground within 2m of an underground electricity power line or an electricity distribution pole or within 10m of any part of an electricity tower,

(b) development carried out—

(i) within or immediately adjacent to an easement for electricity purposes (whether or not the electricity infrastructure exists), or

(ii) immediately adjacent to an electricity substation, or

(iii) within 5m of an exposed overhead electricity power line,

(d) development involving or requiring the placement of power lines underground, unless an agreement with respect to the placement underground of power lines is in force between the electricity supply authority and the council for the land concerned.

(2) Before determining a development application (or an application for modification of a consent) for development to which this clause applies, the consent authority must—

(a) give written notice to the electricity supply authority for the area in which the development is to be carried out, inviting comments about potential safety risks, and

(b) take into consideration any response to the notice that is received within 21 days after the notice is given.

The financial viability of a 5 MW facility is dependent on the facility being within proximity to the distribution network, as beyond this, network augmentation costs become prohibitive. The subject site was initially selected for its proximity to the Hay Zone Substation, which feeds electricity for local consumption.

The facility design has considered all existing site conditions and features. It has been sited immediately adjacent to an easement for electricity purposes, to allow for effective transmission to the network. The facility location has also been chosen to limit the need for connection infrastructure. In this sense, the location is considered to be highly appropriate, in that it will increase the productivity of the facility.

Therefore, the siting of the facility in proximity to the existing transmission infrastructure will allow for the efficient transmission of the energy generated into the grid; and for a financially viable connection to be achieved.

9.3 State Environmental Planning Policy (Primary Production) 2021

Chapter 2 Primary production and rural development

Part 2.1 Preliminary

The aims of this Chapter are as follows—

(a) to facilitate the orderly economic use and development of lands for primary production,
(b) to reduce land use conflict and sterilisation of rural land by balancing primary production, residential development and the protection of native vegetation, biodiversity and water resources,
(c) to identify State significant agricultural land for the purpose of ensuring the ongoing viability of agriculture on that land, having regard to social, economic and environmental considerations,
(d) to simplify the regulatory process for smaller-scale low risk artificial waterbodies, and routine maintenance of artificial water supply or drainage, in irrigation areas and districts, and for routine and emergency work in irrigation areas and districts,
(e) to encourage sustainable agriculture, including sustainable aquaculture,
(f) to require consideration of the effects of all proposed development in the State on oyster aquaculture,
(g) to identify aquaculture that is to be treated as designated development using a well-defined and concise development assessment regime based on environment risks associated with site and operational factors.

In response to these aims, the *proposal is not designated development*, nor is it development that is considered to unduly impact the ongoing use of the surrounding land for primary production. The proposed development site is 15 hectares only, and the vast majority of the property will be retained for agriculture.

Additionally, while the land is mapped under the draft State Significant Agricultural Land mapping (SSAL). However, the proposed solar farm is considered to complement the productivity of the surrounding farmland, as it will provide the landholder with a supplementary income, which could be directed towards the ongoing agricultural use of the land.

9.4 State Environmental Planning Policy (Planning Systems) 2021

Schedule 6 – Regionally Significant Development

5 Private infrastructure and community facilities over $5 million

Development that has a capital investment value of more than $5 million for any of the following purposes—

- *(a) air transport facilities, electricity generating works, port facilities, rail infrastructure facilities, road infrastructure facilities, sewerage systems, telecommunications facilities, waste or resource management facilities, water supply systems, or wharf or boating facilities,*
- *(b) affordable housing, child care centres, community facilities, correctional centres, educational establishments, group homes, health services facilities or places of public worship.*

Development that is state and regionally significant is identified in *State Environmental Planning Policy (Planning Systems) 2021*.

Private infrastructure, including electricity generating stations, that have a capital investment value of over $5 million are declared regionally significant. The proposed Solar Facility development has a CIV of **$4.9 million** and is therefore identified as a **Local Development.** This is supported by a CIV costing appended with this application.

9.5 State Environmental Planning Policy (Resilience and Hazards) 2021

Chapter 3 – Hazardous and Offensive Development

Section 7.1 of the NSW Department of Planning's 'Hazardous and Offensive Development Application Guidelines – Applying SEPP 33' (DoP, 2011) details how to identify a potentially hazardous industry.

The proposal does not involve any of the hazardous materials listed in Table 1, Table 2 or Table 3 of the guidelines. Therefore, the proposal is not considered to be a potentially hazardous industry, and chapter 3 of the SEPP does not apply.

Chapter 4 – Remediation of Land

4 Objective of this Chapter

(1) The object of this Chapter is to provide for a Statewide planning approach to the remediation of contaminated land.

(2) In particular, this Chapter aims to promote the remediation of contaminated land for the purpose of reducing the risk of harm to human health or any other aspect of the environment—

- *(a) by specifying when consent is required, and when it is not required, for a remediation work, and*
- *(b) by specifying certain considerations that are relevant in rezoning land and in determining development applications in general and development applications for consent to carry out a remediation work in particular, and*
- *(c) by requiring that a remediation work meet certain standards and notification requirements.*

4.6 Contamination and remediation to be considered in determining development application

(1) A consent authority must not consent to the carrying out of any development on land unless—

(a) it has considered whether the land is contaminated, and
(b) if the land is contaminated, it is satisfied that the land is suitable in its contaminated state (or will be suitable, after remediation) for the purpose for which the development is proposed to be carried out, and
(c) if the land requires remediation to be made suitable for the purpose for which the development is proposed to be carried out, it is satisfied that the land will be remediated before the land is used for that purpose.

The solar facility development is proposed on a site which has historically been used for dryland agricultural activities for an extended period of time; this may include cropping or grazing. There is no evidence to suggest that the site is or might be contaminated to a level that would impact on the proposed use.

Therefore, it is considered that the proposed development is compliant with the SEPP.

9.6 State Environmental Planning Policy (Biodiversity & Conservation) 2021

Chapter 3 – Koala habitat protection 2020

3.3 Land to which Chapter applies

*"(1) This Chapter applies to land in the following land use zones, or an equivalent land use zone, in a local government area specified in Schedule 1 of State Environmental Planning Policy (Koala Habitat Protection) 2021, but not if the local government area is marked with an * in that Schedule—*

(a) Zone RU1 Primary Production"

The proposal does not seek removal of any trees, native or otherwise, as the site has been previously cleared for agriculture. Further, there is extensive cleared land on all sides of the development site, which renders the site unlikely to be conducive to koala habitat.

Chapter 4 – Koala habitat protection 2021

Pursuant 4.4(d)(i), *"this Chapter does not apply to land in the Zone RU1 Primary Production".*

10 Hay Local Environmental Plan 2011

Zone RU1 – Primary Production

1 Objectives of zone

- To encourage *sustainable primary industry production by maintaining and enhancing the natural resource base.*
- *To encourage diversity in primary industry enterprises and systems appropriate for the area.*
- *To minimise the fragmentation and alienation of resource lands.*
- *To minimise conflict between land uses within this zone and land uses within adjoining zones.*

5.21 Flood planning

(1) The objectives of this clause are as follows—

(d) to minimise the flood risk to life and property associated with the use of land,

(e) to allow development on land that is compatible with the flood function and behaviour on the land, taking into account projected changes as a result of climate change,

(f) to avoid adverse or cumulative impacts on flood behaviour and the environment,

(g) to enable the safe occupation and efficient evacuation of people in the event of a flood.

In response to the aims of flood planning, the proposed development will be an un-manned facility that would not have any permanent residents or staff that would be potentially impacted by flooding.

A solar farm is a relatively low-risk development from a flooding standpoint, as materials and built form are such that flood paths would not be heavily obstructed – owing to the permeable nature of the fencing and solar arrays.

(2) Development consent must not be granted to development on land the consent authority considers to be within the flood planning area unless the consent authority is satisfied the development—

(a) is compatible with the flood function and behaviour on the land, and

(b) will not adversely affect flood behaviour in a way that results in detrimental increases in the potential flood affectation of other development or properties, and

(c) will not adversely affect the safe occupation and efficient evacuation of people or exceed the capacity of existing evacuation routes for the surrounding area in the event of a flood, and

(d) incorporates appropriate measures to manage risk to life in the event of a flood, and

(e) will not adversely affect the environment or cause avoidable erosion, siltation, destruction of riparian vegetation or a reduction in the stability of river banks or watercourses.

The development site is a significant distance from the Murrumbidgee River. Despite being within the floodplain, the development is unlikely to create an on-site risk, or exacerbate any existing flood risks within the area.

(3) In deciding whether to grant development consent on land to which this clause applies, the consent authority must consider the following matters—

(a) the impact of the development on projected changes to flood behaviour as a result of climate change,

(b) the intended design and scale of buildings resulting from the development,

(c) whether the development incorporates measures to minimise the risk to life and ensure the safe evacuation of people in the event of a flood,

(d) the potential to modify, relocate or remove buildings resulting from development if the surrounding area is impacted by flooding or coastal erosion.

The form of the proposed solar farm provides for free passage of floodwaters. The proposed solar farm is anticipated to be on the site for a 30-year-lease and is not considered a permanent installation.

The solar farm design is compatible with the management of floodwaters and would be of a scale that would not unduly impact the natural flows of the surrounding floodplain.

6.1 Earthworks

(1) The objectives of this clause are as follows—

(a) to ensure that earthworks for which development consent is required will not have a detrimental impact on environmental functions and processes, neighbouring uses, cultural or heritage items or features of the surrounding land,

(b) to allow earthworks of a minor nature without requiring separate development consent.

Earthworks associated with the development comprise minor excavation to 150mm to install road base for accessways, 750mm footings for the inverters and security fence strainer posts, 1,200mm footings for the access gate and for the panel mounting frames.

All of these earthworks are ancillary to the development of a solar farm and are not expected to impact adversely on the future rural use of the land, if the facility is decommissioned, relics, the natural environment or adjoining developments.

The proposal has been carefully designed to ensure that it will not impede existing agriculture within the surrounding area. The use of the land for a solar farm will be a low impact use and has been carefully sited to avoid any adverse impact upon rural infrastructure.

There will be limited to no impact on the amenity of surrounding properties, or on waterways by the earthworks on the site.

6.10 Terrestrial Biodiversity

The subject site is mapped as terrestrial biodiversity under the Hay LEP; however, the extent of development will be outside of the affected area.

Nevertheless, the relevant provisions of the LEP state that:

(1) The objective of this clause is to maintain terrestrial biodiversity by—

(a) protecting native fauna and flora, and

(b) protecting the ecological processes necessary for their continued existence, and

(c) encouraging the conservation and recovery of native fauna and flora and their habitats.

(2) This clause applies to land identified as "Sensitive Area" on the Natural Resource Biodiversity Map.

(3) Before determining a development application for development on land to which this clause applies, the consent authority must consider whether or not the development—

(a) is likely to have any adverse impact on the condition, ecological value and significance of the fauna and flora on the land, and

(b) is likely to have any adverse impact on the importance of the vegetation on the land to the habitat and survival of native fauna, and

(c) has any potential to fragment, disturb or diminish the biodiversity structure, function and composition of the land, and

(d) is likely to have any adverse impact on the habitat elements providing connectivity on the land.

(4) Development consent must not be granted to development on land to which this clause applies unless the consent authority is satisfied that—

(a) the development is designed, sited and will be managed to avoid any significant adverse environmental impact, or

(b) if that impact cannot be reasonably avoided—the development is designed, sited and will be managed to minimise that impact, or

(c) if that impact cannot be minimised—the development will be managed to mitigate that impact.

The proposal represents an appropriate response to these provisions in that it does not propose the removal of any prescribed native vegetation, and it is located wholly outside the mapped areas of terrestrial biodiversity.

11 Hay Development Control Plan

Not applicable.

There is no Development Control Plan that applies to the Hay Shire LGA.

12 Planning for Bushfire Protection 2019

Planning for Bush Fire Protection 2019 (PBP) provides development standards for designing and building on bush fire prone land in New South Wales.

The proposed development is identified under Bushfire prone area; accordingly, it considers Bushfire protections measures listed in the document, such as:

- Asset protection Zone (APZs)
- Access
- Construction, siting and design
- Services; and
- Emergency and evacuation planning.

The facility has incorporated these principles into the design and layout, with the facility having two points of access to Cemetery Road to the west, as well as a 10-metre perimeter fire break between the facility fence and the solar panels.

In considering the immediate landscape within the vicinity of the proposed solar farm (being managed grassland). The proximity of the subject site with Murrumbidgee River along west is the primary fuel for the bushfire risk.

To mitigate any potential risks caused by grasslands from neighbouring paddocks following measures are undertaken:

- Appropriate location of access roads for the proposed development to enable safe egress for any individual attempting to leave the area at the same time that emergency service personnel are arriving to undertake firefighting operations.
- The existing road infrastructure shall provide sufficient width and other dimensions to ensure safe unobstructed access and allow firefighting crews to operate equipment around the vehicle.
- The design of internal tracks maintaining 10m-15m setback from the property boundary, thereby strategically creating a peripheral access route surrounding the proposed development.
- Additionally, the facility will be located a suitable distance from the Murrumbidgee River – therefore maintaining a significant distance from any potential bushfire risk.
- The subject site has access to all weather road and provision for continuous water supply, thereby ensuring protection of human life and property.

From above it is anticipated that the subject site will be well protected by any event of bushfire.

Bushfire Prone Areas
Mapped areas of bushfire-prone land to west of the site

13 Conclusion

The proposal is for a new solar facility within the municipality of Hay Shire Council that will provide affordable clean energy for the local community, whilst also contributing to the implementation of New South Wales's transition to renewable energy.

The proposal is supported by the ***NSW Regional Energy Action Plan 2018*** to Net Zero Emissions that sets out a broader framework for achieving the region's aspirations and expectations for renewable energy by providing regional opportunities for the benefit of the regional community.

The 4.95 MW output will supply local businesses, industry and houses and will produce enough energy to contribute to the transition of the Hay Shire into a renewable municipality.

The proposal will generate local employment opportunities for electrical and construction workers to build and install the facility; operations, maintenance and security jobs will be required ongoing.

The holistic considerations of the proposed solar farm and the primary considerations of the proposal, including the merits of both preserving agricultural land against promoting renewable energy have been addressed at length in the various sub-sections of this report and the appended documentation.

It is submitted that the information provided within this report and the various supporting documents demonstrate that the proposal warrants development approval.