lightsource bp



# Gundary Solar Farm

## SUBMISSIONS REPORT

June 2025

umwelt
Environmental & Social Consultants

# Gundary Solar Farm

**Submissions Report**

## Final

Prepared by Umwelt (Australia) Pty Ltd
on behalf of Lightsource bp

| | |
|---|---|
| Project Director: | Malinda Facey |
| Project Manager | Marion O'Neil |
| Report No.: | 30192/R01 |
| Date: | June 2025 |

This report was prepared using Umwelt's
ISO 9001 certified Quality Management System.

**Acknowledgement of Country**

Umwelt would like to acknowledge the traditional custodians of the country on which we work and pay respect to their cultural heritage, beliefs, and continuing relationship with the land. We pay our respect to the Elders – past, present, and future.

**Disclaimer**

This document has been prepared for the sole use of the authorised recipient and this document may not be used, copied or reproduced in whole or part for any purpose other than that for which it was supplied by Umwelt (Australia) Pty Ltd (Umwelt). No other party should rely on this document without the prior written consent of Umwelt.

Umwelt undertakes no duty, nor accepts any responsibility, to any third party who may rely upon or use this document. Umwelt assumes no liability to a third party for any inaccuracies in or omissions to that information. Where this document indicates that information has been provided by third parties, Umwelt has made no independent verification of this information except as expressly stated.

**©Umwelt (Australia) Pty Ltd**

**Document Status**

| Rev No. | Reviewer Name | Reviewer Date | Approved for Issue Name | Approved for Issue Date |
|---|---|---|---|---|
| Final | M Facey | 24/06/2025 | M Facey | 30/06/2025 |

# Executive Summary

Lightsource Development Services Australia Pty Ltd (Lightsource bp) is proposing to develop the Gundary Solar Farm (the Project) to generate solar renewable energy to supply the people of New South Wales. The Project is located within the Goulburn Mulwaree Local Government Area of NSW, approximately 10 km south-east of Goulburn. The Project is located on an agricultural property which encompasses 702 ha.

Following submission of the Environmental Impact Statement (EIS) in late 2024, Lightsource bp has continued to consult with relevant government agencies, Council, landholders and the community more broadly. Ongoing consultation and consideration of the submissions received has led to some Project refinements, including additional landscape screening, increased community benefits and updated management and mitigation measures. No changes are proposed to the Project as described in the EIS. However, an update to the boundary of the Development Footprint, as presented on some figures within the EIS was required. Following advice from Department of Planning, Housing and Infrastructure (DPHI) an Amendment Report has been prepared separately to this Submissions Report to provide updated figures.

The EIS was placed on public exhibition from 15 November to 12 December 2024. During public exhibition, a total of 174 submissions were made on the Project. This included 14 government submissions and 160 unique public submissions. Of the 160 unique submissions received from the public, the Project received 143 objecting submissions, 16 supporting submissions and one submission providing comment.

This Submissions Report provides a summary of actions since exhibition, details the comments received in the public submissions phase of the EIS, provides an analysis of these submissions and offers a detailed response to key themes.

The Gundary Solar Farm represents an essential part of the energy transition and:

- Is a direct response to the NSW and Commonwealth's Government's commitments to transition to renewable electricity generation in NSW.
- Will materially assist in addressing this shortfall by delivering approximately 400 MW of renewable energy capacity to the National Electricity Market to help reduce the need to keep coal fired power stations like Eraring Power Station online beyond their current committed retirement date.
- Supports the firming and storage of renewable energy in NSW through the development of either a 325 megawatt peak (MWp) alternating current (AC) or 230 MWp direct current (DC) Battery Energy Storage System, or a combination of the two (to a maximum 555 MWp).
- Contributes significant capital investment within the Goulburn Mulwaree region, generating jobs during the construction and operational phases, providing indirect benefits to local services throughout the life of the Project (e.g. indirect employment creation in local and regional economies would include jobs supported through transportation, trade supplies, services, accommodation, catering, retail services, etc.), delivering additional income to host and other associated landowners, and providing benefits to the local community through the implementation of the proposed Benefit Sharing Program and planning agreements with local Councils.

The EIS confirms that, while there will be some unavoidable impacts, the extent of these impacts has been minimised through the design process to the extent practicable and appropriate management and mitigation measures have been committed to address the residual impacts. Given the commitment from Lightsource bp to appropriately manage the potential environmental impacts associated with the Project, it is considered the Project would result in a net benefit to the region and broader NSW community.
The Project aligns with the principals of Ecologically Sustainable Development and is considered to be satisfied, due to the social, economic and environmental benefits.

# Table of Contents


**Executive Summary** i

**1.0 Introduction** 1

1.1 Overview of the Project 3

1.2 Project Amendments and Refinements 8

1.3 Report Structure 8

**2.0 Analysis of Submissions** 10

2.1 Breakdown of Submissions 10

2.1.1 Government Submissions 10

2.1.2 Public Submissions (Stakeholder Groups and Individuals) 11

2.2 Categorisation of Issues – Public Submissions 17

2.2.1 Objecting Submissions 17

2.2.2 Commenting Submissions 21

2.2.3 Supporting Submissions 21

**3.0 Actions Taken Since Exhibition** 23

3.1 Ongoing Consultation 23

3.1.1 Community Consultation 23

3.1.2 Agency Consultation 23

3.2 Project Amendments and Refinements 26

3.2.1 Additional Landscape Screening 26

3.2.2 Community Benefits 26

3.2.3 Further Management and Mitigation Measures 27

3.3 Further Assessments 27

**4.0 Response to Government Submissions** 28

4.1 Conservation Programs, Heritage and Regulation (CPHR) NSW 28

4.1.1 Biodiversity 28

4.1.2 Flooding 33

4.1.3 Further Consultation 34

4.2 DCCEEW Water 34

4.2.1 Water Demands 34

4.2.2 Groundwater 35

4.2.3 Surface Water 35

4.2.4 Sewage 36

4.3 Water NSW 38

4.3.1 Overview 38
4.3.2 Water Quality 39
4.3.3 Further Consultation 41
4.4 Transport for NSW (TfNSW) 41
4.4.1 Traffic Impact Assessment 41
4.4.2 Route Analysis for High Risk OSOM 42
4.4.3 Updated Assessment of Traffic Impacts 44
4.5 Heritage NSW 45
4.5.1 Aboriginal Cultural Heritage impacts 45
4.5.2 Avoidance Measures 46
4.5.3 AHIMS Data 47
4.6 Heritage Council of NSW 47
4.6.1 Historical Heritage Impacts 47
4.7 Fire and Rescue NSW 48
4.7.1 Hazard Management 48
4.8 Rural Fire Service (RFS) 49
4.8.1 Bushfire Assessment 49
4.8.2 Bushfire Management 49
4.8.3 Further Consultation 50
4.9 Crown Lands 51
4.9.1 Access or Use of Crown Roads or Waterways 51
4.9.2 Linear Infrastructure Crossing Crown Land 54
4.9.3 Maintenance of Crown Land and Waterways 54
4.10 DPIRD Fisheries 55
4.10.1 Fish Passage 55
4.10.2 Buffer Zones 56
4.11 DPIRD Agriculture 56
4.11.1 Soil 56
4.11.2 Agriculture 57
4.11.3 Land Use 58
4.11.4 Management Measures 58
4.11.5 Local Employment 59
4.12 DPHI Industry Assessments (Hazard) 60
4.12.1 Hazard Assessment 60
4.12.2 BESS Design 60
4.13 NSW Resources 61
4.13.1 Mining Act 1992 61

4.14 Goulburn Mulwaree Council 61
4.14.1 Overview 61
4.14.2 Community Views 70
4.14.3 Compliance with the Matters in section 2.42 of the T&I SEPP 78
4.14.4 Site Suitability 87
4.14.5 Social and Economic 94
4.14.6 Decommissioning 99
4.14.7 Agriculture 101
4.14.8 Visual 101
4.14.9 Biodiversity 102
4.14.10 Traffic and Transport 104
**5.0 Response to Public Submissions 107**
5.1 Economic, Environmental and Social Impacts 107
5.1.1 Socio-Economic 107
5.1.2 Bushfire 123
5.1.3 Landscape and Visual 126
5.1.4 Decommissioning and Rehabilitation 128
5.1.5 Agriculture 129
5.1.6 Biodiversity 132
5.1.7 Traffic and Transport 133
5.1.8 Contamination and Other Hazards 136
5.1.9 Water Resources 140
5.1.10 Noise 143
5.1.11 Cumulative Impacts 146
5.1.12 Heat Bank Impacts 148
5.1.13 Waste Management 149
5.1.14 Electromagnetic Field Impacts 150
5.1.15 Heritage 151
5.1.16 Glint and Glare 152
5.1.17 Dust 153
5.1.18 Goulburn Airport 154
5.2 Procedural Matters 154
5.2.1 Inconsistent with the Transport and Infrastructure SEPP 154
5.2.2 Renewable Energy Zone (REZ) 156
5.2.3 Adequacy of Assessments 157
5.2.4 Social Licence 163
5.2.5 Consultation Process 164

5.2.6 Post-approval Compliance 166
5.3 The Project 167
5.3.1 Scale of the Project 167
5.3.2 Project Design 168
5.4 Justification and Evaluation 169
5.4.1 Project Location 169
5.5 Issues Beyond the Scope of the Project 170
5.5.1 Reliability and Sustainability of Renewable Energy 170
5.5.2 Climate Change 171
5.5.3 Alternatives to the Project 172
5.5.4 Policy and Planning 173
5.5.5 The Proponent 173
5.5.6 Subsidies and Corporate Greed 176
5.5.7 Sourcing of Materials and Slave Labour 177
5.5.8 Energy Costs 177
**6.0 Updated Project Justification 179**
6.1 Environmental, Social and Economic Impacts 179
6.2 Ecologically Sustainable Development 180
6.3 Conclusion 180
**7.0 References 182**

# Figures

Figure 1.1 Location and Regional Context 2
Figure 1.2 Project Conceptual Layout 6
Figure 1.3 Project Area 7
Figure 2.1 Public Submissions Breakdown 12
Figure 2.2 Percentage of Public Submissions by Proximity 13
Figure 2.3 Community Submissions by Locality 14
Figure 2.4 Percentage of Objecting Public Submissions by Proximity 15
Figure 2.5 Percentage of Supporting Public Submissions by Proximity 16
Figure 2.6 Categorisation of Objecting Submissions 18
Figure 2.7 Analysis of Socio-economic Sub-themes 19
Figure 4.1 Watercourse Buffer in the West of the Project Area 37
Figure 4.2 Crown Road Adjoining Lot 80 DP 750018 53
Figure 4.3 Urban and Fringe Precincts of Goulburn 65
Figure 5.1 R6 – Sc.1 Site Establishment and Civil Works (Worst-case Scenario) Noise Risk Contours 45–55 dB(A) 122

# Photos


| | | |
|---|---|---|
| Photo 4.1 | Mountain Ash Precinct – 40° Single Frame Photomontage | 81 |
| Photo 4.2 | Brisbane Grove – 40° Single Frame Photomontage | 82 |
| Photo 4.3 | Estimated Location of the Project Area from Former St John's Orphanage (RCVP 5) | 84 |
| Photo 4.4 | View of Project Location from Secondary Viewpoint at Rocky Hill War Memorial and Museum (RCVP 3) | 85 |
| Photo 4.5 | Windellama Road (Looking North) Mitigation Photomontage | 86 |
| Photo 4.6 | Windellama Road (Looking South) Mitigation Photomontage | 86 |


# Tables


| | | |
|---|---|---|
| Table 1.1 | Project Summary | 3 |
| Table 1.2 | Structure of the Submissions Report | 8 |
| Table 2.1 | Submission Breakdown | 10 |
| Table 3.1 | Community Consultation Following Exhibition of EIS | 23 |
| Table 3.2 | Agency Consultation Following Exhibition of EIS | 24 |
| Table 4.1 | Consideration of IT Power (Australia) Pty Ltd v Mid-Western Regional Council [2023] | 67 |
| Table 4.2 | LEP Zoning Objectives | 89 |
| Table 4.3 | Workforce Accommodation Locations | 105 |
| Table 5.1 | Detailed Visual Assessment Results for R6 | 120 |
| Table 5.2 | Biodiversity Survey Overview | 158 |


# Appendices

| Appendix No. | Appendix Title |
|---|---|
| Appendix 1 | Submissions Register |
| Appendix 2 | Updated Management and Mitigation Measures |
| Appendix 3 | Aboriginal Cultural Heritage Assessment Letter |
| Appendix 4 | Updated Flood Impact and Risk Assessment |
| Appendix 5 | Updated Traffic Impact Assessment |
| Appendix 6 | Visual Analysis |

# 1.0 Introduction

Lightsource Development Services Australia Pty Ltd (Lightsource bp) is proposing to develop the Gundary Solar Farm (the Project) to generate solar renewable energy to supply the people of New South Wales (NSW). The Project is located within the Goulburn Mulwaree Local Government Area (LGA) of NSW, approximately 10 km south-east of Goulburn. The Project's location and regional context is shown in **Figure 1.1**.

The Project, as described in the Environmental Impact Statement (EIS) (Umwelt, 2024), encompassed a Development Footprint of approximately 512 ha and included the construction, operation, maintenance and decommissioning of an approximate 400 Megawatt peak (MWp) (DC) solar photovoltaic (PV) generation facility with a Battery Energy Storage System (BESS) of up to 555 MWp and 1,570 Megawatt hour (MWh) capacity. The Project further included ancillary infrastructure, an onsite substation/switching station and connection to an existing 330 kilovolt (kV) transmission line (Yass to Marulan) as well as intersection works on Windellama Road to upgrade the Project access to accommodate heavy vehicles.

Approval for the Project is being sought under the State Significant Development (SSD) provisions (Division 4.7) of Part 4 of the NSW *Environmental Planning and Assessment Act 1979* (EP&A Act) as the Project is declared to be SSD under *State Environmental Planning Policy (Planning Systems) 2021 (Planning Systems SEPP).*

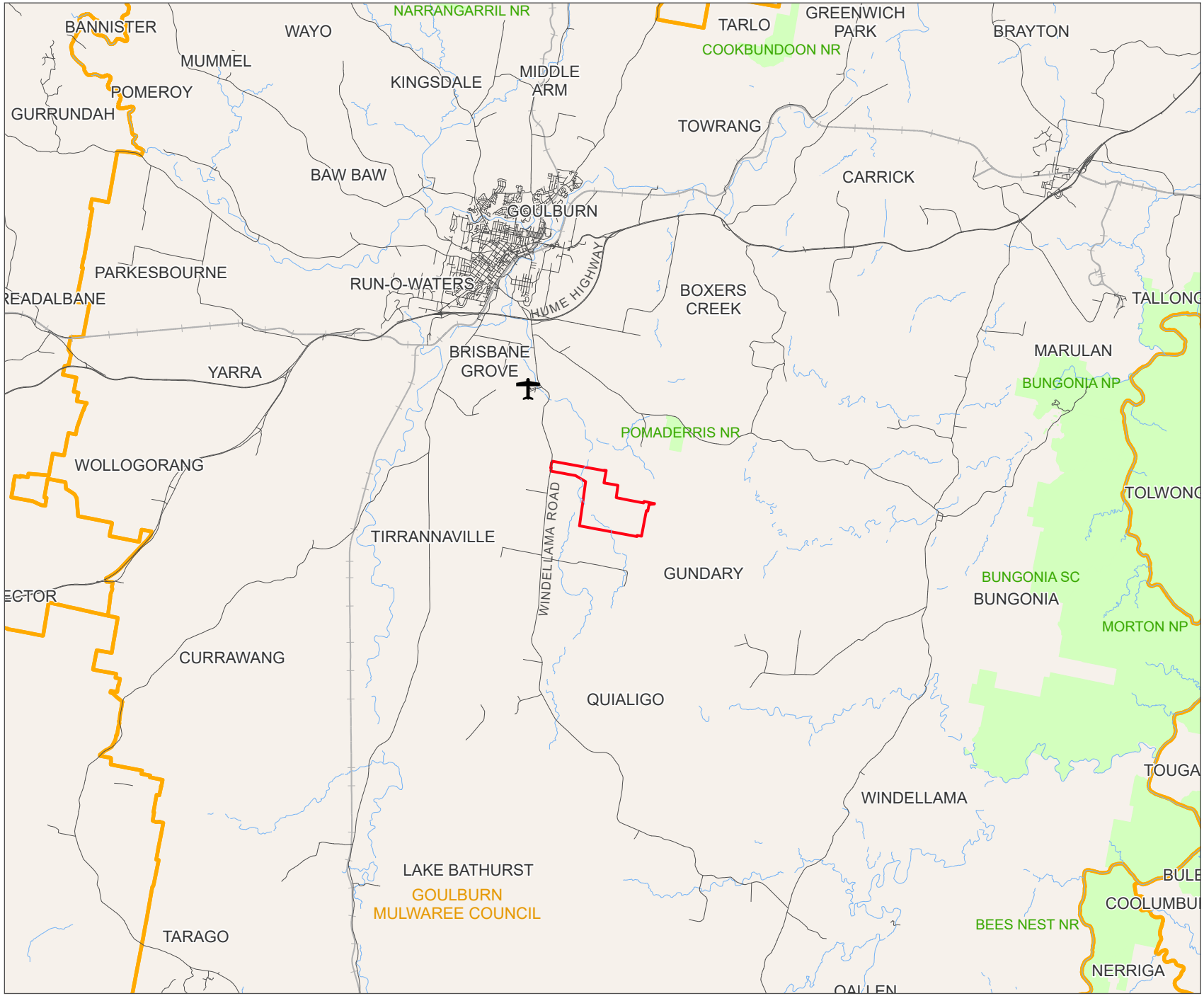
The EIS for the Project was placed on public exhibition from 15 November to 12 December 2024. During public exhibition, a total of 174 submissions were made on the Project. This included 14 government submissions and 160 unique public submissions. Of the 160 unique submissions received from the public, the Project received 143 objecting submissions, 16 supporting submissions and one submission providing comment. A detailed analysis of the submissions is provided in **Section 2.0**. In correspondence dated 13 December 2024, the Department of Planning, Housing and Infrastructure (DPHI)) requested that a Submissions Report, detailing the response to issues raised in the submissions and agency advice, be prepared and submitted.

This Submissions Report has been prepared in response to this request in accordance with clause 59(2) of the *Environmental Planning and Assessment Regulation 2021* and having regard to the *State Significant Development Guidelines – Preparing a Submissions Report (Appendix C of the State Significant Development Guidelines) (DPHI, 2024)* (the Submissions Report Guideline). This Submissions Report also provides a summary of actions since exhibition, details the comments provided in the public submissions phase of the EIS and offers a detailed response to each (in **Section 3.0**, **Section 4.0** and **Section 5.0**).

Lightsource bp has continued to consult with landholders and key stakeholders since the exhibition of the EIS. Ongoing consultation and consideration of the submissions received has led to refinements to the Project (as detailed in **Section 3.2**) to reduce environmental and social impacts. This includes additional landscape screening along the Project's perimeter fencing to reduce the Project's visual impact to receiver R27 to low under the most recent NSW *Large-Scale Solar Energy Guideline - Technical Supplement for Landscape Character and Visual Impact Assessment* (DPHI, 2022). No changes are proposed to the Project as described in the EIS. However, an update to the boundary of the Development Footprint, as presented on some figures within the EIS was required. Following advice from Department of Planning, Housing and Infrastructure (DPHI) an Amendment Report has been prepared separately to this Submissions Report to provide updated figures.

# FIGURE 1.1

## Locality and Regional Context




**Legend**

- Project Area
- Goulburn Airport
- Local Government Area
- NPWS Estate
- Roads
- Railway
- Watercourses




0 2.5 5

Kilometers

Scale: 1:0 at A4
GDA 1994 MGA Zone 55

This document and the information are subject to Terms and Conditions and Umwelt ( Australia) Pty Ltd ("Umwelt") Copyright in the drawings, information and data recorded ("the information") is the property of Umwelt.This document and the information are solely for the use of the authorized recipient and this document may not be used,copied or reproduced in whole or part for any purpose other than that which it was supplied by Umwelt.Umwelt makes no representation, undertakes no duty and accepts no responsibility to any third party who may use or rely upon this documentor the information.
APPROVED FOR AND ON BEHALF OF Umwelt

**Image Source:** ESRI Basemap (2023) | **Data Source:** NSW DFSI (2023)

Following receipt of the Submissions Report and Amendment Report, DPHI will complete its assessment of the Project and prepare an assessment report. This will take into account the EIS, the submissions made on the EIS, the Submissions Report and proposed Project refinements including updated assessments, as well as the Amendment Report. DPHI will then provide a recommendation with a formal referral to the Independent Planning Commission (IPC) for determination. The IPC will be the consent authority for the Project.

## 1.1 Overview of the Project

The Project is proposed to include the construction, operation, maintenance and decommissioning of an approximate 400 MWp solar farm with a 325 MWp/650 MWh centralised BESS, a 230 MWp/ 920 MWh decentralised BESS or a combined centralised and decentralised BESS with a total capacity of 555 MWp/1,570 MWh and associated infrastructure in the Southern Tablelands region of NSW. Associated infrastructure would include internal access tracks and associated watercourse crossings (via culverts and bed level crossings), an operational and maintenance (O&M) facility, civil works (such as an intersection upgrade on Windellama Road) and onsite electrical infrastructure (including a substation/switching station) required to connect to the existing 330 kV transmission line (Yass to Marulan).

The conceptual layout for the Project (refer to **Figure 1.2**) has been designed to maximise solar efficiency whilst avoiding impacts on areas of high biodiversity value and minimising impacts to proximal landholders in regard to noise and visibility, surface water resources (including flooding) and cultural heritage constraints.

The Project Area covers approximately 702 ha and comprises five freehold lots (refer to **Figure 1.3**). The Project Area further includes a small section of Windellama Road (including the road reserve) at the Project's primary access point.

A summary of the Project, listing details of the proposed development for which approval is sought, is provided in **Table 1.1**.

**Table 1.1 Project Summary**

| Project Element | Description |
|---|---|
| SSD Application Number | SSD-48225958 |
| Solar generation capacity | Approximately 400 MWp (DC) |
| Project area footprint | Approximately 702 ha |
| Development Footprint | Approximately 512 ha |
| Subdivision | Subdivision of land is required as part of the Project |
| Exclusion zones and setback buffers | Setbacks include:<br>• 10 m Asset Protection Zone (APZ) around the perimeter of the Project<br>• 5 m landscaping buffer, strategically located outside the APZ and the security fencing<br>• approximately 20 m to 40 m setbacks around second order and higher streams, including some farm dams. |

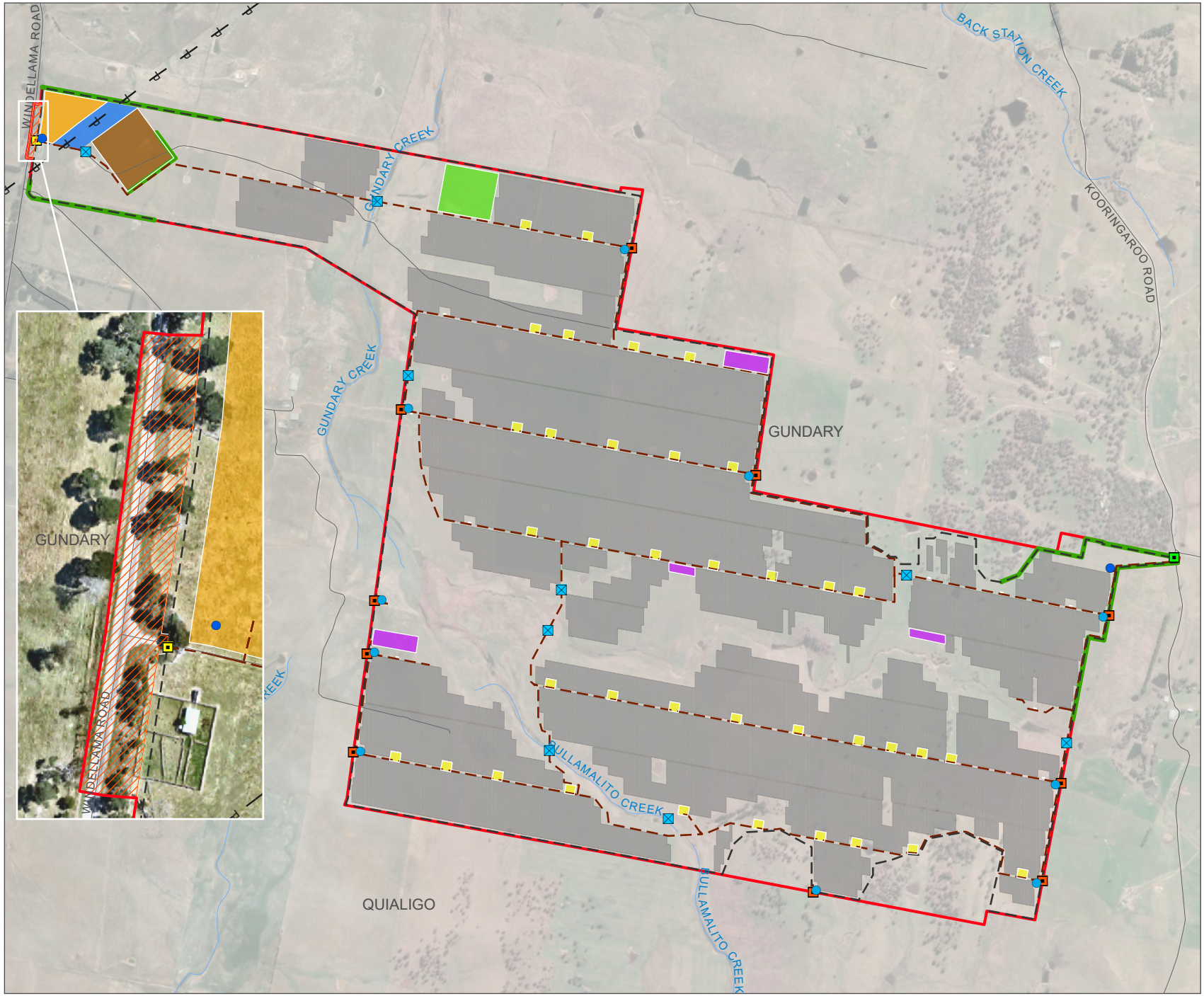
| Project Element | Description |
|---|---|
| | Exclusion zones include:<br>• Areas prone to flooding (1% AEP).<br>• Areas with TECs and habitat for threatened fauna and flora species. |
| Solar arrays | • Panels – approximately 660,000 bifacial flat plate solar photovoltaic (PV) modules.<br>• Panel dimensions and area – approximately 2.38 m x 1.3 m totalling approximately 3 $m^2$ per panel.<br>• Row spacing – up to 5 m.<br>• Maximum height – 3 m at full tilt with an occasional height of up to 4 m (depending on topography).[1] |
| Battery Storage | • Capacity – up to 555 MWp and 1,570 Megawatt hour (MWh) capacity.<br>• Configuration – subject to detailed design, up to 89 battery stations will be housed in a series of outdoor containers, either distributed across the site (Option 1 – decentralised DC-coupled) and/or aggregated in one central location (Option 2 – centralised AC-coupled), as illustrated on **Figure 1.2**.<br>• Maximum height – approximately 3 m. |
| Electrical infrastructure | • Substation/Switching station:<br>  ○ Onsite connection to the existing 330 kV overhead powerline via a proposed 33/330 kV substation and switching station including ancillary infrastructure to connect to the existing transmission line, which has a 60 m easement.<br>  ○ Area – approximately 6.3 ha.<br>  ○ Maximum height – approximately 3.5 m with taller ancillary components such as busbar at 14 m high, gantry and lightning arrestors up to 22 m high.<br>• Power conversion station (PCS) – consisting of up to 128 inverters as well as medium voltage transformers and requisite infrastructure. |
| Project access | • Transport via road from Port Botany in Sydney or Port Kembla south of Wollongong, to the Project Area via the public road network with two access route options proposed.<br>• Project's primary access via the existing driveway on Windellama Road, with intersection works proposed to upgrade the Project access to accommodate heavy vehicles.<br>• Alternate access via Kooringaroo Road for emergencies only. |
| Internal access tracks | • Approximately 4 m wide tracks with turning bays for emergency vehicles, consisting of compacted gravel, with a main access track of 6 m wide to the substation to allow for the safe delivery, unloading and installation of key components, including some watercourse crossings (via culverts and bed level crossings), as shown on **Figure 1.2**. |
| Security fence, lighting and CCTV | • Perimeter security fencing consisting of chain wire including three strings of barbed wire on top, to a height of approximately 2.3 m plus motion detecting security lighting. |

[1] The environmental assessment was based on a maximum 3 m high panel as the overall height of panels across the site will not exceed 3 m. The occasional panel height of 4 m will be typically limited to lower lying areas.

| Project Element | Description |
|---|---|
| Operation and Maintenance (O&M) facilities | • Location – two small O&M facilities will be established, one within the construction compound area in the northwest corner of the Project Area and the other next to substation, as shown on **Figure 1.2**.<br>• Facilities to include an office with staff amenities (kitchenette, toilets, showers), car park and workshop/shed. |
| Temporary ancillary facilities | • Location – proposed compacted gravel areas within the development footprint, as shown on **Figure 1.2**.<br>• Main construction site compound to include office amenities, parking, storage, and associated facilities, with laydown areas suitable for storing plant and equipment, solar panels and cable drums, and areas to support waste management activities. |
| Workforce | • Construction – Approximately 400 full time equivalent (FTE) jobs with approximately 250 personnel on site during peak construction.<br>• Operation – Up to four FTE jobs. |
| Construction hours | • Typical standard construction i.e.:<br>o 7:00 am to 6:00 pm Monday to Friday.<br>o 8:00 am to 1:00 pm on Saturdays.<br>o No works on Sunday or public holidays.<br>• Lightsource bp proposes to carry out works outside of these hours which are inaudible at non-associated residences, emergency work, and deliveries and dispatches where requires by authorities for safety reasons. |
| Construction timing | Approximately 18 to 24 months (commencing in Q4 2025/Q1 2026) |
| Commencement of operations | Anticipated Q1 2028 |
| Operation period lifespan | Approximately 40 years. Operating 24/7, 365 days a year. |
| Capital investment | Approximately $650 million |

# FIGURE 1.2

## Project Conceptual Layout




**Legend**

- Access Roads
- Security Fence
- Existing Transmission Line
- Roads
- Watercourses
- Watercourse / Bed Level Crossing
- Water Tank (40,000L)
- Water Tank (10,000L)
- Primary Access
- Emergency Access
- Emergency Gate
- Project Area
- Proposed Road Upgrade
- Solar Panels
- Landscaping Buffer (5m)
- Transgrid Line Works
- Centralised AC BESS
- Substation and O&M Facility Area
- Construction Compound Area
- Decentralised DC BESS
- Temporary Laydown Area



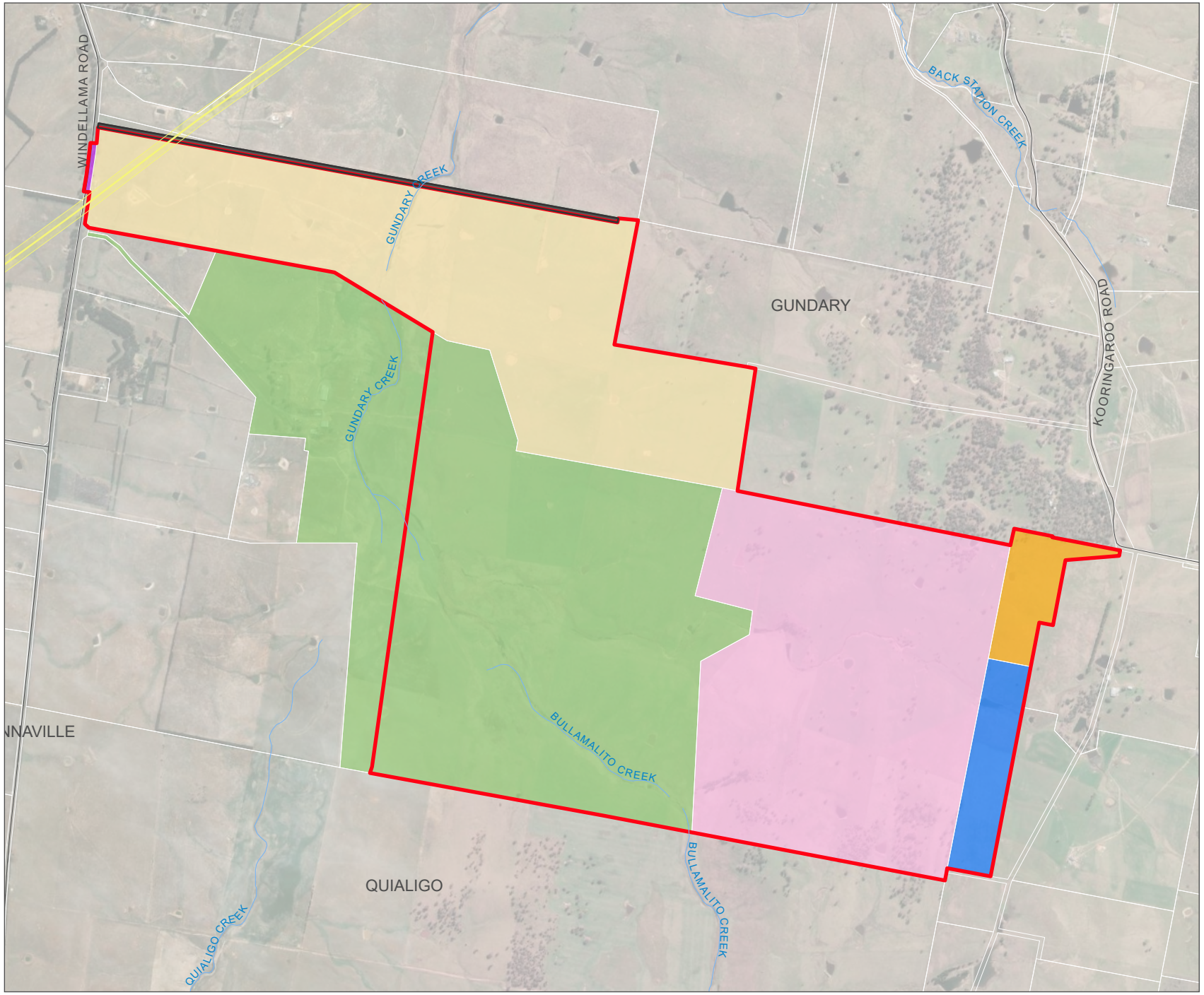

0 500 1,000

Metres

Scale: 1:0 at A4
GDA2020 MGA Zone 55

This document and the information are subject to Terms and Conditions and Umwelt ( Australia) Pty Ltd ("Umwelt") Copyright in the drawings, information and data recorded ("the information") is the property of Umwelt.This document and the information are solely for the use of the authorized recipient and this document may not be used,copied or reproduced in whole or part for any purpose other than that which it was supplied by Umwelt.Umwelt makes no representation, undertakes no duty and accepts no responsibility to any third party who may use or rely upon this documentor the information.
APPROVED FOR AND ON BEHALF OF Umwelt

**Image Source:** ESRI Basemap (2023) | **Data Source:** NSW DFSI (2023)




# FIGURE 1.3

## Project Area

**Legend**

- Project Area
- Cadastre Boundaries
- Roads
- Watercourses
- Existing Transmission Line
- Indicative Overhead Line Easement
- Crown Land

**Lots Identified within the Project Area**

- 1/DP870101
- 12/DP1016332
- 2/DP1187724
- 80/DP750018
- Lot 3/DP1238347
- Project Area within Road Reserve




0 500 1,000

Meters

Scale: 1:0 at A4
GDA 1994 MGA Zone 55

This document and the information are subject to Terms and Conditions and Umwelt ( Australia) Pty Ltd ("Umwelt") Copyright in the drawings, information and data recorded ("the information") is the property of Umwelt.This document and the information are solely for the use of the authorized recipient and this document may not be used,copied or reproduced in whole or part for any purpose other than that which it was supplied by Umwelt.Umwelt makes no representation, undertakes no duty and accepts no responsibility to any third party who may use or rely upon this documentor the information.
APPROVED FOR AND ON BEHALF OF Umwelt

**Image Source:** ESRI Basemap (2023) | **Data Source:** NSW DFSI (2023)

## 1.2 Project Amendments and Refinements

Following the exhibition of the EIS, Lightsource bp has continued to consult with relevant government agencies, Council, landholders and the community more broadly. Consideration of submissions received, and ongoing consultation has led to some Project refinements, including additional landscape screening, increased community benefits and updated management and mitigation measures, as further discussed in **Section 3.2**.

No changes are proposed to the Project as described in Section 3.0 of the EIS. However, an update to the boundary of the Development Footprint, as presented on some figures within the EIS (including the Biodiversity Development Application Report (BDAR) and the Aboriginal Cultural Heritage Assessment Report (ACHAR)) was required. Following advice from DPHI, an Amendment Report (Umwelt, 2025) has been prepared separately to this Submissions Report to provide updated figures.

## 1.3 Report Structure

The structure of this Submissions Report is presented in **Table 1.2** below, in accordance with the Submissions Report Guideline (DPHI, 2024).

**Table 1.2 Structure of the Submissions Report**

| Section | Heading | Description |
|---|---|---|
| **Section 1.0** | Introduction | Brief summary of the Project to provide context for the submissions. |
| **Section 2.0** | Analysis of Submissions | Analysis of the issues and themes raised in the submissions. |
| **Section 3.0** | Actions Taken Since Exhibition | Summarises the actions taken since the exhibition, including details of ongoing consultation, a description of Project amendments and refinements and further assessment work undertaken. |
| **Section 4.0** | Response to Government Submissions | Detailed response to the issues raised in the government submissions. |
| **Section 5.0** | Response to Public Submissions | Detailed response to the issues raised in the public submissions. |
| **Section 6.0** | Updated Justification | Updated justification and evaluation of the merits of the Project. |
| **Section 7.0** | References | A list of all the references. |
| **Appendix 1** | Submissions register | A register of all the submissions received during public exhibition. |
| **Appendix 2** | Updated Management and Mitigation Measures | Updated table of the consolidated management and mitigation, which include additional and/or refined measures proposed in response to submissions. |
| **Appendix 3** | Aboriginal Cultural Heritage Assessment Letter | Letter providing responses to Heritage NSW's submission in relation to the Aboriginal Cultural Heritage Assessment (ACHA). |
| **Appendix 4** | Updated Flood Impact and Risk Assessment (FIRA) | Update to the FIRA addressing the flood related matters raised in the submission from Conservation Programs, Heritage and Regulation NSW (CPHR) (the former Biodiversity, Conservation and Science (BCS)). |

| Section | Heading | Description |
|---|---|---|
| **Appendix 5** | Updated Traffic Impact Assessment (TIA), including a Route Assessment | Update to the TIA, including a Route Assessment, to address the issues raised in Transport for NSW (TfNSW) submission. |
| **Appendix 6** | Additional Visual Analysis | Visual analysis of additional landscape screening for R27. |

# 2.0 Analysis of Submissions

## 2.1 Breakdown of Submissions

**Table 2.1** provides a breakdown of the submissions received. **Appendix 1** includes the Submissions Register.

**Table 2.1 Submission Breakdown**

| Category | Number of Submissions |
|---|---|
| State government departments / agencies | 13 |
| Local Council | 1 |
| Stakeholder groups | 11[2] |
| Community members / individuals | 149[3] |
| **Total** | **174** |

### 2.1.1 Government Submissions

As outlined in **Table 2.1**, 13 state government departments / agency submissions and one local council submission were received. These were:

- Conservation Programs, Heritage and Regulation NSW (CPHR) (the former Biodiversity, Conservation and Science (BCS))
- Department of Climate Change, Energy, the Environment and Water (DCCEEW) Water
- WaterNSW
- Transport for NSW (TfNSW)
- Heritage NSW
- Heritage Council of NSW
- Fire and Rescue NSW (FRNSW)
- NSW Rural Fire Service (RFS)
- Crown Lands
- Department of Primary Industries and Regional Development (DPIRD) Fisheries
- DPIRD Agriculture
- NSW Resources
- DPHI Industry Assessments (Hazard)
- Goulburn Mulwaree Council.

[2] In accordance with the Submissions Report Guideline (DPHI, 2024) multiple submissions from the same group were counted as one submission.
[3] In accordance with the Submissions Report Guideline (DPHI, 2024) multiple submissions from the same person were counted as one submission.

Goulburn Mulwaree Council objected to the Project. The other government agencies provided comment on the Project (i.e. did not support or object) with some seeking further clarification regarding aspects of the assessment of the Project. The content of the government submissions is further detailed and addressed in **Section 4.0**.

### 2.1.2 Public Submissions (Stakeholder Groups and Individuals)

During the exhibition period, a total of 169 public submissions were received from community members and stakeholder groups. In accordance with the Submissions Report Guideline (DPHI, 2024) multiple submissions from the same person or group were counted as one submission. Accordingly, nine submissions from within the community were not counted as individual submissions as these were made by the same person or group and were therefore only counted once. The analysis contained within this report has therefore been undertaken based on 160 unique public submissions.

As illustrated on **Figure 2.1**, of the 160 public submissions (excluding duplicate submissions), 143 (89%) were objections, one (1%) provided comment and 16 (10%) were in support of the Project.

In accordance with the Submissions Report Guideline (DPHI, 2024), submissions were analysed based on proximity to the Project Area to assess the level of community interest across the following categories:

- **Local area** – within 5 km from the Project Area (including the locality of Gundary).
- **Regional area** – between 5 km and 100 km from the Project Area.
- **Broader community** – more than 100 km from the Project Area.

The analysis by suburb as outlined above is in line with the Submissions Report Guideline (DPHI, 2024) and was conservative in its approach as further interrogation was not possible with the data available.

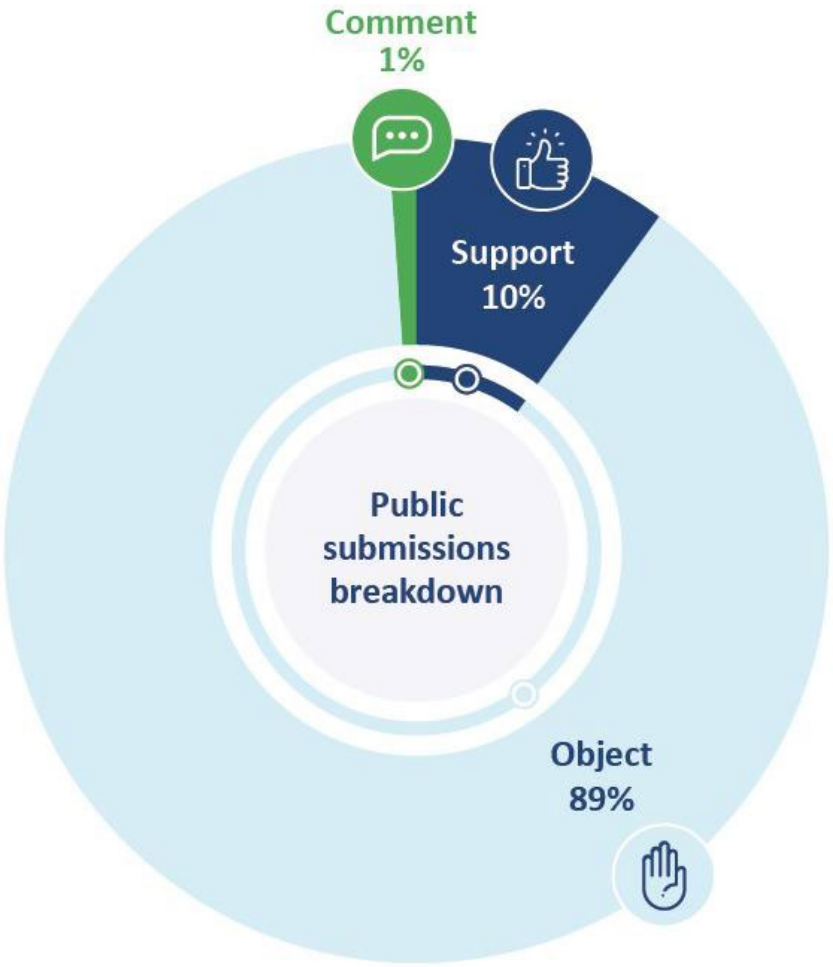



**Figure 2.1 Public Submissions Breakdown**

A large number of submissions identified as local were from towns further than 5 km but within 20 km from the Project Area (such as Goulburn). Therefore, the 'Regional Area' category was further divided into the following subcategories to gain a better understanding of the level of interest from the local community:

- Between 5 km and 20 km from the Project Area (including the localities of Goulburn, Brisbane Grove, Bungonia, Quialigo and Tirrannaville).
- Between 20 km and 100 km from the Project Area.

As illustrated on **Figure 2.2** below, the analysis showed that of the 160 unique submissions received:

- 43 submissions (27%) were received from the local area
- 55 submissions (34%) were received from the regional area, with:
    - 44 submissions (80% of the 55) were from between 5 km to 20 km from the Project Area
    - 11 submissions (20% of the 55) were from between 20 km and 100 km from the Project Area.
- 62 submissions (39%) from the broader community.




**Figure 2.2 Percentage of Public Submissions by Proximity**

As illustrated above, the majority of submissions were received by the broader community, as opposed to the local and regional communities. The geographic distribution of the submissions received on the Project is visually presented on **Figure 2.3**.




A total of **160** public submissions

(stakeholder groups and individuals)

**How submissions are characterised**

**Local area**
‹5km from the project, including Gundary

**Regional area**
approximately between 5 – 100 km from the project

**Broader community**
greater than approximately 100km from the Project Site

**Figure 2.3 Community Submissions by Locality**

#### 2.1.2.1 Objecting Submissions

As illustrated on **Figure 2.4** below, the analysis showed that of the 143 public submissions that objected to the Project:

- 41 (29%) were received from the local area
- 41 (29%) were received from the regional area, with:
    - 34 (83% of the 41) were from between 5 km to 20 km from the Project Area
    - 7 (17% of the 41) were from between 20 km and 100 km from the Project Area.
- 61 (42%) from the broader community.

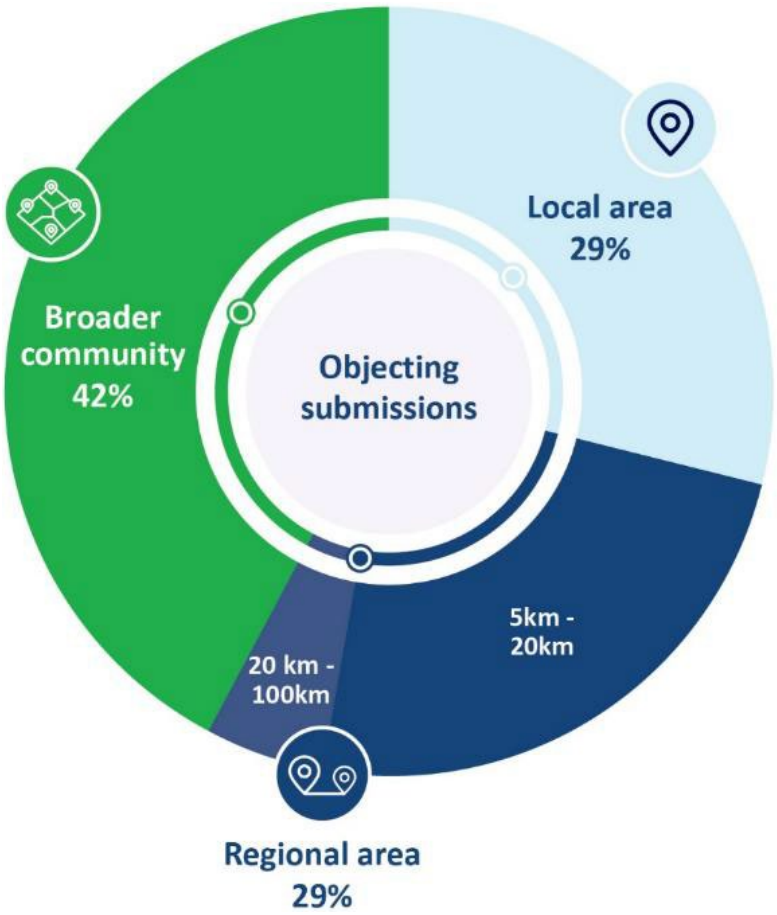



**Figure 2.4 Percentage of Objecting Public Submissions by Proximity**

#### 2.1.2.2 Supporting Submissions

As illustrated on **Figure 2.5**, the analysis showed that of the 16 public submissions that supported the Project:

- 2 (13%) were received from the local area
- 13 (81%) were received from the regional area, with:
    - 9 (69% of the 13) were from between 5 km to 20 km from the Project Area
    - 4 (31% of the 13) were from between 20 km and 100 km from the Project Area.
- 1 (6%) from the broader community.




**Figure 2.5 Percentage of Supporting Public Submissions by Proximity**

#### 2.1.2.3 Commenting Submissions

One (1) commenting public submission was received from the regional area. This submission was not characterised as either supporting or objecting to the Project.

## 2.2 Categorisation of Issues – Public Submissions

A content analysis was undertaken on all public submissions to gain an understanding of the key issues raised in relation to the Project.

In accordance with the Submissions Guideline (DPHI, 2024), issues raised in the submissions have been categorised into the following categories:

- Economic, environmental and social impacts of the Project (e.g. amenity, traffic, biodiversity, heritage, etc.).
- The Project (e.g. the site, the Project Area, the physical layout and design, key uses and activities, timing).
- Procedural matters (e.g. level or quality of engagement, compliance with DPHI requirements, identification of relevant statutory requirements).
- Justification and evaluation of the Project (e.g. consistency with Government plans, policies or guidelines).
- Issues that are beyond the scope of the Project (e.g. broader policy issues), or not relevant to the Project (e.g. solar farms in general).

These issue categories were then divided into themes and sub-themes where relevant to provide greater definition of the issues raised. Further details of the categorisation of issues are provided in the following sections.

### 2.2.1 Objecting Submissions

Economic, environmental and social impacts of the Project (n=580) were the most frequently raised category of issues in the objecting submissions (refer to **Figure 2.6** below).

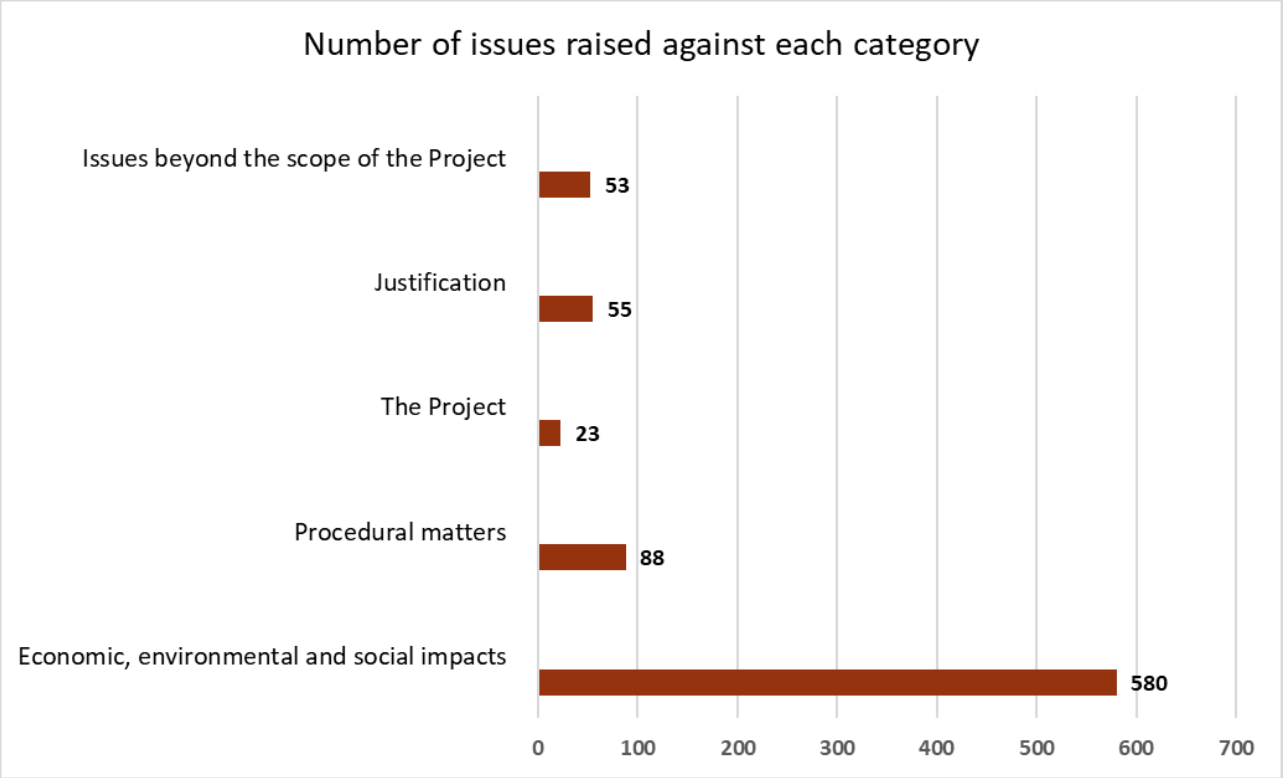



**Figure 2.6 Categorisation of Objecting Submissions**

Procedural matters (n=88) and issues specific to the Justification of the Project (n=55) were the next most frequently raised categories, with issues beyond the scope of the Project (n=53) and the Project design and scale (n=23) the least frequently raised categories. It should be noted that many submissions raised multiple issues categories and multiple themes and sub-themes within each issue category, resulting in a larger number of issues when compared to the total number of unique public submissions. Example quotes from objecting submissions are included in **Section 5.0**.

#### 2.2.1.1 Economic, Environmental and Social Impacts of the Project

There were 18 key themes to the environmental, social and economic issues raised in the objecting submissions, including:

- Socio-economic (n=186)
- Bushfire (n=77)
- Landscape and Visual (n=45)
- Decommissioning and rehabilitation (n=44)
- Agriculture, including sheep grazing (n=43)
- Biodiversity (n=42)
- Traffic and transport (n=25)

- Soil contamination, including the release of toxic gasses and fumes (n=23)
- Surface water impacts, including flooding (n=23)
- Noise (n=16)
- Cumulative impacts (n=13)
- Heat bank impacts (n=10)
- Waste management (n=9)
- Electromagnetic field impacts (n=9)
- Heritage (n=6)
- Glint and glare (n=4)
- Dust (n=3)
- Goulburn Airport (n=2).

The most frequently raised issue relating to socio-economic impacts was property devaluation (n=50), as illustrated in **Figure 2.7**. A breakdown of all socio-economic related sub-themes raised in objecting submissions are provided in **Figure 2.7**, illustrating the number of issues raised within each sub-theme**.**

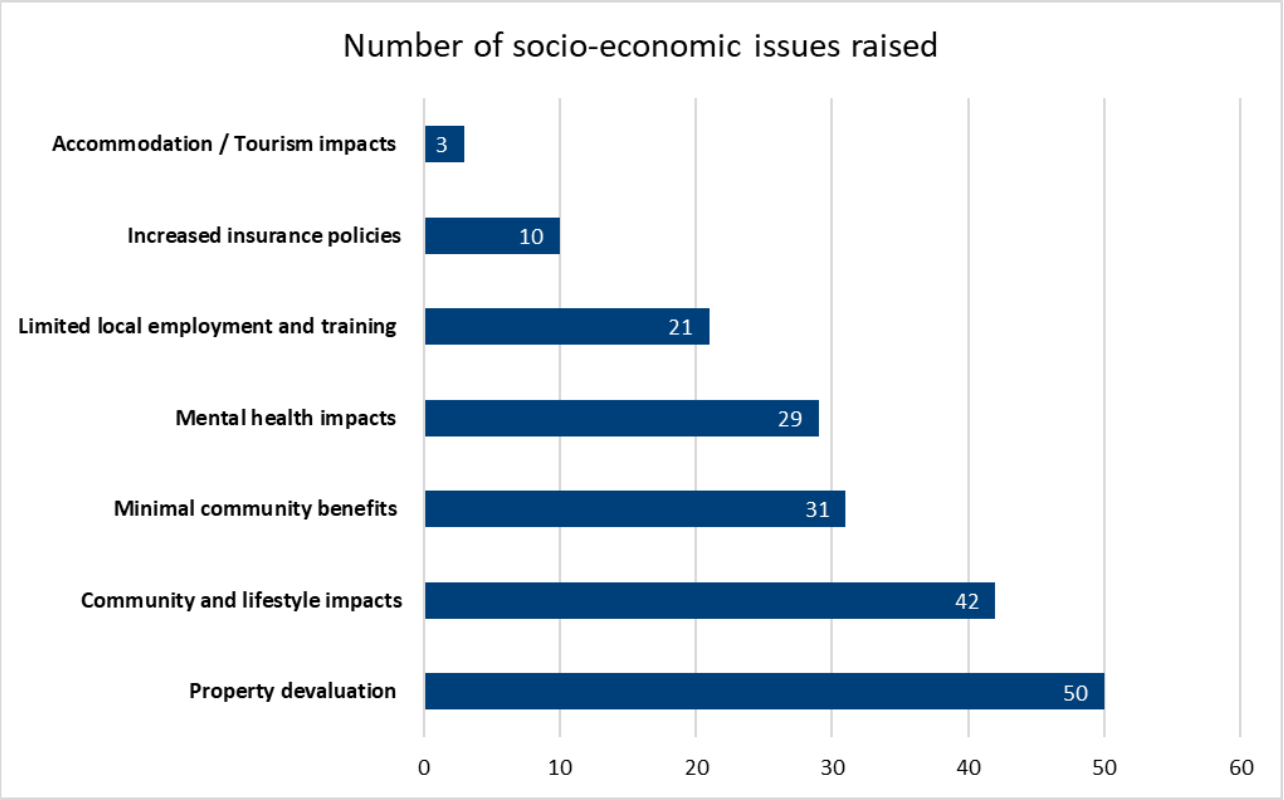



**Figure 2.7 Analysis of Socio-economic Sub-themes**

Responses to objections raised in relation to economic, environmental and social impacts are provided in **Section 5.1**.

#### 2.2.1.2 Procedural Matters

Procedural matters were raised on 88 occasions in objecting public submissions. The key themes related to:

- Inconsistency of the Project with the State Environmental Planning Policy (Transport and Infrastructure) 2021 (n=40).
- Adequacy of assessments (n=20).
- Adequacy of consultation (n=13).
- Lack of Social licence (n=7).
- Not within a Renewable Energy Zone (REZ) (n=7).
- Post consent compliance (n=1).

Responses to objections raised in relation to procedural matters are addressed in **Section 5.2**.

#### 2.2.1.3 The Project

Issues relating to the Project were raised on 23 occasions in objecting public submissions. The key themes related to:

- The scale and size of the Project (n=18).
- Hail and/or wind damage to panels (n=4).
- Design of the BESS (n=1).

Responses to objections raised in relation to the Project are addressed in **Section 5.3**.

#### 2.2.1.4 Justification and Evaluation of the Project

Issues regarding the justification and evaluation of the Project were raised on 55 occasions in objecting public submissions and related mainly to the viability of the Project's location due to Goulburn's weather. Responses to objections raised in relation to the justification and evaluation of the Project are addressed in **Section 5.4**.

#### 2.2.1.5 Issues Beyond the Scope of the Project

This category includes broader policy issues or issues that are not directly related to the merits of the Project. Issues that were beyond the scope of the Project were raised on 53 occasions in objecting public submissions. These were related to:

- A general disbelief in renewable energy, in particular solar farms, and climate change (n=22).
- Lack of trust in the proponent and/or decision-making governing bodies (n=8).

- Alternative options for nuclear or roof top solar (n=5).
- Final ownership of the Project (n=5).
- Government subsidies for renewable projects and/or corporate greed (n=5).
- Importation of materials and slave labour (n=4).
- Potential for increased electricity prices for NSW residents (n=4).

Responses to objections raised in relation to issues beyond the scope of the Project are addressed in **Section 5.5**.

### 2.2.2 Commenting Submissions

One (1) public submission provided comment relating to the environmental, social and economic impacts of the Project (n=4).

### 2.2.3 Supporting Submissions

Themes raised in the 16 supporting public submissions generally related to the reduction in greenhouse gas emissions as a result of the transition to renewable energy. Example quotes from supporting submissions are included below.

| **Supporting Submissions** |
| --- |
| *'I support the project as a boost to NSW's renewable energy infrastructure to keep the lights on and reduce emissions. The Goulburn LGA does not host any such large scale projects to date and the community/neighbour benefits from these projects are substantial.'* S-77951998 |
| *'I am a Farmer whose property is adjacent to Crookwell 3 Wind Farm. I am in favour of the Gundary Solar Farm, provided that Lightsource BP acknowledges local community disruption and commits to local community benefits.'* S-78269957 |
| *'We fully support in principle the establishment of Lightsource bp's proposed solar farm. Too long the inevitable and vital change to renewables has been held to ransom by a minority of politicians and ideologies that support fossil fuel suppliers.'* S-78306959 |
| *'As a local person who will drive past this proposed development on a daily basis, I believe that the proposal is reasonable, the proposed efforts regarding increase in tree cover in the area is a positive for the local environment and the combined use for the land as grazing is positive. I have been presented with information regarding local concerns and believe that the general benefits to the wider NSW community of increased generation and battery storage outweigh the concerns.'* S-78366531 |
| *'This solar project will make significant contributions to the fight against climate change, and will have minimal negative environmental and social impacts, as extensively documented in the environmental impact statement.'* S-78539497 |
| '*Renewable energy projects are required in Australia to assist in achieving net zero targets. They are also required to allow the coal powered power stations to close down. The Gundary Solar Farm is in the perfect spot to assist these measures*.' S-78586471 |

| Supporting Submissions |
| --- |
| *'I see this project having a major positive impact on the Goulburn economy. I strongly support more renewable energy projects. I want to see the best possible benefits flow to the Goulburn community. I do not see this land as anything more than marginal agricultural land. Goulburn is ideally placed for renewable energy re wind, solar energy and electricity infrastructure*.' S-78601721<br><br>*'I am a neighbour of the proposed Gundary Solar Farm and will be directly affected by it. I fully support the project on environmental and social grounds.*' S-78604742 |

A number of supporting submissions provided further commentary regarding a preference for more local labour, opportunities for skills training and a desire to see an increase in community benefits as a result of the Project. These issues have been addressed within the relevant sections within **Section 5.0**.

# 3.0 Actions Taken Since Exhibition

## 3.1 Ongoing Consultation

Lightsource bp has continued to consult with landholders and stakeholders more broadly following the exhibition of the EIS. Lightsource bp has also undertaken further consultation with relevant government agencies and Council in response to the advice received during exhibition of the EIS. Details of the ongoing consultation following the EIS exhibition are provided below.

### 3.1.1 Community Consultation

Consultation with the community continued post exhibition of the EIS as detailed in **Table 3.1** below.

**Table 3.1 Community Consultation Following Exhibition of EIS**

| Activity | Date | Details |
|---|---|---|
| In person meeting | 13 February 2025 | Meeting with The Goulburn Group to discuss points raised in their submission. |
| Letter | 11 April 2025 | Letter to neighbours on updated Community Benefit Scheme, including Neighbourhood Benefit Sharing Scheme and offer to meet with neighbours to discuss the scheme. |
| Online meeting | 16 May 2025 | Meeting with the Goulburn Chamber of Commerce to introduce the Project to the new president. |
| Online meeting | 26 May 2025 | Meeting with Goulburn Group to give update on the Project and discuss points raised in the submission. |
| Neighbour engagement | April to June 2025 | Ongoing liaison with impacted landholder R27 regarding the impact agreement and additional visual mitigation measures proposed (landscape screening) via phone and email correspondence as well as meetings. |

### 3.1.2 Agency Consultation

Consultation with key agencies continued post exhibition of the EIS as outlined in **Table 3.2** below.

**Table 3.2 Agency Consultation Following Exhibition of EIS**

| Name of Agency | Method of Consultation | Date | Summary of Consultation |
|---|---|---|---|
| **DPHI Assessment Team** | Online meeting | 13 March 2025 | • Proposed Project refinement and need for Amendment Report.<br>• Proposed agency consultation to address submissions, including CPHR, TfNSW and NSW SES. |
| **CPHR Flooding team** | Online meeting | 20 March 2025 | • Flooding matters raised in EIS submission.<br>• Confirming the proposed approach to address submission in an Amended Flood Impact and Risk Assessment (FIRA). |
| **CPHR Biodiversity Team** | Online meeting | 21 March 2025 | • Biodiversity matters raised in EIS submission.<br>• Confirming the proposed approach to address submission via the Submissions Report. It was discussed and agreed that the Biodiversity Development Application Report (BDAR) clearly demonstrates avoidance and minimisation and that Umwelt will provide a response through the Submissions Report, rather than through an Amended BDAR as the matters raised can be addressed in detail in the BMP. |
| **Crown Lands** | Email | 6 May 2025 | • An email was sent to Crown Lands addressing the submission points and extending an offer to meet for further discussions. |
| **NSW SES** | Letter | 6 March 2025 | • Letter introducing the Project and providing an overview of the assessment process, with a link to the exhibited EIS and FIRA for review, including a summary of emergency management measures and a request for a meeting and/or receiving feedback. |
| **NSW SES** | Letter | 27 March 2025 | • Letter providing feedback on the FIRA and recommendations in terms of emergency access/egress to the Project Area. A copy of the letter received from NSW SES including a response is provided in **Appendix 4.** |
| **TfNSW** | Online meeting | 27 March 2025 | • Traffic and transport matters raised in EIS submission.<br>• Confirming the proposed approach to address submission in an Amended Traffic Impact Assessment (TIA). It was discussed and agreed that the need for a bridge assessment will be determined based on the results of the route assessment.<br>• Two matters raised in the EIS submission (i.e. Hexham Straight and Newcastle Inner City Bypass as well as reliance on the EnergyCo P2R upgrades) will become relevant should the Project change the port of entry to Newcastle due to constraints at Port Botany or Kembla. At this stage they are not relevant to the Project. |

| Name of Agency | Method of Consultation | Date | Summary of Consultation |
|---|---|---|---|
| **Goulburn Mulwaree Council** | In person meeting | 13 February 2025 | • Discussion of the matters raised in Council's objection.<br>• Confirming the approach to address the matters raised in the Submissions Report.<br>• Discussion of increased Community Benefit Scheme, including Voluntary Planning Agreement (VPA) offer to Council. |
| **Goulburn Mulwaree Council** | Letter | 31/03/2025 | • Letter of offer on revised community benefit scheme, including the VPA.<br>• Letter on key points from Council's objection. |
| **Goulburn Mulwaree Council** | Online meeting | 1 May 2025 | • Discussion of the Project's water demand, water supply and waste disposal.<br>• In regard to water availability, the following response was received from Council via email correspondence dated 8 May 2025:<br>*Regarding potable and non-potable supplies, the amount quoted below is pretty small compared to what we generally produce. The Goulburn Water Treatment Plant produces between 8ML/day and 12ML/day depending on the time of year (less water in cooler weather) so 12.26ML over 1.5-2 years shouldn't be much of a problem. Potable water can't be used for construction purposes though, in those cases we push the user towards our non-potable standpipe at River St (corner of River St and Wheeo Rd). The water there is free, and we'd like as much of it used as possible (it is the backwash water from our water treatment plant which would otherwise discharge into the nearby creek). The water carter will need to registered though and have a standpipe key (Avdata), below is a link to the Council website if you want more info: https://www.goulburn.nsw.gov.au/Services/Water-Sewer/Water-Supply-Services#section-8.*<br>• Regarding waste water receival, the following response was received from Council via email correspondence dated 28 May 2025:<br>*The Goulburn wastewater treatment plant should be able to handle those septic discharge loads. We'd be looking at approximately one tanker load per week during construction (assuming construction is over about a year) and one load every three weeks during operation.* |
| **TransGrid** | Various | Ongoing | • Grid connection requirements. |

## 3.2 Project Amendments and Refinements

Following a review of the submissions and ongoing consultation with landholders, Lightsource bp has made some refinements to the Project to reduce environmental and social impacts. These include:

- Additional landscape screening.
- Increased community benefits via the Community Benefit Sharing Strategy developed for the Project.
- Additional management and mitigation measures.

Further details regarding these refinements are provided in this section below. No changes are proposed to the Project as described in Section 3.0 of the EIS. However, an update to the boundary of the Development Footprint, as presented on some figures within the EIS (including the BDAR and AHCAR) was required. Following advice from DPHI, an Amendment Report (Umwelt, 2025) has been prepared separately to this Submissions Report to provide updated figures.

### 3.2.1 Additional Landscape Screening

An additional 1.24 km of landscape screening is proposed for the Project, strategically located along the western boundary as illustrated in Appendix 6, to reduce the visual impact to R27. The additional screen planting will be consistent with the draft landscape plan, described in Section 6.8.5.1 of the EIS. The proposed planting would comprise locally native shrubs and trees that are site-appropriate and reaching a height of 7 m at approximately five years.

Visual analysis was undertaken to assess the effect of the additional landscape screening on the visual impact for R27, as assessed in the EIS and Landscape Visual Impact Assessment (LVIA) (Appendix 11 of the EIS). The visual analysis, provided in Appendix 6, was undertaken in accordance with the NSW *Large-Scale Solar Energy Guideline's* most recently updated *Technical Supplement for Landscape Character and Visual Impact* (DPHI, 2022).

The analysis shows that the additional landscape screening would reduce the visual impact rating for R27 from *moderate* (i.e. occupied cell count of 20) to *low* (i.e. occupied cell count of 13). As discussed in **Section 3.1.1**, Lightsource bp has continued to consult with the landholder following the exhibition of the EIS regarding the additional visual mitigation.

### 3.2.2 Community Benefits

As outlined in the EIS, Lightsource bp has developed a Community Benefit Scheme for the Project, including: a Community Benefit Fund, VPA and Neighbourhood Benefit Sharing Program.

Following a review of the EIS submissions and the recent release of the NSW Government's *Benefit-Sharing Guideline* (DPHI, 2024), Lightsource bp has committed to increase the value of the Community Benefit Scheme. As outlined in **Section 3.1.2**, Lightsource bp has been consulting with Council regarding the structure, nature and value of the revised Community Benefit Fund and VPA, and discussions are ongoing. Revised offers for the Neighbourhood Benefit Sharing Program has been provided to landholders within 1 km from the Project Area.

### 3.2.3 Further Management and Mitigation Measures

Lightsource bp committed to a suite of management and mitigation measures for the Project in the EIS (Appendix 2 of the EIS).

In response to submissions received for the Project, Lightsource bp has committed to further management and mitigation measures. **Appendix 2** provides an updated summary of the management and mitigation measures proposed for the Project as outlined in this report.

## 3.3 Further Assessments

In response to submissions received and consideration of the Project refinements detailed in **Section 3.2**, provision of additional information, with some further assessments, was required. This included:

- Aboriginal Cultural Heritage response via a letter, refer to **Appendix 3**.
- Updates to the Flood Impact and Risk Assessment (FIRA), refer to **Appendix 4**.
- Updates to the Traffic Impact Assessment (TIA), refer to **Appendix 5**.
- Visual analysis for additional landscape screening, refer to **Appendix 6.**

# 4.0 Response to Government Submissions

Government agencies make submissions relating to their areas of responsibility and typically relate to technical matters as well as matters the agency considers require consideration by the consent authority or to be addressed by conditions should development consent be granted.

The following section responds to the specific matters raised by each agency submission. The issues raised in the government submissions are identified in the following sections in text boxes, with a response provided following each text box.

## 4.1 Conservation Programs, Heritage and Regulation (CPHR) NSW

### 4.1.1 Biodiversity

| **Biodiversity Management Plan** |
| --- |
| *Overall, the design of the development has made an adequate effort in design to avoid the biodiversity values onsite. The project is mostly sited in areas of low biodiversity values. However, to ensure the long term protection and ongoing management of the avoided areas, a BMP will need to be in place. The BMP should be included in Appendix 2 of the EIS, as one of the Mitigation Measures for the project.* |

The EIS has committed to developing a Biodiversity Management Plan (BMP) as part of the Project's Environmental Management Strategy (EMS). This will be developed in consultation with CPHR as outlined in **Appendix 2**.

Further consultation with CPHR has been undertaken since the exhibition of the EIS to discuss their submission. This is further detailed in **Section 3.1**. It was agreed with CPHR that the BDAR clearly demonstrates avoidance and minimisation Umwelt will respond through the Submissions Report instead of an amended Biodiversity Development Application Report (BDAR), as the issues raised can be addressed in detail within the BMP. Furthermore, each of the points raised by CPHR in relation to the BMP have been considered and discussed in detail below.

| **Biodiversity Management Plan** |
| --- |
| *The BMP has been committed to as part of a post approval package, and should include (but not be limited to):*<br>• *a plan for supplementary planting of trees and shrubs to PCT benchmark values, to replace the trees being removed, and restore connectivity (as suggested by Goulburn Mulwaree Council in the Secretary's Environmental Assessment Requirements, or SEARS)* |

As highlighted throughout the BDAR and EIS (see Section 1.5 and Section 2.9 of the EIS), the Project made an extensive effort to avoid and minimise impacts to biodiversity values, with zero credits being generated across the proposed Development Footprint (i.e. Subject Land of 512 ha). As per Section 10.1 of the Biodiversity Assessment Method (BAM), no residual impacts remain for the Project, therefore no obligation for offset requirements have been incurred in relation to direct impacts.

The recommendations put forward by the Goulburn Mulwaree Council includes various strategies which would contribute to the conservation of the wider landscape. Lightsource bp are committed to the management of biodiversity relating to the Project and conservation outcomes that will benefit the community and provide broader landscape values. Lightsource bp will focus on the restoration of habitat around the stream bank of Gundary Creek and/or Bullamalito Creek and works will include remediation action for the creek lines and will strengthen the connectivity value of the drainage lines and, as discussed in further detail below, provide additional habitat features for the white-fronted chat.

As discussed with CPHR, the BMP will address the specific planting processes with the broad vision of recreating effective plant communities that are generally consistent with recognised and locally occurring PCTs and giving consideration to relevant VI condition benchmarks.

| **Biodiversity Management Plan** |
| --- |
| • *guidelines for managing the moderate to high condition Natural Temperate Grassland along the creekline* |

The Project layout incorporates riparian buffers ranging from approximately 20 to 40 m around all second order and higher creek lines to avoid and minimise impacts to the habitat associated with the riparian zone (refer to Figure 1.3 of the BDAR). The potential impacts on water quality are also anticipated to be limited due to the Project Layout and design avoiding tributaries of Gundary Creek and Bullamalito Creek. Water quality impacts have been assessed in detail in the Water Resources Impact Assessment (WRIA) report prepared by Umwelt (Umwelt, 2024a). Standard environmental management measures will be implemented and are expected to adequately manage any impacts. This includes water and erosion management controls to be employed to minimise any erosion and discharge or sediment (or other pollutants) during construction (see Section 7.0 of the BDAR more detail). Erosion and sediment control measures will be detailed in the Erosion and Sediment Control Plan to be developed as part of the EMS for the Project.

As discussed earlier, the Project will focus habitat restoration efforts along the stream bank of Gundary Creek and/or Bullamalito Creek and that process will be clearly addressed in the BMP which will be prepared in consultation with and to the satisfaction of CPHR.

| **Biodiversity Management Plan** |
| --- |
| • *a plan for rehabilitating degraded habitat around the population of Keyacris scurra identified onsite, including management of mowing/grazing to encourage appropriate species composition and cover* |

Lightsource bp has strategically designed the Project layout to avoid impacts to biodiversity values in the Subject Land (i.e. the Development Footprint for the Project) through an iterative design process over a two-year period through the incorporation of biodiversity field survey results into the refinement of the Project layout and design.

This is particularly evident in respect to the vegetation zone in which the Key's matchstick grasshopper (*Keyacris scurra*) was identified. The area of moderate quality White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highlands, NSW South Western Slopes, South East Corner and Riverina Bioregions CEEC (BC Act) in the Project Area in which one individual Key's matchstick grasshopper (*Keyacris scurra*) was identified and has subsequently been avoided.

**Biodiversity Management Plan**

- *the actions previously suggested by BCS to reduce the impact on White-fronted Chat discussed below and (in Attachment A).*

It has been acknowledged that the white-fronted chats may utilise features of the Project Area, this is discussed in length in the following section. The Biodiversity Management Plan (BMP) is listed in Section 7.1 and Appendix 2 of the EIS to form part of the Project's Environmental Management Strategy (EMS).

To minimise impacts to the white-fronted chats, mitigation measures included in the BMP will include:

- Staged removal of thistles during construction – removal of these plants will occur in non-breeding season (outside of September).
- Replanting native vegetation (e.g., *Poa* spp. tussocks) near the water along Gundary Creek or Bullamalito Creek. This would encourage the white-fronted chats to move out of the Subject Land, though this should only be done in the off-season to minimise any impacts to breeding.

**Assessment of Impact to White-fronted Chat, *Epthianura albifrons***

*There has been insufficient assessment of the impact to threatened White-fronted Chat, Epthianura albifrons which was identified onsite in the Subject Land. This assessment needs to consider the removal of non-native vegetation which can be used by the species. During a meeting with the consultants, BCS made recommendations regarding the assessment of habitat for the White-fronted Chat, and also suggested management actions in the Biodiversity Management Plan (BMP).*

The presence of the white-fronted chat became a topic of discussion with CPHR (formerly BCS), on 25 July 2023, it was highlighted by BCS representatives that the species may utilise thistle down as nesting material, an observation documented in a study by Major (1991). Spear thistle (*Cirsium vulgare*) is a non-native annual, biennial or a short-lived perennial which is listed considered a high threat weed in NSW due to its aggressive nature, rapid spread, and significant impacts on agriculture and native ecosystems (DPI 2018). Spear thistle (*Cirsium vulgare*) (here-in referred to as thistle) is present in areas of mapped Category 1 Exempt Land within the Project Area and commonly encountered in similar disturbed agricultural environments in the region and across much of NSW. The assessment of prescribed impacts in the BDAR identified that the project is unlikely to impact the species however further literature review and a further assessment of potential prescribed impacts on the white-fronted chat is provided below.

Prescribed additional biodiversity impacts (prescribed impacts) are the impacts identified in clause 6.1 of the NSW Biodiversity Conservation Regulation 2017 (BC Regulation), as:

*a) the impacts of development on the following habitat of threatened species or ecological communities*

*(i) karst, caves, crevices, cliffs and other geological features of significance*

*(ii) rocks*

*(iii) human made structures*

*(iv) non-native vegetation*

*(b) the impacts of development on the connectivity of different areas of habitat of threatened species that facilitates the movement of those species across their range*

*(c) the impacts of development on movement of threatened species that maintains their lifecycle*

*(d) the impacts of development on water quality, water bodies and hydrological processes that sustain threatened species and threatened ecological communities (including from subsidence or upsidence resulting from underground mining or other development)*

*(e) the impacts of wind turbine strikes on protected animals*

*(f) the impacts of vehicle strikes on threatened species of animals or on animals that are part of a threatened ecological community.*

Considering the definitions of prescribed impacts from clause 6.1 of the BC Regulation, the prescribed impacts which may relate to the white-fronted chat align mostly to the Section (a(iv)) and (c), that is, impacts to non-native vegetation habitats and impacts which relate to movement of threatened species that maintains their lifecycle. The Project may impact the current structure and composition of non-native vegetation (Category 1-Exempt land), and therefore how it is utilised by this threatened species. To better determine if a prescribed impact is likely, a review of species ecology was conducted to analyse the inter-relationship between the existing Project environment and the requirements of the white-fronted chat.

The white-fronted chat are members of the passerine group of birds, they are ground feeding insectivores known to inhabit open landscapes, with a preference for damp environments; near water namely saltmarsh (closer to the coastline) and wetland environments (BirdLife Australia 2023). The species is known to occupy various vegetation types, which span across semi-arid to coastal environments across NSW, VIC, SA, TAS and Southern WA (birdlife 2023). The species has also been known to occupy open woodlands, amongst scattered trees with shrub-layer or groundcover which includes chenopods (Paton et al. 1998; Ridpath & Moreau 1966; Clarke 1967; Brooker et al. 1979). The species has been reported to have benefitted from the clearance of wooded areas for agriculture, and often recorded in farmland, especially pasture as they can exploit foraging opportunities in agricultural landscapes (Saunders et al 1995; Birdlife Australia 2023).

The breeding ecology of this species is well documented across their range (Birdlife Australia 2023; Williams 1971, 1979; Wheeler 1950; Major 1989, 1991a). Nesting sites are generally concealed low to the ground, however, have also been recorded nesting in small trees in forked branches, outer branches or sometimes on exposed limbs (Legge 1902; Littler 1910; Thomson 1920; Wheeler 1950; Watson 1955; Storr 1965; Wheeler 1967b; Masters & Milhinch 1974; Williams 1979; Major 1991a; Campbell; North; NRS). The physical nests are deep cup shapes and are woven from various materials, the literature has documented the following nesting materials; grass, rushes, fine twigs, stems of samphire, plant fibre (including thistle down), piece of string and lined with fine grass, rootlets, animal material (horse of cow hair, wool, rabbit fur, feathers), some nests remain unlined (HANZAB 2001; Kendall 1902; Kegge 1902; Thompson 1920, Wheeler 1950, Storr 1965; Major 1991). It has been reported that nesting material can be gathered from up to >500 m from nest (BirdLife Australia 2023).

The literature demonstrates the great variability in the nesting habits of the white-fronted chat and that the species is not a specialist nor reliant on specific components of their environment to sustain their lifecycle. We acknowledge that the use of thistle down is documented in the literature (as was the concern raised by CPHR) however, this is not an exclusive constraint and could be considered more likely an adaption from the species. As per clause 6.1 of the BC Regulation the prescribed impact would be relevant when, 'the impacts of development on movement of threatened species that maintains their lifecycle'. This Project would reduce the extent of available habitat to the white-fronted chat, however not to the degree that it would be impactful to their lifecycle.

The Project Area has an extensive history of high intensity grazing by cattle and sheep in its current form and is dominated by mostly non-native plant species, which do not reflect the known habitat requirements for the species. In conclusion, the areas of category highly degraded Category 1 land should not be seen to necessitate breeding habitat exclusively for the species, across this Project. Notwithstanding, and to further reduce any potential impacts, a BMP will be prepared to the satisfaction of CPHR that specifies further mitigation and management requirements including, but not limited to:

- Staged removal of thistles during construction – removal of these plants will occur in non-breeding season (outside of September).
- Replanting native vegetation (e.g., *Poa spp*. tussocks) near the water along Gundary Creek or Bullamalito Creek. This would encourage the white-fronted chats to move out of the Subject Land, though this should only be done in the off-season to minimise any impacts to breeding.

### 4.1.2 Flooding

| Floodplain Risk Assessment and Management |
| --- |
| *The flood modelling completed for the FIRA shows that most of the infrastructure associated with the proposal is located outside the 1% AEP flood extent of the Gundary Creek and Bullamalito Creek. However, some solar panels appear to be located within the flood extent for events greater than the 1% AEP which should be addressed in the FIRA including operational risks during and after a large floods. Power supply during a flood is important for flood emergency response and telecommunications and it is also essential for community recovery just after large to extreme floods. As such, the risk assessment should consider the Solar Farm's operational functions over the full range of design events up to and including the Probable Maximum Flood (PMF) to establish an understanding of flood related shutdown risks and whether interruptions to the Solar Farm's operation by extreme floods can be avoided through design. Design elements of critical components may require using a higher design flood event such as the PMF level plus freeboard.*<br><br>*The information provided identified a substation to the west near Windellama Road which is proposed to be built over an unnamed ephemeral creek. The flood maps provided with the FIRA show that this creek carries flood water during all design events and the proposed substation will be affected by flooding and has the potential to influence flood behaviour. Comparison of pre- and post-development modelling results (Figures C.1-C.7 in Appendix C) show that flood water is re-directed east and west of the new substation. The re-direction of flood water around the eastern side of the substation raises questions around localised erosion and off-site flood impacts which the assessment does not address.*<br><br>*The discrepancies in flood maps between the flood impact (Figures C.1-C.7) and the developed case (Figures B.1-B.7) also creates doubt on the veracity of the model and the FIRA for assessing flood related risks from the proposal. In particular, the flood impact maps suggest that the footprint of the substation is dry post development, but the developed case flood maps show flood water is conveyed across the western end of the substation's footprint.*<br><br>*The FIRA also notes that the solar panels will unlikely cause additional runoff, and that erosion and scour is expected to be minimal. However, the adequacy of how this has been demonstrated is unclear. This warrants further clarification to ensure the accuracy of the assessment and conclusions drawn.*<br><br>*The FIRA presents an assessment of existing creek stability and condition, and refers to an Operational Environmental Management Plan (OEMP) to be developed to address potentially adverse impacts on the receiving environment during the operational phase. Consistent with previous advice, it is recommended that this OEMP includes measures to minimise erosion and demonstrate sustainable outcomes for the waterways. This will ensure the preservation of healthy waterways in terms of water quality and quantity across the project site including measures to manage erosion impacts.* |

Further consultation with CPHR has been undertaken since the exhibition of the EIS by way of a meeting to discuss their submission. This is further detailed in **Section 3.1**. At the meeting, it was discussed that the Flood Impact and Risk Assessment (FIRA) Report will be updated in order to address the above comments raised by CPHR. The Amended FIRA is provided in **Appendix 4**.

### 4.1.3 Further Consultation

| Consultation with NSW SES |
|---|
| *The FIRA states that evacuation would be arranged in times of flood warning and that evacuation routes will be determined during the detailed design stage of the project. Given the potential risk to public safety associated with flood isolation, consultation should occur with the NSW SES on the adequacy of any proposed flood emergency response measures, emergency access requirements and alignment with local emergency response planning. The FIRA should address any issues raised by the SES to establish that public safety risks due to flooding will be effectively managed.* |

NSW SES has been consulted as part of the Submissions Report preparation, as detailed in **Section 3.1**.

| Consultation with Water NSW |
|---|
| *Given the project's location in the Sydney drinking water catchment, the EIS utilised MUSIC modelling to demonstrate Neutral or Beneficial Effect (NorBE). It would be appropriate to consult with Water NSW on the adequacy of the water quality and quantity control measures presented in the Water Resource Impact Assessment.* |

As detailed in **Section 4.3** below, Water NSW were provided with an opportunity to review the EIS and made a submission on the Project.

## 4.2 DCCEEW Water

### 4.2.1 Water Demands

| Water Supply, Take and Licensing | Recommendation: Pre-determination |
|---|---|
| *Insufficient information is provided to confirm the ability to source water for the project. The proponent identifies 12.6ML will be required over the 18-to-24-month construction period with 3ML/year required during operation. Multiple water sources are listed but it is unclear on the feasibility of these. For any third-party sources such as commercial suppliers, existing bores, existing dams or council supply options it is recommended the proponent consult with these third parties to ensure there is availability and to confirm if additional licences/approvals and assessments are required.*<br><br>*The proponent also provides a summary of maximum harvestable rights for the project area, however this is based on the project area rather than the landholding which is required for harvestable rights.*<br>*The proponent must review their assessment for use of water taken under harvestable rights to demonstrate if this is a viable water supply option. Noting this should be done in consultation with landowners to ensure they have sufficient availability for their own use and that water taken under harvestable rights can only be used on that landholding.* | *Department of Planning, Housing and Infrastructure request the proponent to clarify the ability to obtain the necessary water volumes to meet the proposed site water demands.* |

As discussed in **Section 3.1.2**, Lightsource bp has consulted with Goulburn Mulwaree Council following the exhibition of the EIS, to discuss potable and non-potable water supply and availability from Council water sources. Council confirmed via an email on 8 May 2025 that the Project's water demands are lower than what is generally produced by Council and that water would be available for the Project. Council further noted that there is a non-potable standpipe in Goulburn (corner of River Street and Wheeo Road) where water can be sourced free of charge. Council has been encouraging the use of this non-potable water source as it is the backwash water from the Goulburn Water Treatment Plant which would otherwise discharge into the nearby creek.

Current management and mitigation measures (refer to **Appendix 2**) note that a water sourcing strategy will be developed prior to commencing construction. Should any bore water be used for the construction and decommissioning phase, this would be discussed and agreed with the landholder and Water Access Licences (WAL) would need to be confirmed and/or obtained.

### 4.2.2 Groundwater

| Groundwater Impacts and Dewatering Requirements | Recommendation: Pre-determination |
|---|---|
| *The project presents a low risk to groundwater as it proposes shallow excavations, and the water table is likely too deep to be intercepted. However, the possibility of groundwater interception remains.*<br><br>*NSW DCCEEW Water Group concurs with the statement in Section 6.12.3.5 of the EIS: "Should the final Project design identify that construction activities will result in the interception of the groundwater table, further assessment will be undertaken in accordance with the NSW Aquifer Interference Policy (NSW Government, 2012) and appropriate management measures be developed to mitigate any potential impacts.".* | *Department of Planning, Housing and Infrastructure advise the proponent that if the take of groundwater is found to be greater than 3 ML per year, the proponent must assess the impacts due to aquifer interference activities in accordance with the NSW Aquifer Interference Policy and framework (2012).* |

The comment from DCCEEW Water is noted. As stated in the EIS, should the final Project design identify that construction activities will result in the interception of the groundwater table, further assessment will be undertaken in accordance with the NSW *Aquifer Interference Policy* and appropriate management measures be developed to mitigate any potential impacts. Groundwater management measures have been updated in **Appendix 2** to include the above recommendation from DCCEEW Water.

### 4.2.3 Surface Water

| Activities on Waterfront Land | Recommendation: Pre-determination |
|---|---|
| *The site generally provides buffer zones along the 3rd order and above watercourses except in the western section of the site where there appears to be a construction compound and substation proposed. This will be over a mapped third order watercourse.* | *Department of Planning, Housing and Infrastructure request the proponent to clarify the proposed infrastructure layout meets the buffer requirements from watercourses as defined in the Guidelines for Controlled Activities on Waterfront Land (DPE, 2022c).* |

**Figure 4.1** illustrates the section of the Project Area referred to in DCCEEW Water's submission above, with a 20 m buffer zone added along the third order watercourse. This shows that the construction compound falls outside the 20 m buffer zone, with a small section of the substation's western corner traversing the buffer zone.

Lightsource bp has confirmed that the internal layout of the substation would allow for a 20 m Asset Protection Zone (APZ) / exclusion zone around the perimeter of the substation footprint where no infrastructure will be located.

Furthermore, this section of the mapped watercourse has been modified throughout the years, subject to historic and current agricultural activities. The watercourse is also dammed approximately 55 km south of the substation's western corner which has further altered the flow and nature of the watercourse.

### 4.2.4 Sewage

| Disposal and Management of Sewage | Recommendation: Pre-determination |
|---|---|
| *The proponent proposes sewage from septic tanks generated during construction and operation to be transported off-site, however there is no reference to engagement with the relevant water utility to confirm whether there is capacity in the system to accept the waste volumes.* | *Department of Planning, Housing and Infrastructure request the proponent to confirm with the relevant local water utility or other wastewater treatment provider if the system can accommodate the proposed sewage demands without impacting existing services.* |

As discussed in **Section 3.1.2**, Lightsource bp has been consulting with Council following the exhibition of the EIS regarding the receival of sewage. Council confirmed that the Project's proposed sewage from septic tanks during construction and operation could be received at the Goulburn Wastewater Treatment Plant.

# FIGURE 4.1

## Project Conceptual Layout




**Legend**

- Access Roads
- Security Fence
- Existing Transmission Line
- Roads
- Watercourse / Bed Level Crossing
- Water Tank (40,000L)
- Primary Access
- Project Area
- Proposed Road Upgrade
- Solar Panels
- Landscaping Buffer (5m)
- Substation and O&M Facility Area
- Construction Compound Area
- Decentralised DC BESS
- Watercourse 40m Buffer

Strahler Stream Order

- 1st Order Stream
- 2nd Order Stream
- 3rd Order Stream




0 100 200

Metres

Scale: 1:0 at A4
GDA2020 MGA Zone 55

This document and the information are subject to Terms and Conditions and Umwelt ( Australia) Pty Ltd ("Umwelt") Copyright in the drawings, information and data recorded ("the information") is the property of Umwelt.This document and the information are solely for the use of the authorized recipient and this document may not be used,copied or reproduced in whole or part for any purpose other than that which it was supplied by Umwelt.Umwelt makes no representation, undertakes no duty and accepts no responsibility to any third party who may use or rely upon this documentor the information.
APPROVED FOR AND ON BEHALF OF Umwelt

**Image Source:** ESRI Basemap (2023) | **Data Source:** NSW DFSI (2023)

## 4.3 Water NSW

### 4.3.1 Overview

| Water Impact Resources Assessment |
| --- |
| *Water NSW has reviewed the Environmental Impact Statement (EIS) and associated appendices prepared by Umwelt (Australia) Pty Ltd (dated October 2024) and notes:*<br>• *there is widespread presence of sodic and dispersive soils across the project area, with a moderate to very high potential dispersion risk anticipated where higher impact surface disturbance is undertaken. This risk is likely exacerbated by increased runoff from the solar panels, particularly where bare groundcover and erosion develop beneath the solar arrays*<br>• *a bioretention basin is proposed as part of the stormwater treatment system. Bioretention measures are considered unsuitable for rural developments given potential for sediment build-up (particularly with erodible soils present), as per Table 5.1 of Water NSW's Current Recommended Practice "Using MUSIC in the Sydney Drinking Water Catchment". Alternative measures may therefore be required, to be developed in consultation with Water NSW as part of detailed design*<br>• *no details of any existing erosion control measures (including Catchment Protection Scheme (CPS) works), and any other constraints such as any existing erosion gullies and the location of sodic and saline soils has been provided. The impact of any proposed changes to existing CPS works or gullies due to the proposal and possible mitigation measures has also not been outlined*<br>• *the site contains a number of mapped watercourses including Gundary Creek and Bullamalito Creek, as well as 1st and 2nd order watercourses. A number of watercourse crossings (via culverts and bed level crossings) will be required to enable access across the site - to be designed to minimise impacts on stream stability and fish passage, in accordance with relevant guidelines and in consultation with DPI Fisheries*<br>• *the Water Resources Impact Assessment (Appendix 15) does not include details of the baseline water quality within Gundary Creek and Bullamalito Creek, however, notes that the Operational Environmental Management Plan for the site will include inspection and monitoring requirements including receiving water quality monitoring*<br>• *an on-site amenities sewer disposal system will be provided during construction and operation phases, however, the specific details have not been provided*<br>• *impacts to groundwater resources, including groundwater dependent ecosystems, are not expected given the groundwater table is unlikely to be intercepted during construction.* |

The comment from Water NSW is noted. The following response is provided in regard to the specific points raised in the above text box:

- **Increased runoff from solar arrays** – The EIS committed to the development and implementation of an Operational Environmental Management Plan (OEMP) for the Project to address potential erosion and sedimentation risks during the operational phase. This will include the establishment and appropriate maintenance of suitable ground cover on disturbed areas, particularly beneath solar panels. The OEMP will also include suitable stormwater treatment measures. This would include vegetated swales along the full length of downslope side of solar panel arrays to reduce stormwater runoff. The OEMP will be developed in consultation with Water NSW. Stormwater management measures have been updated in **Appendix 2** to include the additional detail suggested by Water NSW in their submission.

- **Bioretention basin** – The comment from Water NSW regarding the appropriateness of the bioretention basin for a rural setting is noted. Lightsource bp has confirmed that alternative measures will be developed in consultation with Water NSW as part of detailed design should this be required based on final MUSIC modelling results. Measures outlined in **Appendix 2** have been updated accordingly.

- **Details of any existing erosion control measures (including Catchment Protection Scheme (CPS) works), and any other constraints such as any existing erosion gullies and the location of sodic and saline soils** – A site inspection of the Project Area was undertaken by Umwelt in April 2023 as part of the preparation of the Water Resources Impact Assessment (WRIA), which is provided as Appendix 15 of the EIS. The aim of the site inspection was to observe the baseline condition of the more significant watercourses within the Project Area, including the extent of existing erosion, vegetation type and cover, and structure of the watercourse channels. A summary of the observations made during the site inspection, with photographs taken during the site inspection, is provided in Section 3.1.1 of the WRIA. Areas of existing erosion occurring along the banks of the watercourse alignments and drainage lines were identified, together with an existing concrete weir within an unnamed 4$^{th}$ order tributary of Bullamalito Creek.

- **Watercourse crossing designs** – The EIS committed to the design of watercourse crossing in compliance with the relevant guidelines and in consultation with DPIRD Fisheries, as further discussed in **Section 4.10**.

- **Baseline water quality** – As noted in Water NSW's submission, the EIS committed to include monitoring requirements in the OEMP for receiving water quality monitoring. Water quality management measures have been updated in **Appendix 2** to include the additional detail suggested by Water NSW in their submission.

- **On-site amenities sewer disposal system** – As noted in Section 3.7.3 of the EIS, the construction phase for the Project would use an on-site amenities sewer disposal system (likely consisting of ablutions fitted with a standard septic tank and/or portaloos) which would be collected in a tank and removed by a licensed waste contractor to the nearest sewage treatment facility, or as agreed with Goulburn Mulwaree Council. For the operational phase, a standard septic tank system would be installed for the on-site amenities. This would be constructed and managed in accordance with the relevant Goulburn Mulwaree Council requirements. Further detail regarding the onsite amenities sewer disposal system will be available during detailed design.

- **Impacts to groundwater resources** – Comment from Water NSW regarding groundwater impacts noted.

### 4.3.2 Water Quality

| **Stormwater Management Plan** |
| --- |
| *WaterNSW requests that the following be prepared in consultation with WaterNSW for long-term sustainable water quality management:*<br>• *a final Stormwater Management Plan including:*<br>  ○ *details of how potential water quality impacts will be avoided and/or minimised through project design, and route and site selections for the hardstand areas (including that required during the construction phase)* |

| Stormwater Management Plan |
| --- |
| ○ *details of the site layout including water quality design measures to treat stormwater runoff from the proposed impervious areas such as solar panels, building roofs, internal access tracks and hardstand areas (Substation and Battery Energy Storage System – either centralised or decentralised final location/s), including suitable alternative measures to the bioretention basin*<br>○ *details of measures to limit infiltration of water into highly erodible subsoils, including drippage and runoff from solar panels*<br>○ *updated MUSIC stormwater quality modelling, to be refined as part of detailed design, showing a comparison of pre- and post-development scenarios on water quality parameters of key concern (Total Suspended Solids, Total Phosphorus and Total Nitrogen). The modelling should also be consistent with the EIS documentation, particularly for the effective impervious area for access tracks and panels – and should address specific requirements outlined in Attachment 1. WaterNSW will require an electronic copy of the stormwater quality model, and*<br>○ *Concept design plans for any stormwater quality treatment measures and required watercourse crossings (both temporary and permanent) including detailed cross sections.* |

The EIS has committed to a range of stormwater management related measures to be developed and implemented should the Project be approved. These will be developed in consultation with Water NSW as part of the CEMP and OEMP. Stormwater management measures have been updated in **Appendix 2** to include the additional detail suggested by Water NSW above.

| Soil and Water Management Plan |
| --- |
| • *Conceptual Soil and Water Management Plans for the Construction and Operational Phases of the project, with specific measures to address:*<br>○ *the high erosion risk based on dispersive subsoils across the site including diversion of runoff around the site, and adequate measures to stabilise drip lines below the solar panels to reduce any erosion risks and subsoil waterlogging from panels*<br>○ *vegetation clearing and offsets, and specifically measures to avoid and/or mitigate impacts to riparian zones and wetland vegetation, and*<br>○ *design details of any existing erosion control measures (including Catchment Protection Scheme (CPS) works), and any other constraints such as existing erosion gullies and the location of sodic and saline soils. This should also include potential impacts to existing CPS works or gullies due from the proposal and possible mitigation measures, particularly over Gundary Creek and Bullamalito Creek*. |

The EIS has committed to developing a Soil and Water Management Plan prior to commencement of construction, should the Project be approved. This commitment has been updated in **Appendix 2** to include the additional detail suggested by Water NSW above.

| Operational Environmental Management Plan |
| --- |
| • *an Operational Environmental Management Plan (OEMP). The OEMP shall outline and define design details, operation, monitoring, and maintenance of the proposed wastewater pumpout system, stormwater treatment measures and erosion and sediment controls throughout the construction and operation phases of the Solar Farm, including the installed panels. The OEMP should also include measures to manage any bare areas and erosion that develop beneath the solar arrays over time during ongoing operations and should incorporate water quality monitoring of receiving waters.* |

The EIS has committed to developing an Operational Environmental Management Plan (OEMP) prior to operation commencing, should the Project be approved. This commitment has been updated in **Appendix 2** to include the additional detail suggested by Water NSW above.

### 4.3.3 Further Consultation

| Ongoing Consultation with Water NSW |
| --- |
| *It is requested that Water NSW continue to be listed as a stakeholder for further consultation on the project, and that we may be given the opportunity to provide further comment on the response to submissions and any associated draft consent conditions.* |

Water NSW will be provided with an opportunity to review the responses provided in this Submissions Report once lodged with the DPHI. Furthermore, Water NSW will remain a key agency during the DPHI assessment process and will be provided with an opportunity to review the draft consent conditions should the Project be recommended by DPHI for approval.

## 4.4 Transport for NSW (TfNSW)

### 4.4.1 Traffic Impact Assessment

| TfNSW Additional Information Request |
| --- |
| *TfNSW requests the additional information of the key issues identified and as detailed below to be included in a revised TIA and EIS (where applicable) and submitted with the Response to Submissions (RtS). It must be clear where changes have been made in the revised TIA, which can be in the form of a document with tracked changes or a table provided in the updated TIA detailing where and what changes have been made.* |

Further to the exhibition of the EIS, further consultation with TfNSW was undertaken through a meeting to address matters raised in their submission. This is further detailed in **Section 3.1.2**. At the meeting, it was discussed that the Traffic Impact Assessment (TIA) will be updated in order to address TfNSW's submission. The Amended TIA is provided in **Appendix 5**.

### 4.4.2 Route Analysis for High Risk OSOM

**Concept Level Route Analysis Required for High Risk OSOM**

*A route assessment from the Port to the site has not been provided. This is necessary to ensure the high-risk oversize and overmass vehicles needed to deliver from port to site identify any traffic mitigation measures and road upgrades required to undertake the high-risk OSOM movement for the project.*

*The concept level route analysis must include:*

- *Port or point of origin for the entire route to the site access and intersections required to facilitate the high-risk OSOM movements required for the project.*
- *Overall combination type, configuration, load and vehicle configuration.*
- *The laden dimensions and weight of the vehicle configuration and loads.*
- *The TIA is required to include details of all high-risk OSOM loads and vehicle configurations for the project.*
- *Swept path analysis for the largest high-risk OSOM vehicles demonstrating that the largest high-risk OSOM vehicle can physically enter, exit and park without impacting travel lanes and that sufficient parking and access will be provided to other vehicle types permitted to access the identified rest area or pullover locations.*
- *Bridge Assessments for any at risk bridges on classified roads due to dimensions and weight of OSOM vehicles. Contact spu@transport.nsw.gov.au to apply for a bridge and culvert assessment review of TfNSW assets.*
- *Swept path analysis for the largest and longest high-risk OSOM navigating each pinch point or intersection along the state road network.*
- *Identify each at-risk road structure that the high-risk OSOM route crosses, traffic signals, signage, powerlines, bridges (including height clearances to overpasses and trusses), major culverts, and minor culverts that may not meet the desirable cover to cater for proposed axle loads.*
- *Traffic mitigation measures or road works, modifications, or road upgrades to facilitate the movement of the high risk OSOM(s) on the state road network around, though, under or over any at-risk road structure that has been identified from the review and assessment of the above point (h).*
- *Potential high level mitigation measures or commitments to mitigate known traffic, safety and impacts to road users along the high risk OSOM route (i.e., school bus routes, mining shift changes, TSRs, harvest periods and events).*
- *Identify and assess the implications of moving the high-risk OSOM through any road and rail projects that may be under construction or will be completed during the indicative schedule for the high-risk OSOM movements.*

A route survey from Port Botany and Port Kembla to site has been completed for the Project and is provided in the Amended TIA available in **Appendix 5**. The survey concluded that the transport of the oversize overmass (OSOM) components for the Project from the either ports would be feasible along the two proposed transport routes, with only minor modifications required to make the route suitable for the OSOM load (a 170-ton transformer).

In summary, the survey found:

- Both ports are capable of receiving a large breakbulk component such as a transformer and both have berthside or near-berth storage options available should these be required.
- The routes from each port use roads on the approved NSW OSOM Load Carrying Vehicles Network map, which are commonly used to take OSOM components out of either Sydney or Wollongong and onto the Hume Highway.
- From the Hume Highway, there are two route options to get onto Windellama Road, i.e. a northern (Option 1) and a southern option (Option 2). Whilst Option 1 is the preferred OSOM route for the Project, both routes have been assessed in the route survey to identify potential pinch points. Option 1 would require the relocation of one traffic light and one road sign on the corner of Sydney Road and Union Street (pinch point 9) in Goulburn.
- The turn into the Project's primary access point via Windellama Road was assessed and found to be suitable with a minor modification (additional 70 $m^2$ hardstand area on the inside of the site entrance). Due to the proposed intersection upgrade at the site entrance, this additional area has been assessed for disturbance as part of the EIS. Therefore, no further assessment is required for this minor modification.
- The main challenge for transport would be the height of the transformer. ARES has recommended the use of a specialised drop frame solution or a beam set.

| **Concept Level Route Analysis Required for High Risk OSOM** |
| --- |
| • *The Hexham Straight is a notable project impacting Route 2. The route assessment must assess the alternative route via Newcastle Inner City Bypass to Newcastle Road for high-risk OSOM loads that do not exceed the vertical clearance limitations.* |

As identified in the EIS and the TIA, the Project proposes to utilise Port Botany (in Sydney) or Port Kembla (in Wollongong) to import major solar and BESS components and deliver these to site via the road network. The Project is therefore not proposing to utilise the Port of Newcastle, nor will any of the routes from or around Newcastle be used for transportation. The Hexham Straight and Newcastle Inner City Bypass will therefore not be impacted by the Project. As outlined in **Section 3.1.2**, this has been discussed with TfNSW during a meeting held on 27 March 2025.

| **Concept Level Route Analysis Required for High Risk OSOM** |
| --- |
| • *Where there is reliance on the EnergyCo P2R road upgrades to facilitate the project's highrisk OSOM movements, then the pavement extents, scope of work, and bridge assessments for the P2R project are to be reviewed and assessed in relation to the project proposed highrisk OSOM vehicle configuration and loads. Evidence of the consistency check with the EnergyCo P2R project is to form part of the high-risk route assessment.* |

As identified in the EIS, the Project is not located within a Renewable Energy Zone (REZ) and will not rely on the EnergyCo P2R road upgrades for its proposed transport route.

### 4.4.3 Updated Assessment of Traffic Impacts

| Traffic Generation, Transport Routes and Distribution |
|---|
| *The traffic generation of the development needs to be identified and added to the road network, to assess the impact of the development. Refer to key issue 2 details.*<br><br>*The traffic generation of the development needs to be shown diagrammatically and applied to the road network to assess the impact of the increased traffic on the state road network. The TIA is to be updated to includes:*<br><br>• *Traffic volumes:*<br>  ○ *Project-related traffic volumes (measured as vehicle trips per an hour and per a day) for each stage including pre-construction, construction, operation, and decommissioning and identifying peak period(s) for traffic volumes.*<br>  ○ *Table 5.2 of the TIA show hourly construction traffic, which includes 63 light vehicles outbound at midday(12-1pm) and only 32 light outbound in PM peak hour (3-4pm).*<br>  ○ *No information has been provided on the directional splits of construction traffic on the road network. Confirm which direction is the construction traffic coming form to the site, and if it is all accessing from Goulburn.*<br>  ○ *The SIDRA analysis is to be revised to include all the traffic generation as not all the traffic generated has been included in the SIDRA intersection analysis.*<br>  ○ *Background traffic growth is to be applied to the existing traffic count to the year of peak construction.*<br>  ○ *Show the project traffic added to each intersection that has been analyzed in the TIA.*<br>• *The origin, destination and routes are to be shown for:*<br>  ○ *Employee and contractor light traffic.*<br>  ○ *Shuttle buses.*<br>  ○ *Heavy vehicle traffic.*<br>  ○ *OSOM vehicle traffic.*<br>  ○ *OSOM high risk loads.*<br>• *Merino Solar Farm has been included in the assessment. TfNSW only requires assessment of cumulative impacts of developments at EIS stage or where approved. As Merino Solar Farm has not yet reached EIS stage it does not need to be included in the assessment.*<br>• *TfNSW notes that the preferred route from Hume Highway to the site is option 2. Clarity is required if this is the proposed route and if option 1 route is still being pursued as part of the EIS. If both options are proposed then both options are required to be assessed.*<br>• *Shuttle buses have been proposed. Further clarity is required regarding accommodation locations or the workforce, route of travel to the site, shuttle bus locations for pick up/drop off. How will the measure be implemented to ensure that construction workers will uptake the shuttle bus transport to site.* |

As discussed above, the TIA has been updated in line with TfNSW's submission and is provided in **Appendix 5**.

Key updates in the TIA include:

- Traffic volumes have been refined and clarified as per TfNSW's advice.
- Updated SIDRA modelling to reflect revised project traffic generation.
- Background traffic growth has been applied to existing traffic count to the year of peak construction.
- Project generated traffic has been added to each intersection analysed.
- Clarification added regarding the origin of workforce movements and shuttle busses.
- Merino Solar Farm has been excluded from the Gundary Solar Farm traffic assessment.
- Clarification added regarding the preference of Option 1 or Option 2 routes from the Hume Highway.

## 4.5 Heritage NSW

### 4.5.1 Aboriginal Cultural Heritage impacts

| **Assessment of Aboriginal Sites and Understanding of Cumulative Impacts** |
|---|
| 1. *Based on the results of the test excavations, the ACHAR predicts that there are further areas of archaeological sensitivity within the Project Area, "predominately along similar broad spurs within 200 m of the perennial tributary to Bullamalito Creek" (Section 5.6). The ACHAR goes on to state that these areas likely contain deposits that "would be lesser than or equal in significance to the primary subsurface artefact concentrations found at GSF-UMW-9 and GSF-UMW-6, and therefore are likely to range from low to moderate significance" (Section 7.3). This indicates that unidentified Aboriginal site/s of moderate significance may be subject to unmitigated impacts, with the only 'mitigation' being that the two known sites of moderate significance will be subject to salvage excavation. Heritage NSW does not support unmitigated impacts to Aboriginal sites of moderate significance. Without adequate and complete assessment to establish the cultural significance (in this instance the identification and assessment of areas predicted to contain deposits of potentially moderate significance), it cannot be demonstrated that more places which may further enhance the significance of the known Aboriginal cultural heritage in the area will not be found. Further information is required regarding these "further areas of archaeological sensitivity" to ensure that all cultural values are properly assessed and managed. Specifically additional information is required to better understand and quantify the extent of harm on Aboriginal objects and values (including cumulative impacts) from the proposed development and determine whether the proposed management strategies are appropriate for the scale of impacts. The following is requested to address this matter:*<br>a. *Please provide additional mapping to illustrate where these additional areas of archaeological sensitivity, which potentially contain archaeological deposits of moderate significance, occur within the Project area based on updated understandings of the archaeological potential of the Project area.*<br>b. *Please clarify whether these areas should be treated as Potential Archaeological Deposits (PAD) and be registered on the Aboriginal Heritage Information Management System (AHIMS) in accordance with Section 89A of the National Parks and Wildlife Act 1974.* |

| Assessment of Aboriginal Sites and Understanding of Cumulative Impacts |
|---|
| c. *To ensure certainty in evaluating the level of harm associated with the project, Heritage NSW requests further information on whether harm to these areas of archaeological sensitivity will be avoided. This information should be provided at the Response to Submissions (RTS) stage and should include information on how harm will be avoided or further detail on how this harm will be mitigated. Where warranted, please include provision for further archaeological investigation of these areas (including test and salvage excavation as required.* |

Comment from Heritage NSW is noted. A letter to Heritage NSW has been prepared to provide a more detailed response, which is provided in **Appendix 3,** with a summary of the response below.

The Project ACHA concludes that archaeological evidence of focused Aboriginal camping activities most likely occurred on elevated (i.e. above watercourse channels and low-lying floodplains), level to gently inclined landforms adjacent to reliable water and with good outlook over the broader valley.
These landscape features are present in the Project Area as broad spurs within 200 m of the perennial tributary to Bullamalito Creek. The 200 m watercourse distinction is reflective of surface artefact expressions and subsurface deposits being concentrated within this distance, which also agrees with generally established models of archaeological sensitivity such as those used in due diligence codes of practice.

To address Item 1(a), Umwelt has prepared archaeological sensitivity mapping (refer to **Appendix 3**) to reflect the areas of sensitivity previously only described by text. These areas reflect crest/spur landforms that are within 200 m of the perennial tributary to Bullamalito Creek and have a slope gradient of less than or equal to 9% (i.e. landforms classed as level to gently inclined).

In response to Item 1 (b), The areas will be registered on AHIMS after they are verified for the presence of Aboriginal objects in accordance with section 89A of the NSW *National Parks and Wildlife Act 1974*.

In response to Item 1 (c), the Project development footprint will impact parts of the areas of archaeological sensitivity (as illustrated on Figure 2.1 in **Appendix 3**), which are predicted to be of low to moderate archaeological significance. Avoidance of these areas is not feasible (refer to **Section 4.5.2** below for rationale behind avoidance vs mitigation) and therefore further archaeological excavation under an Aboriginal Cultural Heritage Management Plan (ACHMP) is recommended to verify predictions of sensitivity followed by mitigation if required.

### 4.5.2 Avoidance Measures

| Consideration of Potential for Avoidance/Conservation |
|---|
| 2. *Please provide additional information which demonstrates adequate consideration has been given to options which would allow for the Aboriginal sites of moderate significance (including GSF- UMW-6 and GSF-UMW-9) to be conserved. Such discussions should be had with Registered Aboriginal Parties (RAPs) and the Proponent. These discussions must be documented in the response, noting that Heritage NSW supports the conservation and protection of Aboriginal cultural heritage values and highly recommends that all reasonable and feasible efforts should be made to avoid impacting on Aboriginal cultural heritage wherever feasible.* |

As noted above, a letter to Heritage NSW has been prepared to provide a more detailed response, provided in **Appendix 3**.

The Project layout and design, as presented and assessed in the ACHA, is the result of almost three years of detailed and iterative work that has substantially avoided significant areas of biodiversity, flooding, waterways including key Aboriginal landscape features, and reduced visual and noise amenity impacts for sensitive receivers. Mitigation measures have been incorporated into the Project design and layout where residual impacts were unavoidable.

Furthermore, as discussed in Section 2.0 of the ACHA, feedback received by Registered Aboriginal Parties (RAPs) during various stages of the ACHA expressed their desire to undertake salvage at GSF-UMW-6 and GSF-UMW-9 as opposed to seeking conservation. This was with the understanding that other sites, particularly those along the watercourses would be partially or completely avoided. This is based on the understanding that the community has the desire to better understand their cultural heritage in an area that is not well known to them from an archaeological perspective, along with providing an opportunity to reconnect with Country. These sentiments were reiterated in Table 2.4 of the ACHA, whereby a common theme of feedback was to ensure that the nominated salvage program (i.e. salvage as mitigation for at GSF-UMW-6 and GSF-UMW-9) was implemented as part of the ACHA recommendations.

Currently, more distant regional models of the wider Southern Tablelands (such as those from major quarries in the Marulan area) are relied upon to make key predictions about cultural heritage values and that local nuances can be explored further. Considering this, it is proposed that the mitigation through archaeological excavation can have residual benefits by contributing to the knowledge about the relatively unknown local archaeological record.

### 4.5.3 AHIMS Data

| **Aboriginal Heritage Information Management System (AHIMS)** |
|---|
| 3. *In addition to providing the date of any searches of the Aboriginal Heritage Information Management System (AHIMS), the AHIMS client service number must also be referenced as per Requirement 1b of the Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW (Code of Practice; DECCW 2010). Please provide the AHIMS client service number for the additional searches completed in 2023 and 2024 and/or include the results of these additional searches in Appendix B.* |

Updated AHIMS search results are provided in **Appendix 3**.

## 4.6 Heritage Council of NSW

### 4.6.1 Historical Heritage Impacts

| **Historical Heritage** |
|---|
| *The subject site is not listed on the State Heritage Register (SHR), nor is it in the immediate vicinity of any SHR items. Further, the site does not contain any known historical archaeological relics. Therefore, no heritage comments are required. The Department does not need to refer subsequent stages of this proposal to the Heritage Council of NSW.* |

Comment from the Heritage Council of NSW is noted.

## 4.7 Fire and Rescue NSW

### 4.7.1 Hazard Management

| Hazard Management Measures |
| --- |
| *It has been the experience of FRNSW that BESS Facilities present special problems of fighting fire and suitable additional provisions are likely to be required in accordance with E1D17 and E2D21 of the National Construction Code 2022. FRNSW therefore recommend the following conditions:*<br>4. *Prior to construction a Fire Safety Study (FSS) is developed in accordance with the requirements of the Hazardous Industry Planning Advisory Paper (HIPAP) No.2 and submitted to FRNSW for review.*<br>• *The FSS is to be used to inform the design and as such it is FRNSW Position that the FSS be developed to the satisfaction of FRNSW prior to any further submission being made to FRNSW; this includes: an Initial Fire Safety Report (IFSR) and / or Performance-Based Design Brief / Fire Engineering Brief Questionnaire (FEBQ).*<br>• *The FSS should be prepared consistent with the FRNSW Fire Safety Guideline Technical Information – Large scale external lithium-ion battery energy storage systems – Fire safety study considerations.*<br>5. *Prior to occupation or commissioning an Emergency Plan (EP) is developed for the site in accordance with HIPAP No.1.*<br>6. *Prior to occupation or commissioning an Emergency Services Information Package (ESIP) is developed for the site in accordance with FRNSW fire safety guideline – Emergency services information package and tactical fire plans.*<br>7. *Prior to occupation or commissioning an emergency responder's induction package is developed for the site in consultation with, and to the satisfaction of FRNSW. The package should inform first responders of site-specific features and safety measures to ensure they are able to undertake their duties effectively. The format of the induction package should be such that it can be readily shared across all agencies. Project proponents undertaking the FSS are to engage directly with FRNSW by submitting all correspondence electronically to FireSafety@fire.nsw.gov.au and reference FRNSW file number FRN22/3328. Further information regarding FRNSW Meetings and FRNSW Written Reports can be found at the FRNSW Building Fire Safety Industry Portal.* |

The EIS has committed to developing a Fire Safety Study (FFS), Emergency Plan (EP) and detailed emergency procedures consistent with HIPAP 1 and the RFS' PBP 2019 (or equivalent) prior to the commencement of construction, should the Project be approved. These will be developed in consultation with RFS and FRNSW. Hazard management measures have been updated in **Appendix 2** to include the additional detail suggested by FRNSW above.

## 4.8 Rural Fire Service (RFS)

### 4.8.1 Bushfire Assessment

| Bushfire Assessment Report |
| --- |
| *The Bush Fire Assessment Report (Prepared by Peak Land Management, version 6, dated June 2024) has addressed the requirements of Section 8.3.5 of Planning for Bush Fire Protection 2019 and the items listed in our correspondence dated 15th September 2022.* |

Comment from RFS is noted.

### 4.8.2 Bushfire Management

| Bushfire Management Measures |
| --- |
| • *All BESS development footprints to be managed as an Asset Protection Zone (APZ) as outlined within Appendix 4 of 'Planning for Bush Fire Protection 2019'. This includes the standdown areas during the construction phase.*<br>• *All solar array footprints to be managed as an Asset Protection Zone (APZ) as outlined within Appendix 4 of 'Planning for Bush Fire Protection 2019'. This includes the standdown areas during the construction phase.*<br>• *To allow for emergency service personnel to undertake property protection activities, a 10 metre trafficable defendable space (APZ) that permits unobstructed vehicle access is to be provided around the perimeter of BESS footprint including associated infrastructure. The trafficable surface shall be a minimum 4 metres wide and provide all weather access.*<br>• *To allow for emergency service personnel to undertake property protection activities, a 10 metre trafficable defendable space (APZ) that permits unobstructed vehicle access is to be provided around the perimeter of all solar arrays including any internal interface with unmanaged land.*<br>• *Appropriate signage is to be provided to enable safe and efficient navigation for firefighters.* |

The EIS has committed to a 10 m APZ, which will be maintained around the inside perimeter of the Project Area. This measure has been amended to include specific reference to Appendix 4 of 'Planning for Bush Fire Protection 2019' as documented in **Appendix 2**.

| Bushfire Control |
| --- |
| *Additionally, it should be noted that the proposed development creates an asset with an extensive perimeter that may exceed the current capacity of local firefighting resources.* |

The comment from RFS is noted.

The EIS has committed to the following bushfire management and mitigation measures as part of the Project, as illustrated on **Figure 1.2**:

- 10 m APZ around the perimeter of the Project Area.
- Dedicated non-combustible water tanks located throughout the Project Area with a combined capacity of 180,000 L.
- Supplementary site access via Kooringaroo Road for emergency access only.
- Ten additional emergency accesses via gates along the perimeter fencing to allow access points to the Project Area in case of an emergency.
- Access tracks on the Project Area to be designed with turning bays to provide safe access for emergency services personnel.

In addition, Lightsource bp has committed to hold a bushfire training and site familiarisation day with RFS and FRNSW once the Project is commissioned.

| **Bushfire Management Plan** |
| --- |
| *A Fire Management Plan (FMP) shall be prepared in consultation with NSW RFS Goulburn Fire Control Centre. The FMP shall include, at a minimum:*<br>• *24 hour emergency contact details including alternative telephone contact;*<br>• *Site infrastructure plan;*<br>• *Firefighting water supply plan;*<br>• *Site access and internal road plan;*<br>• *Mapping to show Asset Protection Zones (APZ);*<br>• *Location of hazards (Physical, Chemical and Electrical) that may impact on firefighting operations and procedures to manage/mitigate identified hazards during firefighting operations;*<br>• *Such additional matters as required by the NSW RFS District Office.* |

The EIS has committed to developing a Fire Management Plan for the Project in accordance with PBP 2019 and in consultation with RFS and FRNSW. The plan will identify all relevant bushfire risks and mitigation measures associated with the construction and operation of the Project. Bushfire management measures have been updated in **Appendix 2** to include the additional detail suggested by RFS above.

### 4.8.3 Further Consultation

| **Consultation with RFS** |
| --- |
| *The proponents shall present the proposal to the Southern Tablelands Bush Fire Management Committee (Goulburn Fire Control Centre, 02 4822 2900) and discuss any impacts on the combat agencies operational capacity.* |

As outlined in Appendix 6 of the EIS, Lightsource bp attended a site meeting with the local RFS and FRNSW prior to the finalisation of the EIS. Following advice from RFS and FRNSW received at this meeting, the Project was refined as follows:

- Increased dedicated water supply for firefighting from 40,000 L to 180,000 L (with up to 10 additional non-combustible water tanks distributed throughout the site).
- Included a further ten emergency accesses via gates along the perimeter fencing to allow ingress and egress in case of an emergency, in additional to the dedicated emergency access via Kooringaroo Road.
- Access tracks refined to include turning bays to provide safe access for emergency services personnel.

## 4.9 Crown Lands

### 4.9.1 Access or Use of Crown Roads or Waterways

| **Crown Roads** |
| --- |
| *No Crown roads are contained within the project footprint; however, two Crown roads adjoin the project footprint. The first Crown road is located to the south of Lot 80 DP 750018 and the second adjoins the northern boundary of Lot 12 DP 1016332. If the proposal requires the use of these Crown roads in order to implement the Gundary Solar Farm proposal, including as part of the bushfire management plan, the land will need to be acquired under the Land Acquisition (Just Terms Compensation) Act 1991 (LAJTC Act). Further information regarding Crown land and the LATJC Act is located at the following link: https://www.crownland.nsw.gov.au/resources/purchase-crown-lands/compulsoryacquisition.* |

The comment from Crown Land regarding the two Crown roads adjoining the Project Area is noted. It is confirmed that the Project will not require access or use of these Crown roads in order to implement the solar farm proposal, including the Bushfire Management Plan.

| **For Use and Access to Crown Land/Waterways** |
| --- |
| *As per Figure 3.1 – Project Conceptual Layout – Gundary EIS Final Report, Crown Lands notes that the Gundary Creek and Bullamalito Creek traverses through the project area and that it is intended to construct internal access tracks comprising of culverts and/or bed level crossings as well as installing security fencing over the waterway. The Department will need to be referenced, prior to any use or occupation of any Crown land/waterway, during the assessment phase. Authority to use, traverse, access or build infrastructure on Crown land/waterway is required under the Crown Land Management Act 2016. It is recommended that the proponent contact Crown Lands as early as possible to discuss and initiate the processes required to authorise the use of and/or access to Crown land/waterway. As authority to access or use Crown land/waterways is required prior to the commencement of any works or access, and to avoid any delays for the proposal, a tenure may be required in the interim. More information regarding licences can be found at the following link: https://www.crownland.nsw.gov.au/licences-leases-and-permits/information-aboutcrown-roads.* |

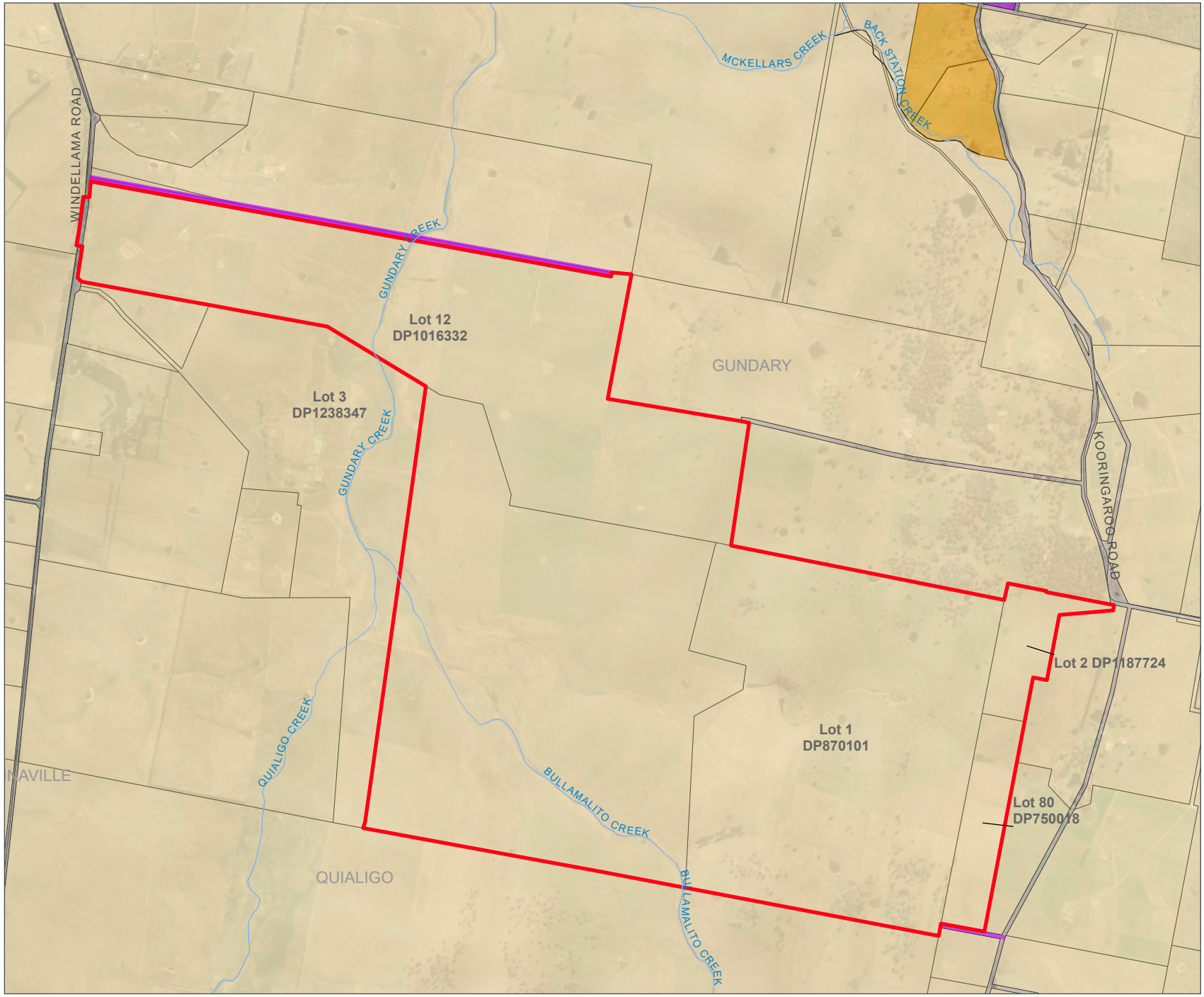
As outlined in **Section 3.1.2**, Lightsource bp has consulted with Crown Lands to discuss their submission via email. Lightsource bp will continue to engage with Crown Lands once detailed designs for culverts and/or bed level crossings are available and for the installation of security fencing over waterways to discuss necessary licensing and approvals.

| For Use and Access to Crown Roads |
| --- |
| *As per section 3.1 - Project Conceptual Layout - Gundary EIS Final Report, Crown Lands makes shows an internal access on/near the boundary of the Crown Road that adjoins the northern boundary of Lot 12 DP 1016332. Section 8 - Bush Fire Assessment Report – Access makes reference to perimeter access roads (where present) however, we are unsure if this is referencing the Crown Road adjoining Lot 80 DP 750018. Can this please be addressed by the proponent as while the road may provide legal access to the development but may not provide practical access. Please refer to the attached map, where Crown roads are shown in Blue. Any Crown road required for access to the development/proposal, will need to be transferred to Council, or application made to close and purchase the roads. As authority to access or use Crown roads is required prior to the commencement of any works or access, and to avoid any delays for the proposal, a tenure may be required in the interim. More information regarding Crown roads can be found at the following links: https://www.crownland.nsw.gov.au/licences-leases-and-permits/information-aboutcrown-roads.* |

As illustrated on **Figure 4.2**, the Crown road adjoining Lot 80 DP 750018 is located on the boundary of the Project Area, and outside the Project. There is no emergency access proposed via that Crown road nor will any of the Project's perimeter access roads overlap or interact with that Crown road.

# FIGURE 4.2

## Land Tenure

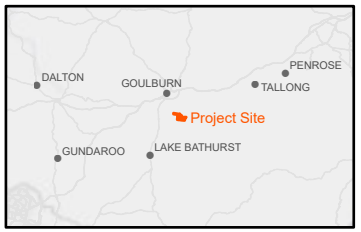



**Legend**

- Project Area
- Cadastre Boundaries
- Roads
- Watercourses

**Land Tenure**

- Freehold
- Crown
- Local Government Authority




0 500 1,000

Meters

Scale: 1:0 at A4
GDA 1994 MGA Zone 55

This document and the information are subject to Terms and Conditions and Umwelt ( Australia) Pty Ltd ("Umwelt") Copyright in the drawings, information and data recorded ("the information") is the property of Umwelt.This document and the information are solely for the use of the authorized recipient and this document may not be used,copied or reproduced in whole or part for any purpose other than that which it was supplied by Umwelt.Umwelt makes no representation, undertakes no duty and accepts no responsibility to any third party who may use or rely upon this documentor the information.
APPROVED FOR AND ON BEHALF OF Umwelt

**Image Source:** ESRI Basemap (2023) | **Data Source:** NSW DFSI (2023)

### 4.9.2 Linear Infrastructure Crossing Crown Land

| Lineal Infrastructure (e.g. Pipelines &/or Electricity Transmission Lines) Traversing Crown Land/Roads |
|---|
| *The report further identifies at 1.3 – Project Overview that underground electrical conduits and cables will be run from the solar panels into the substation yard, however it is unclear if these conduits and or cables will impact the Crown land/waterways. If lineal infrastructure (such as pipelines and/or electricity transmission lines) are expected to traverse Crown land, roads and/or waterways, an easement over said Crown land, roads and/or waterways will be required for protection of the infrastructure. To discuss easement requirements, please contact the Acquisitions team at the earliest opportunity at: cl.acquisitions@crownland.nsw.gov.au. Information regarding the easement process is available at the below link: https://www.crownland.nsw.gov.au/protection-and-management/easements.*<br><br>*As the easement process may be lengthy, it is also recommended that the proponent apply for a licence for each location where the infrastructure impacts the Crown land/waterway as soon as possible. A licence will temporarily authorise use and access for the infrastructure to traverse Crown roads and Crown land whilst the easement applications are being processed. Details on how to apply for a licence are available at the below link: https://www.crownland.nsw.gov.au/licences-leases-and-permits/apply-or-managelicence.*<br><br>*It is important to note that licences or easements must be in place before Crown land or roads can be used, traversed, accessed or infrastructure can be built.* |

The final cable layout will be determined as part of detailed design. Once this has been confirmed, Lightsource bp will contact Crown Lands to initiate discussions on any required easements and the associated approval processes.

### 4.9.3 Maintenance of Crown Land and Waterways

| Biodiversity/Environmental |
|---|
| *Crown Lands notes that the proposal has identified low ongoing management and maintenance for Crown land/waterway involved in the project area, and the consequences if mismanaged, however long-term management and maintenance strategies were not specified for when the Crown land/waterway is no longer required for the proposal. Can this please be addressed by the proponent.* |

The EIS has committed to the development and implementation of a Biodiversity Management Plan (BMP) should the Project be approved. The BMP would include specific control measures to further minimise the impacts of the Project on biodiversity, including waterways throughout the Project Area. These measures will include, but not be limited to:

- Workforce education and training.
- Implementation of vegetation protection zones for areas to be retained.
- Ecologist pre-clearance surveys and supervision of works.
- Erosion and sedimentation control measures.
- Weed management.
- Fencing, access control and fauna exclusion measures.

Subsequent the exhibition of the EIS, Lightsource bp has also committed to long term management efforts in the form of habitat restoration along the stream banks of Gundary Creek and or Bullamalito Creek. These efforts will act as a remediation action for the creek lines, build connectivity, and restore habitat features for these riparian zones. The management measures outlined in **Appendix 2** have been updated to include reference to the above.

## 4.10 DPIRD Fisheries

### 4.10.1 Fish Passage

| **Design of Waterway Crossings for Fish Passage** |
|---|
| *The conceptual layout (Figure ES.2 - Appendix 04) shows three crossings of key fish habitat, all of which are described as Type 3 Class 3 waterways.*<br><br>*The design and construction of all waterway crossings over key fish habitat should be in accordance with the document 'Why do Fish Need to Cross the Road?' Fish Passage Requirements for Waterway Crossings (NSW Fisheries 2003) and the Policy (s.4.2), which seek to ensure no new fish passage barriers are constructed in NSW.*<br><br>*To comply with DPIRD Fisheries fish passage requirements, box culverts or bed-level crossings (ford) are the preferred crossing types for these waterways. Box culverts should be designed to allow for a minimum of 300 mm of water to pool in times of low flow to facilitate fish passage. Bed- level crossings should be designed so the deck of the crossing follows the natural bed elevation and not be perched.*<br><br>*Crossing designs should be provided to DPIRD Fisheries for review at both the concept and detailed design phase to ensure they are consistent with the Policy.* |

Section 3.3.4 of the EIS notes that all watercourse crossings will be in the form of culvert crossings or bed level crossings and designed to minimise impacts on stream stability and fish passage. Accordingly, the EIS committed that all waterway crossings shall be designed and constructed with reference to the following documents in addition to the NSW *Guidelines for Controlled Activities on Waterfront Land* in compliance with DPI Water Guidelines, including:

- *Why Do Fish Need to Cross the Road? Fish Passage Requirements for Waterway Crossings* (NSW Fisheries 2003).
- Fisheries NSW *Policy and Guidelines for Fish Habitat Conservation and Management*.

Crossing designs will be provided to DPIRD Fisheries for review at both the concept and detailed design phase.

### 4.10.2 Buffer Zones

| Terrestrial Riparian Buffer Zones Considered in the Project |
| --- |
| *DPIRD Fisheries policy advocates the use of terrestrial riparian buffer zones as per the Policy (s. 3.2.4.2) which states that "NSW DPI will generally require riparian buffer zones to be established and maintained for developments or activities in or adjacent to TYPE 1 or 2 habitats or CLASS 1-3 waterways."*<br><br>*DPIRD Fisheries considers the proposed riparian buffers to be suitable and recommends that riparian buffers be revegetated with suitable native plant species.* |

The comment from DPIRD Fisheries is noted. Lightsource bp has committed to long term management efforts in the form of habitat restoration along the stream banks of Gundary Creek and or Bullamalito Creek. These efforts will act as a remediation action for the creek lines, build connectivity, and restore habitat features for these riparian zones. The management measures outlined in **Appendix 2** have been updated to include reference to the above.

## 4.11 DPIRD Agriculture

### 4.11.1 Soil

| Land and Soil Capability |
| --- |
| *The site is primarily cleared and used for grazing sheep, cattle and calves on rotation for breeding and fattening. Occasional cultivation and pasture improvement are also undertaken, and the site includes a range of farm improvements to support these activities, consistent with agricultural production in the surrounding area.*<br><br>*Following on-site verification demonstrated in the Soil and Agricultural Impact Assessment (SAIA; Minesoils, 2024), the site has been found to contain areas of land and soil capability (LSC) classes 3 and 4. Each class, but class 3 in particular, is in relatively short supply throughout the state and is typically suitable for higher-productivity agricultural uses such as cropping. However, their size and fragmentation within the site may limit this opportunity.* |

As discussed in Section 6.7.4.3 of the EIS, the Soil and Agriculture Impact Assessment (SAIA) showed that the majority of the Project Area has been verified as LSC Class 4, 5 and 6 (covering a total of 636 ha) with approximately 63 ha of the Project Area being verified as LSC Class 3, of which 21 ha falls within the Development Footprint, to be covered by solar panels. Due to the nature of the Project which will require only localised and sporadic landform modification including minor soil stripping (for excavation works and leveling), impacts on LSC during the construction phase are expected to be minor.

Following the end of life for the Project, disturbance footprints will be re-graded (where required), and any minor stockpiles of topsoil and subsoil be respread over disturbed areas and rehabilitated with either native vegetation or improved pastures depending on the intended final land use. This strategy, along with good soil management practices as outlined in Section 6.7.5 of the EIS will facilitate the rehabilitation in returning the land to an equivalent LSC class. Therefore, it is anticipated there will be no permanent impacts on LSC classes within the Project Area as a result of the Project.

## 4.11.2 Agriculture

**Agriculture Productivity**

*According to conservative estimates from the SAIA, the proposal would result in the loss of 702 hectares of agricultural land and approximately $280,624 in agricultural production annually over its 40-year lifespan and possibly beyond if extended. This estimate is based on the Department's gross margin budgets for Merino ewes. The impact on agricultural productivity may be reduced if farming continues at the site, either within the development footprint as part of an agrisolar scheme or outside of it, as is currently being considered.*

As discussed in Section 6.7.4.1 of the EIS, the SAIA found that the Project would have the following temporary impacts to agriculture for the life of the Project:

- The cessation of agricultural land use on 702 ha of land represents an estimated 0.6% of agricultural land within the LGA, measured against the LGA's total agricultural land use of 116,771 ha.
- The reduction of primary productivity within the Project Area of up to $280,624 per year represents an estimated 0.6% of agricultural productivity with the LGA, measured against the LGA's total agricultural commodities gross value of $51,097,547.

As noted in the EIS, sheep grazing (agrisolar) across the Project Area is intended to be established once construction has been completed, subject to further engagement with the landholder and/or regulatory authorities. Should sheep grazing be established, measures to manage the co-existence of farming activities and the operation of the Project will be outlined in a Sheep Grazing Vegetation Management Plan (SGVMP) that will be developed in consultation with DPIRD Agriculture.

**Cumulative Agriculture Impacts**

*When including three other State Significant Development (SSD) solar projects that have been developed, approved, or proposed in the Goulburn-Monaro Local Government Area (LGA), the combined loss would amount to 1,968 hectares of agricultural land and $786,708 in annual production. This represents approximately 2% of the roughly $41.11 million generated annually in the LGA from cattle, sheep, lamb, and wool products, based on data from the 2022-2023 fiscal year (AgTrack).*

*When considering SSD solar projects in the surrounding LGAs of Yass Valley, Upper Lachlan Shire, and Queanbeyan-Palerang, the cumulative loss would total 6,065 hectares and $2,424,484 in productivity.*

Cumulative loss of agricultural land and productivity were assessed in the SAIA, as discussed in Section 6.18.3.2 of the EIS. The assessment showed that:

- The Goulburn Mulwaree LGA could experience up to 1,968 ha of land subject to potential cessation of agricultural land use – this represents an estimated 1.7% of agricultural land in the LGA when measured against a total agricultural land use of 116,771 ha (refer Section 6.7.4.1 of the EIS).
- The cumulative loss of primary production per year within the Goulburn Mulwaree LGA is estimated at $786,708. Measured against a total agricultural commodities gross value for the LGA of $51,097,547 (refer Section 6.7.4.1 of the EIS), this represents an estimated 1.5% of agriculture productivity value within the LGA.

- A potential loss of up to 6,065 ha of agricultural land within the region with an associated estimated potential productivity loss of $2,424,484 per year.

However, the suitability of agrisolar is especially relevant to the Goulburn Mulwaree LGA and the wider region given the suitable conditions for sheep grazing and the established sheep and lambing industries. Where agrisolar is implemented, the cumulative impact on agricultural for the LGA and the wider region would be considered to be low given changes to agricultural land use and agricultural productivity are anticipated to be minor for each respective Project.

On a broader scale, the cumulative risk to agricultural land and productivity across NSW because of large scale solar development is estimated to be very low (DPE, 2022b). The Australian Energy Market Operator estimates that NSW will need approximately 20,000 MW of large-scale solar generation by 2050. This would require approximately 40,000 ha of land or only 0.06% of rural land in NSW. Even in the highly unlikely scenario that all of NSW's solar generation were located on important agricultural land (this land covers around 13.8% of the state and is 6 to 7 times more agriculturally productive than the remaining 86.2% of the state) only 0.4% of this land would be required (DPE, 2022b).

The SAIA indicated that with or without the implementation of agrisolar at the proposed solar farm developments considered in the cumulative assessment, significant impacts to critical mass thresholds and regional and state agricultural infrastructure are unlikely to occur given the nature and scale of the established agricultural industries within the region and wider state.

### 4.11.3 Land Use

| **Land Use Conflict** |
| --- |
| *The Land Use Conflict Risk Assessment appears thorough in scope and is generally based on stakeholder consultation. Risk reduction to acceptable levels will depend upon implementing the mitigation measures described and ongoing consultation and registration of emergent issues.* |

The comment from DPIRD Agriculture is noted. As discussed in Section 7.0 and Appendix 2 of the EIS, the Project will implement a range of management and mitigation measures to reduce and mitigate the potential impact of the extended land use on the surrounding land and land users. Updates to these measures are proposed, as discussed in **Section 3.2** and **Appendix 2**, in response to the EIS submissions and ongoing consultation with the community and agencies.

### 4.11.4 Management Measures

| **Management of Soil and Agriculture Impacts** |
| --- |
| *Exploration of agrisolar (in this case, grazing of sheep) is supported. However, it is noted that success is highly dependent on factors such as solar infrastructure layout and design and appropriate agreement and designation of responsibilities and liabilities between solar farms and agricultural enterprise operators. The proposed Sheep Grazing Vegetation Management Plan will be essential to achieving this. The priority, however, should be on sustainable groundcover management to ensure the long-term health of soil and water resources if the agrisolar scheme is unsuccessful.* |

| Management of Soil and Agriculture Impacts |
| --- |
| *Whether impacts to agriculture are temporary will depend upon appropriate soil management practices during construction and operation. Excavated topsoil should be maintained throughout the project following the methodology described in the Soil and Agricultural Impact Assessment by Minesoils (June 2024). A groundcover target of 70% under normal conditions should be implemented, even where grazing is undertaken.*<br><br>*Similarly, long-term/ongoing impacts will depend upon how the site is decommissioned and rehabilitated. The commitment in the EIS to removing all infrastructure (if the lifespan is not extended) and installing cables a minimum of 600mm below ground is noted. The Decommissioning and Rehabilitation Management Plan should explicitly aim to return the site to its 'pre-development agricultural productivity potential'. This should include consideration of the capability for cropping at any relevant part of the site.*<br><br>*It is noted that the Biodiversity Management Plan will include consideration of pests and weeds. This should include specific consideration of agricultural pests and weeds and extend throughout the site, including throughout the development footprint, pasture, and boundaries with surrounding agricultural land. Weed management strategies must be mindful of potential conflict risk with neighbouring properties, particularly where spraying is employed.*<br><br>*Where agrisolar grazing is pursued and undertaken by a separate operator, pest and weed management responsibilities should be clearly designated.* |

As highlighted throughout the EIS, ground disturbance associated with the construction of the Project would be minimal as the majority of the development footprint contains solar array panels which are typically installed by pile driving. It is therefore expected that most of the groundcover would be maintained during the construction phase. Construction activities will be managed through the implementation of a Construction Environmental Management Plan (CEMP) that will include measures to manage and mitigate groundcover disturbance during construction. Where disturbance cannot be avoided, and vegetation need to be reinstated, this will be undertaken and managed through the implementation of a Biodiversity Management Plan.

Section 6.7.5 of the EIS outlines that should sheep grazing be established on the Project Area; this would be managed through the implementation of a SGVMP which will be developed in consultation with DPIRD Agriculture. In addition to managing stock welfare and health, the SGVMP would also include measures to manage groundcover once the Project is operational, with the aim of achieving a minimum target of 70% groundcover. It is noted that this may be difficult to achieve under certain seasonal conditions such as a dry or low rainfall period. Measures to manage stocking rates during these periods will be outlined in the SGVMP. Measures outlined in **Appendix 2** have been updated accordingly.

### 4.11.5 Local Employment

| Local Labour Force |
| --- |
| *The Accommodation and Employment Strategy should consider the local agricultural labour force, relevant specialist contractors, and the seasonal requirements of local agricultural industries to minimise impacts.* |

The Accommodation and Employment Strategy (AES) completed a review of the top 5 industries of employment across the following areas:

- Goulburn Mulwaree LGA
- Wingecarribee LGA
- Yass Valley LGA
- Upper Lachlan Shire LGA
- Queaenbeyan-Palerang Regional LGA
- The State of NSW.

The review showed that the key employing industries in the Goulburn-Mulwaree LGA include health care and social assistance (15.7%), public administration and safety (10.7%), construction (10.5%), retail trade (9.8%) and education and training (7.5%). Agriculture, forestry and fishing was the top industry of employment, at 24.2%, for the Upper Lachlan Shire LGA.

## 4.12 DPHI Industry Assessments (Hazard)

### 4.12.1 Hazard Assessment

| **Preliminary Hazard Analysis** |
| --- |
| *Having reviewed the published EIS, we are satisfied that the Hazards and Risk SEARs have largely been addressed, showing that for the BESS arrangement Options 1, 2 and 3, the sought BESS capacity of 555 MW / 1,570 MWh can be accommodated within the areas allocated for BESS with the necessary separation distances for preventing fire propagation.* |

Comment from DPHI Industry Assessments is noted.

### 4.12.2 BESS Design

| **Alternative for Battery Design and Configuration** |
| --- |
| *However, it remains uncertain if the Applicant could consider placing the entire 555 MW / 1,570 MWh BESS capacity in a single location (i.e. a new Option 4). Since Option 4 would determine the maximum extent of the BESS area (i.e. the worst-case scenario) and may constraint the SSD, we request the Applicant to provide the following further information: Provide confirmation if the final design of the BESS could include the arrangement of the entire BESS capacity of 555 MW / 1,570 MWh to be placed within a single location (i.e. a new Option 4) as opposed to the BESS arrangement Options 1, 2 and 3 already described in the EIS. If so, provide further details on the location and area extent of this single location and demonstrate that the area extent would be sufficient to accommodate the entire BESS capacity with the necessary separation distance for preventing fire propagation.* |

All BESS containers must be placed adjacent to the inverter they are coupled to in order to ensure electrical efficiency as well as logistical feasibility with regards to cabling. For Option 2, all BESS units and inverters can be arranged as close as safely possible as there is no limitation on the location of the inverters.
For Option 1, the location of the inverters is limited by the layout of the solar plant which is spread over a large area. Similarly, for efficiency and logical reasons, the solar inverters are placed central to the specific strings of solar panels they serve, with the respective BESS containers placed adjacent.

Were all BESS units to be placed in a single location, it would not be possible to cable them back to the solar inverters they are coupled to, and likewise the solar inverters cannot be placed in a single central position as they would be unable to be connected to the strings of panels, they collect energy from.

## 4.13 NSW Resources

### 4.13.1 Mining Act 1992

| Mining Titles and Resources |
| --- |
| *NSW Resources has reviewed the information supplied in relation to the Project and based on the review has no specific comments in relation to Mining Act 1992 considerations and raises no issues regarding the Project at this stage. NSW Resources has no additional requirements to those in the draft SEARs and advises the Proponent to actively monitor the MinView map viewer at https://minview.geoscience.nsw.gov.au for mining title changes that may interact with this Project. NSW Resources can assist with title holder contact details if required.* |

Comment from NSW Resources is noted.

## 4.14 Goulburn Mulwaree Council

### 4.14.1 Overview

| Objection and Resolution Made by Council |
| --- |
| *The Gundary Solar Farm proposal was considered by Council at the meeting held 17 December 2024 and the following resolution passed:*<br>*That:*<br>*1. The report from the Acting Director Planning & Environment be received.*<br>*2. Council confirms its objection to the proposed Gundary Solar Farm.*<br>*3. The following matters be lodged as Councillor's submission in addition to the technical submission compiled by Council Officers:*<br>*a. Non-compliance with Clause 2.42(2) of the State Environmental Planning Policy (Transport and Infrastructure) 2021, specifically as the project is likely to limit the capacity for growth on Goulburn as an identified regional city, and significantly and adversely impact the scenic quality and landscape character of Goulburn and the Gundary Plain.* |

**Objection and Resolution Made by Council**

b. *Consideration be given to the Land and Environment Court judgment (IT Power (Australia) Pty Ltd v Mid-Western Regional Council [2023] NSWLEC 1800 – 28 December 2023), whereby the proposed solar farm is sited in such a manner that it would adversely impact upon adjoining residential dwellings and visually sensitive land and minimise the capacity for co-location of agricultural pursuits on the land.*

c. *Consideration be given to Gundary residents and community concerns:*

   i. *Being inconsistent with the existing rural residential landscape;*

   ii. *Having an adverse visual impact on residential receivers within the Gundary Plain and city of Goulburn;*

   iii. *Having an adverse impact upon the mental health of adjoining and nearby residents and landholders;*

   iv. *Having uncertainty as to the impacts of electromagnetic radiation upon nearby residents*

   v. *Being likely to generate excessive and intrusive noise;*

   vi. *Having a detrimental impact upon the natural environment.*

   vii. *Not having greater prioritisation for local employment during construction;*

   viii. *Not having regard for environmental sustainability when considering whole-of-life of the project, including not having a firm plan for decommissioning and the potential for the site and its infrastructure becoming abandoned at the conclusion of the project;*

   ix. *Not having achieved a social licence with the surrounding residents;*

   x. *Having an adverse impact on the ability to manage and control bushfires;*

   xi. *Having a detrimental impact in terms of creating a heat bank effect on the surrounding landscape;*

   xii. *The inability to house construction workers throughout the construction phase of the project, and the consequent impact on affordability and access to the local housing market.*

   xiii. *Having a lack of a substantial, meaningful and ongoing Community Benefit Scheme and Neighbourhood Benefit Sharing Scheme in line with community and neighbourhood expectations.*

   xiv. *The suitability of the site for this proposal.*

d. *That in the event that consent is granted (either via delegation by NSW DPHI or the NSW Independent Planning Commission), conditions of consent require the developer to enter into a Voluntary Planning Agreement reflective of the NSW Benefit Sharing Guidelines – Guidance for Large Scale Renewable Energy Projects.*

*In addition to the above, a review of the Environmental Impact Statement (EIS) and appendices has been undertaken by Council officers and Council wishes to provide the following additional commentary for the consideration of the Department and the Applicant.*

As discussed in **Section 3.1** Lightsource bp has continued to consult with Goulburn Mulwaree Council since the exhibition of the EIS to discuss their submission.

As outlined in Section 2.7 of the EIS, Lightsource bp has developed a Neighbourhood Benefit Sharing Program as part of the EIS phase to ensure those residents living closest to the Project can share in its direct financial benefits. The Program is set to commence should the Project be approved and construction commence. Under the Program, residents within 1 km of the Project boundary will be eligible to participate in the Construction Neighbourhood Benefit Sharing Program. Residents within 500 m of the Project boundary will be eligible to participate in both the Construction and the Operation Neighbourhood Benefit Sharing Program. The Program has been benchmarked against industry standards and considers the nature of the landscape surrounding the Project.

Furthermore, in line with the Council's submission and the NSW Benefit Sharing Guideline (DPHI, 2024), Lightsource bp has committed to increase the community benefit scheme for the Project, to bring it in line with the $850 per MW per annum for the duration of the Project's operational life (40 years). This has resulted in the increase in the offer in the Neighbourhood Benefit Sharing Program. Lightsource bp has been discussing the updated offer with eligible residents during the preparation of this Submissions Report.

Below are responses to Items 3(a) and 3B) to address these objection points raised in Council's submission. Points raised in Items 3(c) and 3(d) have been addressed throughout **Section 4.14.2** to **Section 4.14.10** below.

| **Objection and Resolution Made by Council** |
| --- |
| *3.(a). Non-compliance with Clause 2.42(2) of the State Environmental Planning Policy (Transport and Infrastructure) 2021, specifically as the project is likely to limit the capacity for growth on Goulburn as an identified regional city, and significantly and adversely impact the scenic quality and landscape character of Goulburn and the Gundary Plain.* |

Section 2.42 of the T&I SEPP seeks to manage the potential land use conflicts associated with utility-scale solar and wind energy developments, by imposing specific mandatory considerations for the assessment of utility-scale solar and wind energy development near certain regional cities.

It is important to note that section 2.42 does not prohibit all large-scale solar or wind development on land identified on the Regional Cities Map. Rather, the section sets out mandatory considerations for the consent authority when deciding whether consent should be granted for such projects.

An assessment of the impacts to Goulburn as a regional city has been undertaken as part of the Environmental Impact Statement (EIS) and is presented in Section 6.3 of the EIS. This assessment was undertaken having regard to the Solar Guidelines and the NSW Government's *Proposed Infrastructure SEPP Amendments: Renewable Energy and Regional Cities, Explanation of Intended Effect* (EIE) (DPIE, 2021). Appendix 11 to the EIS also includes a Landscape and Visual Impact Assessment (LVIA) (Envisage Consulting, 2024), which was prepared in accordance with the *Large-Scale Solar Energy Guideline – Technical Supplement for Landscape Character and Visual Impact Assessment* (DPHI, 2022) (Technical Supplement), as required by the SEARs.

Section 5.7 of the Solar Guidelines provide that:

- Where an applicant proposes a large-scale solar development within a mapped area in proximity to a regional city, they should comprehensively address the provisions within the Transport and Infrastructure SEPP.

- Residential and commercial developments that have been approved (but not yet commenced) should be included when identifying the surrounding urban environment.
- The applicant should consult with the relevant council and identify any land identified for future growth in strategic planning documents, including in local strategic planning statements and housing strategies.

The assessment was undertaken having regard to existing and approved residential and commercial development (including the adjacent 'Rosedale' subdivision), as well as the Council's *Urban and Fringe Housing Strategy, Goulburn and Marulan* (UFH Strategy) (Elton Consulting, 2020) and having regard to matters raised during consultation with the Council.

**Figure 4.3** shows the 20 urban and fringe precincts of Goulburn, as identified under the UFH Strategy. The red line (which has been added for clarity) represents an approximate 10 km radius, measured from the Project Area.

The assessment considered the following potential impacts and conflicts to Goulburn City, its fringe areas and surrounding development:

- Scenic quality and landscape character impact.
- Impact on views.
- Other impacts such as glint and glare, noise, traffic, flooding, hazards, social, economic and air quality.
- Land use conflict existing or approved with residential and commercial uses of land surrounding the Project.
- Capacity for growth.

In summary the assessment found that overall, the Project has been located to avoid any significant conflict with existing or approved residential or commercial uses of surrounding land, and the Project is unlikely to have any significant adverse impact on the Goulburn regional city's scenic quality and landscape character. The LVIA also found that the Project will not have a significant adverse impact on future development opportunities or the capacity for growth for the city as most of the identified urban growth areas lie to the west, north and east of Goulburn from where the Project would not be visible. Also, the risk of conflict with any future airport development is considered low.

Further responses are provided in **Section 4.14.3** relating to specific outcomes of the regional city assessment.

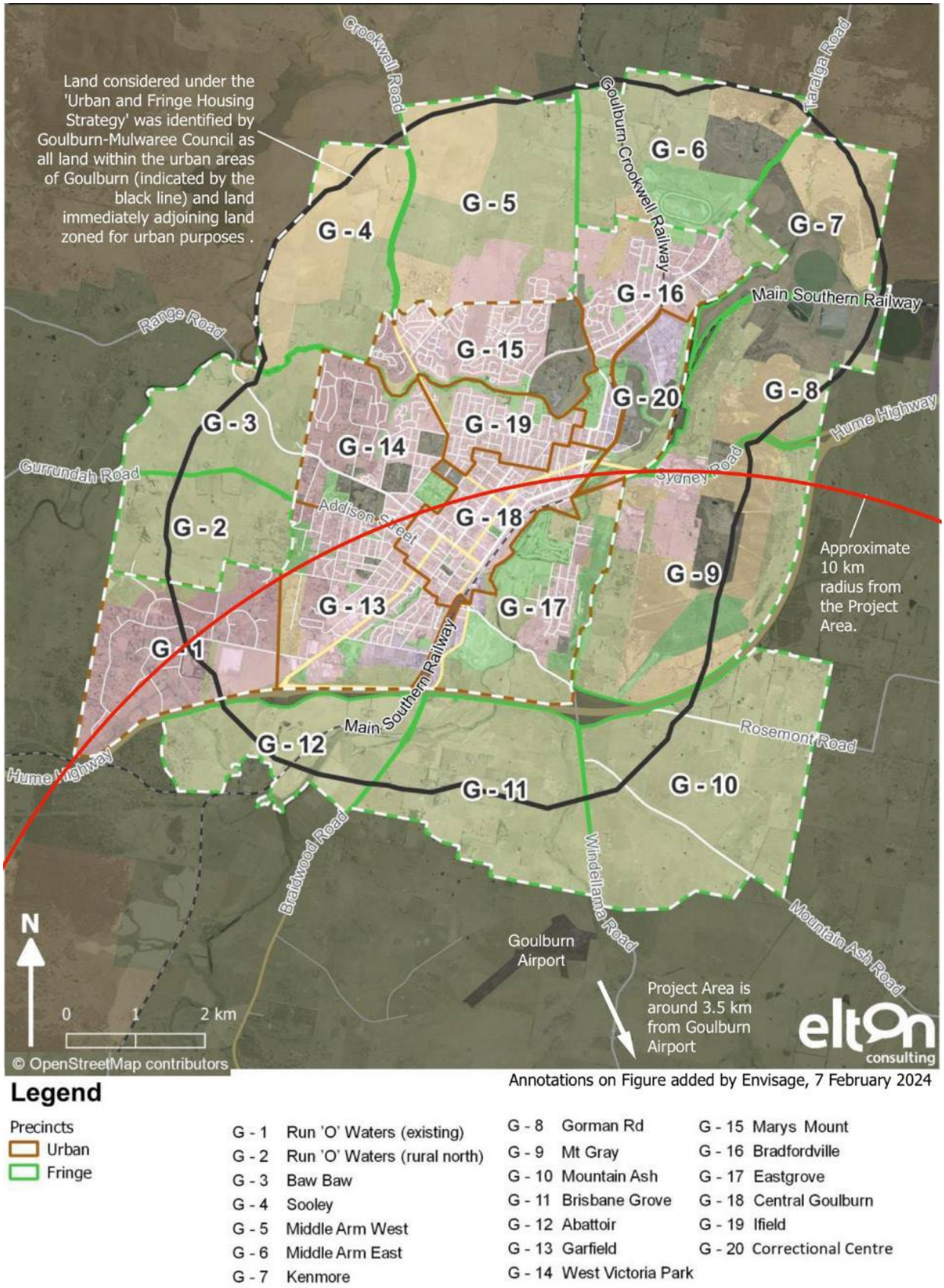



**Figure 4.3 Urban and Fringe Precincts of Goulburn**

*Source: Elton Consulting (2020), with annotations added by Envisage (2024).*

| Objection and Resolution Made by Council |
| --- |
| *3.(b). Consideration be given to the Land and Environment Court judgment (IT Power (Australia) Pty Ltd v Mid-Western Regional Council [2023] NSWLEC 1800 – 28 December 2023), whereby the proposed solar farm is sited in such a manner that it would adversely impact upon adjoining residential dwellings and visually sensitive land and minimise the capacity for co-location of agricultural pursuits on the land.* |

On 28 December 2023, the NSW Land & Environment Court (the Court) determined a Class 1 appeal by IT Power (Australia) Pty Ltd (the proponent) against a decision by the Mid-Western Regional Council to refuse a development application for a 10 MW solar farm and associated infrastructure (DA0288/2019). One of the main issues for consideration by the Court in the proceedings was the Project's impacts on Mudgee as a regional city, under section 2.42 of *State Environmental Planning Policy (Transport and Infrastructure) 2021* (T&I SEPP).

Each development application to which section 2.42 of the T&I SEPP applies must be assessed on its individual circumstances. Importantly, there are some fundamental differences between the solar farm proposed under DA0288/2019 and the current Project. **Table 4.1** below provides consideration of the Court's judgment, as it relates to the Gundary Solar Farm Project, with a summary of key differences below.

**Summary of differences between the development in IT Power and the Gundary Solar Farm Project**

- The development site in IT Power and the surrounding land was mapped as visually sensitive land under the relevant LEP and the development was located in a visually sensitive location on the main entrance corridor to Mudgee. The location of the Gundary Solar Farm and surrounding land is not mapped as visually sensitive and is not located on the main entrance corridor to Goulburn or near any key landmarks.

- Some weight was placed on the sufficiency of community engagement and consultation when preparing the applicant's assessments and expert reports in IT Power and the assessment of the character and sense of place in those reports. The EIS and the LVIA prepared for the Gundary Solar Farm Project are based on extensive community and stakeholder engagement, including consideration of community views in terms of the character and sense of place of the regional city of Goulburn. The LVIA specifically addressed these issues, not just from nearby properties, but also from existing and planned future growth areas and key viewpoints and landmarks around Goulburn. The LVIA found there to be no significant impact nor conflict.

- Parts of the Gundary Solar Farm layout have been refined and/or relocated to avoid and reduce significant conflicts with existing or approved residential or commercial uses of surrounding land.

- In IT Power, the proposed development was considered to significantly impact views from the long driveway into the farm stay property (approximately 450m away). For the Gundary Solar Farm, the views from the driveway for the Airbnb property (at R27) (approximately 900m away) will be screened, including by additional landscape screening proposed as part of this Submissions Report.

- Screening for the development in IT Power was proposed to be via earthen mounds, while the screening for the Gundary Solar Farm will be via locally native plantings managed by a landscape plan. These screen plantings are more aligned with the landscape character as assessed in the LVIA.

**Table 4.1 Consideration of IT Power (Australia) Pty Ltd v Mid-Western Regional Council [2023]**

| Aspect | The Development in IT Power | Distinguishing circumstances for the Gundary Solar Farm Project |
|---|---|---|
| **Impacts to existing or approved residential uses of land surrounding the development** | The significance of any impacts of and conflicts with the development in IT Power for the purposes of section 2.42 of the T&I SEPP focussed on one residential use and one existing commercial use (a farm stay), that also had development consent for additional farm stays. | The Gundary Solar Farm has been located to avoid significant conflicts with existing or approved residential uses of land surrounding the Project by site selection and relocation of some components of the Project, as discussed further in **Section 4.14.3** below.<br>The Project's visual impacts to residential dwellings were assessed in accordance with the Technical Supplement in Appendix 11 of the EIS (refer to Section 6.3.2.4 of the EIS). A total of 52 viewpoints (i.e. 31 existing private viewpoints, 3 public viewpoints and 18 potential future viewpoints) required detailed assessment as part of the LVIA taken from varying distances and locations surrounding the Project Area. The LVIA found that a moderate visual impact was predicted at one dwelling (R27) with low impacts predicted at 22 existing dwellings and four potential future dwellings. Impacts at all other dwellings were assessed as very low.<br>Further to this, as discussed in **Section 3.2.1**, following ongoing consultation with the owner of R27, additional landscape screening is proposed as part of the Project to reduce the visual impact at R27. Visual analysis (provided in **Appendix 6**) demonstrates that the visual impact rating for R27 is reduced from a moderate to a low with the inclusion of 1.24 km of strategically located screen planting along the western boundary of the Project (assuming a mitigation height of 7 m at approximately five years). |
| **Impacts to existing or approved commercial uses of land surrounding the development** | In the case of DA0288/2019, a neighbouring property (approximately 450 m away from the proposed development) was identified as commercial development due to being a farm-stay accommodation. In the Court's evaluation of DA0288/2019, the visual impacts from the driveway approach and the overall visitor experience offered from this property were also considered. | There is one property (R27) approximately 900 m from the Gundary Solar Farm that is operating as short-term accommodation (Airbnb). Landscape screening proposed along Windellama Road and the Project's perimeter fencing in the west will reduce views of the substation for visitors arriving and departing via the property's driveway. Refer to Figure 6.13 of the EIS for the draft landscape plan showing proposed perimeter screening. As discussed in **Section 3.2.1**, additional landscape screening is proposed for the Project to reduce the visual impact at the dwelling (R27) to low (as per the Technical Supplement). The additional planting will be strategically located along a 1.24 km stretch on the western boundary between R27 and proposed solar arrays (refer to **Appendix 6**). The placement of the proposed screening is generally in line with the property's driveway approach and would be in view as a driver enters the property, providing partial screening of the solar arrays. Additional screen planting would be consistent with the draft landscape plan described in Section 6.8.5.1 of the EIS. The proposed planting would comprise locally native shrubs and trees that are site-appropriate and reaching a height of 7 m at approximately five years. As discussed in **Section 3.1.1**, Lightsource bp has continued to consult with the affected landholder following the exhibition of the EIS regarding visual mitigation. |

| Aspect | The Development in IT Power | Distinguishing circumstances for the Gundary Solar Farm Project |
|---|---|---|
| **Impacts to scenic quality and landscape character** | In the case of the DA0288/2019, the proposed solar farm site was identified as "visually sensitive land" under the Mid-Western Regional Local Environmental Plan 2012 (LEP). This mapped area of visually sensitive land encompassed all the land on the approach to Mudgee when travelling along the Castlereagh Highway. As such, additional mandatory considerations applied to DA0288/2019 under Clause 6.10 of the LEP, specifically, that development consent must not be granted unless the consent authority could be satisfied that the development:<br>(a) will complement the visual setting forming the backdrop to Mudgee<br>(b) will be designed, set back and sited to respond sympathetically to the landform of the site on which the development is proposed to be carried out and will minimise visual intrusion.<br>In the case of the DA0288/2019, the project included the construction of substantial earth mounds to mitigate visual impacts. The Court considered that these mounds would 'appreciably change the visual quality of the area.' Additionally, the Court considered that the landscape character assessment undertaken for DA0288/2019 did not sufficiently consider community views. | With respect to the Gundary Solar Farm, the Project Area is not located within "visually sensitive land" as identified under any environmental planning instrument. Consequently, the above provisions do not apply. Nor is the Project located on a primary approach to Goulburn, or along an identified scenic or tourist drive. Nevertheless, the Project (and associated visual impact mitigation options) have been designed to complement the surrounding visual setting and to respond sympathetically to the landform.<br>For the Gundary Solar Farm, visual mitigation options have been developed in response to landholder and community feedback. Where required, visual impact mitigation will be achieved by screen planting, rather than altering the natural topography in the form of mounds. A draft landscaping plan has been developed in close consultation with landholders to ensure the plan is sympathetic to the existing visual character of the landscape.<br>The landscape character assessment undertaken for the current Project including specific consideration of landscape values of the community, informed by targeted consultation (refer to Section 4.1.3 in Appendix 11 of the EIS). |

| Aspect | The Development in IT Power | Distinguishing circumstances for the Gundary Solar Farm Project |
|---|---|---|
| **Impacts on Goulburn regional city's capacity for growth** | In IT Power, the Court found that the development was inconsistent with a number of strategic planning documents, including the Mudgee and Gulgong Urban Release Strategy, as the project undermined an orderly and coordinated approach to residential growth and did not protect high value agricultural land. | The Gundary Solar Farm Project is not located in any areas identified by the Council, or any other planning instrument, as residential growth areas of Goulburn and is not located on high value agricultural land. The LVIA assessed the Gundary Solar Farm Project's potential for adverse impacts on Goulburn regional city's capacity for growth and found that no significant adverse impacts on Goulburn's capacity for growth would arise . |

| Objection and Resolution Made by Council |
|---|
| *3.(c). Consideration be given to Gundary residents and community concerns:*<br>*xi. Having a detrimental impact in terms of creating a heat bank effect on the surrounding landscape* |

Recent research has challenged the idea that large-scale solar farms might act as heat banks and increase temperatures on surrounding land. A recent international scientific study, which used Landsat-derived land surface temperature data, discovered that the temperature of the land surrounding solar farms could be reduced by up to 2.3°C at a distance of 100 m, with the cooling effects diminishing up to 700 m away (Guoqing et al., 2021). This cooling effect, observed even in smaller measurement areas, is thought to be due to the formation of small-scale circulation cells, similar to those around desert cities and water bodies.

The use of single-axis tracking (SAT) technology, which is proposed at Gundary, has an axis of rotation typically around 1.2–1.8 m above the ground and rows are typically spaced at least 5 m apart.
This elevation and panel spacing means that heat build-up under the panels is very unlikely, and if anything, there is a slight decrease in temperature underneath the panels due to shading.

### 4.14.2 Community Views

| Community Concern Regarding the Project |
|---|
| *The proposed development has caused significant concern in the local community, in particular residents with dwellings located in the area immediately around the proposal. Council has received concerns relating to:*<br>• *Fire risk*<br>• *Mental health impact*<br>• *Property devaluation*<br>• *Electromagnetic radiation*<br>• *Noise impacts*<br>• *Natural environment impacts*<br>• *Local jobs*<br>• *Sustainability*<br>• *Abandoned and/or derelict site*<br>• *Social licence.* |

Since the exhibition of the EIS, Lightsource bp has continued to consult with the Goulburn Mulwaree Council, as detailed in **Section 3.1**, to discuss and resolve the issues raised in their submission.

Lightsource bp recognises that there is considerable concern in the local community around the issues highlighted in Council's submission. Key issues identified during the Scoping and EIS phases, including those specified in Council's submission, were subject to comprehensive specialist assessment to identify the potential impacts of the Project on the existing environment and communities. The findings of these

assessments are detailed in Section 6.0 of the EIS and its appendices, with a brief discussion on those highlighted in Council's submission provided below. Responses to the same issues raised in the public submissions are discussed further in **Section 5.0** of this report.

#### 4.14.2.1 Fire Risk

Bushfire risk from the Project was frequently raised as a key concern as part of the community engagement program for the EIS. As highlighted throughout the EIS, Lightsource bp has sought to avoid and minimise the potential bushfire risk associated with the Project through Project design. Specifically, the Project has been designed (as shown on **Figure 1.2**) to include:

- A 10 m APZ around the perimeter of the Project Area.
- Supplementary site access via Kooringaroo Road for emergency access only.
- Dedicated non-combustible water tanks throughout the Project Area with a combined capacity of 180,000 L.
- Ten additional emergency accesses via gates along the perimeter fencing to allow access points to the Project Area in case of an emergency.
- Access tracks on the Project Area would be designed with turning bays to provide safe access for emergency services personnel.

Further to this, Lightsource bp will implement the following management and mitigation measures should the Project be approved:

- A Bushfire Emergency Management and Operations Plan will be developed and implemented for the Project in accordance with PBP 2019 and in consultation with DPHI Hazards, RFS and FRNSW. The plan will identify all relevant bushfire risks and mitigation measures associated with the construction and operation of the Project.
- Bushfire training day with RFS once the Project is commissioned.
- Notification of the local NSW RFS Fire Control Centre for any works that have the potential to ignite surrounding vegetation, proposed to be carried out during a bush-fire fire danger period to ensure weather conditions are appropriate.

As noted in Section 6.13.2 of the EIS, bushfire risk has been assessed by Peak Land Management, a BPAD Level 3 Bush Fire Practitioner, in accordance with *Planning for Bush Fire Protection 2019* (PBP 2019). The assessment concluded that with the development and implementation of the above proposed management measures, it is considered that potential bushfire risks associated with the Project can be appropriately managed. This aligns with expectations and requirements of FRNSW (**Section 4.7**) and RFS (**Section 4.8**).

#### 4.14.2.2 Mental Health Impact

The EIS acknowledged that mental health has been raised as a growing concern for the community during the community engagement program. The assessment process, with its defined phases, can be drawn out. Communities are often exposed to assessment and decision-making processes that are lengthy and protracted, extending over many years which can cause uncertainty for concerned community members, and therefore impact more on mental health.

Lightsource bp has been engaging with the local community since April 2022 in relation to the Project, seeking to build relationships and understand stakeholder perspectives and needs in the region through meetings with proximal and neighbouring landholders, community / interest groups, service providers, Aboriginal stakeholder groups, Goulburn Mulwaree Council and relevant local, state and Federal government agencies. This ongoing engagement has resulted in significant changes to the Project design, as outlined in Section 1.5 of the EIS, and has assisted in development of management and mitigation measures proposed for the Project. In addition, engagement has been undertaken with the broader community, neighbouring Councils, functional stakeholders (e.g. education, accommodation and employment providers), businesses and various non-government organisations and interest groups. This engagement has further informed the design of the Project and has been ongoing throughout the assessment process, and if the Project is approved, the engagement will be ongoing during the life of the Project.

#### 4.14.2.3 Property Devaluation

Property devaluation was frequently raised as a concern for the community during the community engagement program for the EIS.

It is recognised by the renewable energy industry nationwide that neighbouring landholders to projects have recurring concerns regarding the potential impact of project infrastructure on their property values (Commonwealth of Australia, 2021). Whilst there is no methodical research in Australia on the impacts of solar farms on property values, international evidence suggests that property value impacts are minimal. Section 4.3.2 of the Social Impact Assessment (SIA) noted that several international studies have been completed in recent years on property prices on land surrounding solar farms and wind farms. These studies indicate that while there is insufficient data to have a conclusive answer, solar farms and wind farms are unlikely to negatively impact on the value of surrounding land in an agricultural setting.

A 2016 Urbis study commissioned by the NSW Office of Environment and Heritage had similar findings and states that for rural properties used for primary production, there is no direct loss of productivity resulting from solar farms or wind farms; therefore, they are unlikely to negatively impact the value of such properties. Likewise, a review of property resale analysis indicated that all of the properties examined demonstrated capital growth that aligned with the broader property market of the time (Urbis, 2016).

It is further noted that a wide range of factors (unrelated to solar farm) can affect property values over time, such as the individual property, demand and supply, utility, scarcity, and transferability. In line with this, the EIA prepared as part of the EIS noted that the ABS Regional Internal Migration Estimates suggests that regional areas across NSW, including the Goulburn area, have been seen as popular “tree-change” opportunities for those leaving major cities during the COVID-19 pandemic. Migration patterns such as this may also contribute to property and rental price fluctuations due to low rates of housing availability.

Nevertheless, as highlighted throughout the EIS, Lightsource bp has implemented design changes to reduce the visual and noise impacts of the Project. It is also acknowledged that the NSW Government has noted that further information and analysis is needed to respond appropriately and is undertaking further analysis in consultation with the Australian Energy Infrastructure Commissioner, NSW Agriculture Commissioner and the Clean Energy Council.

#### 4.14.2.4 Electromagnetic Radiation

Potential for Electromagnetic Fields (EMF) risks associated with the Project were assessed in Section 6.13.3 of the EIS, with suitable safeguards and mitigation measures proposed to reduce any potential risks. Specifically, the layout of the Project has been designed considering separation distances between the EMF sources and sensitive receivers, road users and the general public. In addition, the EIS notes that the design, selection and procurement of electrical equipment for the Project would comply with relevant international and Australian standards for generation of and exposure to EMF. As discussed in the EIS, potential EMF sources reviewed and assessed for the Project included:

- **Solar Arrays and Inverters** – Research into EMF produced by commercial solar PV electricity-generating installations (Tell et al., 2015) showed the following:
    - There was no evidence of magnetic fields created from the PV modules.
    - The highest AC and DC magnetic fields were measured adjacent to the inverter and transformer, and both were lower than ICNIRP's occupational exposure limit.
    - The strength of the magnetic fields attenuated rapidly with distance (i.e. within 2–3 m the fields dropped to background levels).
    - Electric fields were negligible to non-detectable, most likely due to the enclosures provided for the electricity generating equipment.
- **BESS** – EMF is considered in the safety design process for any BESS site. The magnetic field associated with a BESS will vary depending on several factors including configuration, capacity and type of housing. When there is no current flowing, there is no magnetic field generated, meaning that for BESS operations, magnetic fields will only be generated during the charging or discharging cycle. The BESS will be designed in accordance with electrical safety standards and codes, therefore the general public would be excluded from any exposures from these sources.
- **Overhead Transmission Lines** – The magnetic field from transmission lines varies with configuration, phasing and load, however typical magnetic fields near high voltage overhead transmission lines are estimated by ARPANSA to be between 1 and 20 microteslas (µT) (directly underneath) and 0.2 and 5 µT (at the edge of easement).
- **Substations** – The highest sources of magnetic fields associated with a large transmission substation would generally occur at the boundary from the incoming and outgoing transmission lines. Generally, the application of electrical safety standards and codes (e.g. fence, enclosure, distance) will result in exclusion of general public exposures from these sources. This is consistent with the measurement of typical magnetic field reported by ARPANSA of between 1 and 8 µT [4]at a substation fence.
- **Underground Cabling** – Underground networks typically have no electric fields as these are effectively screened by ground cover while magnetic fields at the centreline are higher, but disperse much more rapidly, than for overhead networks (Energy Networks Association, 2016).

[4] In Australia, electrical devices and infrastructure such as transmission lines and substations, operate at a frequency of 50 Hz which falls within the Extremely Low Frequency (ELF) range of EMF between 0 and 300 Hz.

The assessment concluded that given the low EFM levels associated with the operation of the Project and the separation distances between the EMF sources and sensitive receivers (more than 130 m), the expected EMF levels generated by the Project would be below the reference levels for occupational and general public exposure as defined in the ICNIRP Guidelines. It is therefore considered that the risk of impacts from EMF generated during operation of the Project would be limited.

#### 4.14.2.5 Noise Impacts

Noise issues from the Project were raised frequently as a key concern as part of the community engagement program in the EIS. As highlighted throughout the EIS, Lightsource bp has sought to avoid and minimise potential noise impacts to nearby residences through Project redesign and layout refinements. Specifically, the Project has been designed as follow to avoid and minimise noise impacts to the nearby residences:

- Relocation of the centralised BESS approximately 1.2 km east, away from non-associated residences on the north-west, as illustrated on Figure 2.5 of the EIS.
- Removal of 20 decentralised BESS units located nearest to non-associated residences, as illustrated on Figure 2.5 of the EIS.
- Placement of 5.5-metre high noise walls around the loudest Project infrastructure (such as the substation HV transformers), with the inside of the walls to be lined with acoustic absorption.
- For some decentralised DC BESS PCS stations, the placement of 3 m high noise walls near the condenser units.

A detailed Noise and Vibration Impact Assessment (NVIA) was completed for the Project (refer to Appendix 13 of the EIS). The results of the assessment found that the noise level predictions from the Project will achieve the operational noise criteria for day, evening and night-time periods, with all non-associated receivers experiencing noise levels of 35 dB or lower. Therefore, no noise impacts are predicted for the operational phase.

Based on conservative modelling, construction noise impacts are predicted at 21 receivers where the Noise Management Level (NML) of 45 dB(A) may be exceeded while the works are being conducted at the Project Area. Lightsource bp has consulted with the affected landholders during the EIS phase regarding the predicted impacts. A suite of mitigation and management measures will be implemented during the construction phase to manage any potential noise impacts, as outlined in **Appendix 2.**

Whilst the NML at some receivers is predicted to be exceeded, no receiver is predicted to be 'highly noise affected' (i.e. in accordance with the ICNG, exposed to noise levels greater than 75 dB(A)).

#### 4.14.2.6 Natural Environment Impacts

Environmental and biodiversity related impacts were raised frequently as a key concern during the community engagement program for the EIS. A detailed assessment of the biodiversity impacts of the Project has been completed and a Biodiversity Development Assessment Report (BDAR) has been prepared (refer to Appendix 7 of the EIS).

The biodiversity assessment commenced during the early Project design stage to inform the Project's design and layout to reduce biodiversity impacts, particularly in areas with high biodiversity value. Of note, the Development Footprint was refined early in the planning process to avoid areas containing remnant intact vegetation.

The Project has therefore been designed to take advantage of the most disturbed areas of the Project Area, including land assessed as Category 1 – Exempt Land, which has undergone extensive cultivation and are currently managed for livestock grazing. These areas have lower biodiversity values.

Remnant vegetation along the northern and southern boundaries of the Project Area is being retained, which improves connectivity with areas of remnant vegetation located adjacent to the Project Area. Similarly, the Project design incorporates setback buffers of approximately 20 m to 40 m around all second and higher watercourses within the Project Area, where they provide biodiversity value, which will continue to provide some form of habitat corridor (however degraded they may be).

Overall, the Project layout and design has resulted in the avoidance of 27.89 ha of NSW listed threatened ecological communities and 37.96 ha of Commonwealth listed ecological communities. Furthermore, two threatened species were detected within the Project Area during targeted surveys. These include one individual of Key's Matchstick Grasshopper (*Keyacris scurra*) and 20 individuals of *Eucalyptus macarthurii*. All threatened species locations and habitat areas have been avoided in the Project layout and design.

Whilst Lightsource bp has strived to avoid and minimise impacts on biodiversity through the design process, not all impact could be avoided. The Project will require the disturbance of approximately 14.02 ha native vegetation (consisting of native pasture, low condition primary grassland and paddock trees) from within the 512 ha of the Development Footprint. Residual biodiversity impacts are therefore limited to the highly degraded grasslands within the Project Area which, albeit still containing some native plant diversity, are largely agricultural remnants and are in such a degraded state that they fail to meet the BAM defined value thresholds that generate biodiversity credits. As highlighted throughout the EIS, the Project made an extensive effort to avoid and minimise impacts to biodiversity values with zero credits being generated across the proposed Development Footprint of 512 ha. Furthermore, Lightsource bp has committed to the implementation of the following specific control measures to further minimise the impacts of the Project on biodiversity:

- Workforce education and training.
- Implementation of vegetation protection zones for areas to be retained.
- Ecologist pre-clearance surveys and supervision of works.
- Erosion and sedimentation control measures.
- Weed management.
- Fencing, access control and fauna exclusion measures.

#### 4.14.2.7 Local Jobs

Local employment opportunities were raised as the top benefit of the Project during the community engagement program for the EIS.

It is noted that whilst the Scoping Report (Umwelt, 2022) identified an original target for local employment of 35%, this has reduced to 5% based on the findings of the Accommodation and Employment Strategy (AES) completed as part of the EIS. The AES found that the current employment and labour market of towns within a 1-hour to 1.5-hour drive from the Project (referred to as the social locality) represents a tight labour market with low and declining unemployment. This is due to a range of factors:

- During stakeholder consultation, it was highlighted that local industries are struggling to fulfill workforce needs and therefore have been looking at sourcing skilled migrant workforces to meet current or existing employment needs.
- There is a low proportion of females employed as electricians and labourers in the social locality.
- There are limited training facilities and courses available at TAFEs within the social locality.
- Stakeholder consultation highlighted significant skills drain from the area, with local trade and construction workers delivering services in Canberra and other areas of Regional NSW. This skills drain is reportedly driven by the significant number of projects and the greater economic value of projects on offer in Canberra and other areas of Regional NSW.

The AES therefore concluded that it is unlikely that a significant proportion of the workforce will be able to be sourced locally given current workforce constraints. As a result, the AES considered three local employment targets:

- Base case (5%).
- Moderate (10%).
- Aspirational (20%).

The Base case scenario (5%) has been developed as local employment target for the Project, equivalent to 13 FTEs. When tested with local Councils and key stakeholders, it was agreed that a 5% local procurement target could be achievable based on current economic conditions. It was commented that anything more than 5% would require proactive recruitment and upskilling and/or training effort by the proponent.

To reflect this, Moderate (10%) and Aspirational (20%) local employment targets have been identified, noting these would require additional effort for Lightsource bp to achieve. This would include, but not be limited to:

- Establish and maintain an Expression of Interest (EOI) for contractors and services providers in the local area while in the Project planning and development phase (pre-construction).
- Advertise and promote local employment and procurement opportunities through targeted engagement collateral, local procurement sources, industry engagement, and local media.
- Collaborate with local employment providers to assist with the sourcing of local employment and procurement.
- Establish and maintain working relationships with key industry and government stakeholders in the region.

- Provision of accessible opportunities and working with relevant First Nations training and employment groups.
- Incorporate additional weighting in tenders and EOIs to prioritise procurement from local companies.
- Consideration of a local spend strategy, where local workforces are encouraged to access services such as food and recreational activities within the vicinity of the Project.

Lightsource bp is committed to prioritise the employment of local workers and to maximise the benefit to the local community through. Should the Project be approved, the AES will be reviewed and updated to confirm measures to prioritise the employment of local workers and the procurement of local businesses for the construction and operation of the Project.

#### 4.14.2.8 Sustainability

Sustainability is a one of Lightsource bp's core values. In 2021, Lightsource bp developed sustainability framework, which is anchored in three critical pillars: Energy, Environment, and People. These pillars guide Lightsource bp's developments and operations and reflect their commitment to creating long-term value for both society and the planet. Their core contribution to global sustainability is in decarbonising the world's energy landscape through responsibly developed solar projects, and to do so safely and sustainably.

The environmental consequences of the Project have been assessed in the EIS, with suitable management and mitigation measures identified for issues with potential for adverse impact. Implementing these measures would impose an economic cost on the proponent, increasing both the capital and operating costs of the Project. This signifies those environmental resources have been given appropriate valuation.

As highlighted throughout the EIS, the Project has been developed and designed with the objective of minimising potential impacts on the environment and communities. This indicates that the design of the Project has been developed with the environmental objective in mind.

Furthermore, the aims, structure and content of the EIS have incorporated the principles of Ecologically Sustainable Development (ESD). The mitigation measures, as outlined in Section 7.0 of the EIS, provide an auditable environmental management commitment to these parameters.

The EIS therefore concludes that the Project aligns with the principals of ESD and is considered to be satisfied, due to the social, economic and environmental benefits provided in Section 1.3 of the EIS, and the mitigation measures put in place to protect from adverse impacts on the environment.

#### 4.14.2.9 Abandoned and/or Derelict Site

A Decommissioning and Rehabilitation Management Framework (DRMF) will be developed for the Project, which will include processes for the decommissioning works outlined in Section 3.6 of the EIS.

This Framework will demonstrate a commitment to ensuring appropriate environmental management is undertaken during the decommissioning and rehabilitation phase of the Project in accordance with legislative requirements, conditions of consent, stakeholder interest and industry best practice.

#### 4.14.2.10 Social Licence

As discussed earlier, Lightsource bp has been engaging with the local community since April 2022 to build relationships and understand stakeholder perspectives and needs in the region through meetings with proximal and neighbouring landholders, community / interest groups, service providers, Aboriginal stakeholder groups, Goulburn Mulwaree Council and relevant local, state and Federal government agencies. This ongoing engagement has resulted in significant changes to the Project design and has assisted in development of management and mitigation measures proposed for the Project.

In addition, engagement has been undertaken with the broader community, neighbouring Councils, functional stakeholders (e.g. education, accommodation and employment providers), businesses and various non-government organisations and interest groups. This engagement has further informed the design of the Project and has been ongoing throughout the assessment process, and if the Project is approved, the engagement will be ongoing during the life of the Project.

Engagement has been undertaken as part of the Social Impact Assessment (SIA) undertaken for the Project following the requirements of the NSW Government guidelines and assessment standards including, but not limited to, the NSW *Social Impact Assessment Guideline for State Significant Projects* (DPE, 2023) (SIA Guidelines), the *Undertaking Engagement Guidelines for State Significant Projects* (DPE, 2022a) (Engagement Guidelines) and the SEARs. The stakeholder engagement process has therefore afforded opportunities for Lightsource bp to effectively assess and integrate social outcomes within the Project planning, design and assessment phases.

To ensure the Project is contributing positively to the local community, Lightsource bp has committed to increase the financial benefits originally proposed through the Community Benefit Sharing Strategy for the Project. This strategy includes a Neighbourhood Benefit Sharing Program for residents within 1 km of the Project boundary and a VPA with Council.

If approved, ongoing engagement will be undertaken in line with Lightsource bp's Community Stakeholder Engagement Plan (CSEP) throughout the construction and operation of the Project, with regular evaluation to ensure it continues to meet its objectives. Consideration will be given to ongoing communication with host and neighbouring landholders and additional methods for enhancing community engagement, including the identification of new relevant stakeholders as the Project progresses.

### 4.14.3 Compliance with the Matters in section 2.42 of the T&I SEPP

| **Clause 2.24 of the Transport & Infrastructure SEPP** |
| --- |
| *A substantial footprint of the project is within the land nominated on the Goulburn Regional Cities Map therefore clause 2.42 of the Transport & Infrastructure SEPP applies.* |

As discussed earlier in **Section 4.14.1**, an assessment of the impacts to Goulburn as a regional city has been undertaken as part of the EIS and is presented in Section 6.3 of the EIS (with further detail on visual impacts set out in the LVIA provided as Appendix 11 of the EIS). A summary of the key outcomes of the assessment is provided in **Section 4.14.1**. Further responses are provided below relating to specific outcomes of the regional city assessment.

| Amenity Impacts for Surrounding Residential Properties |
| --- |
| *In relation to: Clause 2.42 (2)(a), the proposal is likely to create amenity impacts due to the topography of the land in comparison to the location of numerous dwellings, therefore creating potential land use conflicts with surrounding residential uses.* |

**Summary of EIS and LVIA Findings**: The LVIA, which forms Appendix 11 to the EIS, assessed the Project's potential to have significant conflicts with existing or approved residential uses of land surrounding the development. Applying the methodology set out in the Technical Supplement, no significant conflicts were identified.

Visual impacts were raised frequently as a key concern during the community engagement program for the EIS. The EIS acknowledged that the community feel strongly about the landscape, its scenic qualities, its amenity value, and its positive contribution to peoples' lives.

In light of the community feedback, Lightsource bp has located the Project to avoid and minimise potential visual impacts to nearby residential and commercial uses, as well as other land use conflicts, through Project redesign and layout refinements by implementing the following:

- Removing approximately 50 ha of solar arrays in the north-west corner of the Project Area. This is also the part of the Project Area that is closest to Goulburn City.
- Relocation of the centralised BESS approximately 1.2 km to the east, away from sensitive receivers on the north-west.
- Removal of 20 decentralised BESS units located nearest to sensitive receivers.
- Strategically located landscape screening in consultation with neighbouring landholders and Goulburn Mulwaree Council.

A detailed Landscape and Visual Impact Assessment (LVIA) was undertaken for the Project (refer to Section 6.8 and Appendix 11 of the EIS). A total of the 52 viewpoints were assessed in the LVIA, which included public roads, private residences and representative locations for potential future dwellings within 4 km of the Project.

One viewpoint (R27) was found to have a moderate visual impact rating, with the remainder 51 viewpoints having a low or very low visual impact rating. No viewpoints were rated high. Photomontages were prepared from viewpoints where access to properties were possible to illustrate the potential visual impacts associated with the Project (refer to Appendix 11 of the EIS). Further visual analysis (provided in **Appendix 6**) undertaken following EIS exhibition demonstrates that additional screen planting along the western boundary of the Project (assuming a mitigation height of 7 m at approximately five years) reduces the visual impact rating for R27 to a low. Consultation with the landowner at R27 and other landowners within 1 km of the Project has been undertaken by Lightsource bp to discuss potential visual impact mitigation options which may include landscape screening or other agreed measures. Furthermore, a draft landscape plan was developed for the Project, informed by feedback from these landowners and Council, to reduce the impact of the Project to landscape character and viewpoints. This plan is provided in Figure 6.13 of the EIS with photomontages illustrating the view of the Project with landscape screening available in Appendix 11 of the EIS.

With the implementation of the visual mitigation measures, the LVIA (prepared in accordance with the Technical Supplement) determined that the Project would have an overall low to very low visual impact to surrounding receivers. Furthermore, and despite the Technical Supplement not requiring mitigation measures when visual impacts are assessed as low or very low, mitigation measures (including additional landscape screening to reduce the visual impacts on R27) have been incorporated into the Project, considering feedback from the local community and Council. These mitigation measures (set out Section 6.5.2 of the LVIA and the visual analysis in **Appendix 6** to this report) have been designed to minimise the visual impacts of the Project and are compatible with the overall landscape and scenic quality of the area.

| **Growth Potential of Goulburn** |
| --- |
| *Clause 2.42 (2)(b)(i), the location of the proposed Gundary Solar Farm is on the fringe of the mapped area of the SEPP, and as such may have an impact on the growth of the city. Council is currently considering a number of Planning Proposals that seek to rezone land in the Northern part of the Gundary Plain.*<br><br>*These Planning Proposals are consistent with Council's Urban and Fringe Housing Strategy. If successful, the Planning Proposals would deliver a large number of large rural residential lots, noting that this locality is the only area currently within the Urban and Fringe Housing Strategy that seeks to cater for this market. Large lot rural residential holdings are currently in demand in close proximity to Goulburn particularly in areas of high scenic value. If this proposal is to proceed, it is fair and reasonable to expect this demand to be negatively impacted and therefore impacting the growth of Goulburn as a Regional City.* |

**Summary of EIS and LVIA Findings**: Goulburn's capacity for growth as a regional city was assessed as part of the EIS (refer to Section 6.3.2.5 of the EIS). The assessment considered the Council's Urban and Fringe Housing (UFH) Strategy (refer to **Figure 4.3**) as briefly discussed below. The LVIA also considered the potential for the Project to have any significant impacts on Goulburn's capacity for growth, which included assessing potential visual impacts from the Project to existing and planned urban release areas. The LVIA found that the Project would not have any significant impact on Goulburn's capacity for growth, with visual impacts to viewpoints from existing or planned release areas generally being very low. The Project has also been located to avoid existing or planned urban release areas and to avoid high value agricultural land.

It is noted that at the time of finalising the regional cities assessment, Council's DA Register was reviewed and searched for any planning proposals located between Goulburn and the Project and no relevant planning proposals were identified via the DA tracker at the time. This search was updated for the Submissions Report to reflect any changes since the EIS was lodged including any DAs, to determine if there would be any significant conflicts on residential or commercial uses for the purposes of section 2.42(2)(a) of the T&I SEPP. None were identified. Lightsource bp has also been engaging with Council in this regard to ascertain whether any planning proposals within the northern part of the Gundary plains need to be considered. None have been identified at the time of finalising this report.

The UFH Strategy identifies 350 new large residential lots (two ha minimum lot size) may be developed across the fringe precincts of Mt Gray, Gorman Road, Mountain Ash and Brisbane Grove collectively. The closest of these fringe precincts, Mountain Ash and Brisbane Grove, are located approximately 3.7 km and 4.7 km from the Project Area, respectively.

As discussed in the EIS, the UFH Strategy indicates that development within the Mountain Ash and Brisbane Grove Precincts is likely to be constrained by a number of challenges including flood risk as well as proximity to the Goulburn Airport and Wakefield Park and associated potential land use conflicts.

Additionally, the UFH Strategy suggests that further intensification of development (i.e. smaller lot subdivision) in these precincts is unlikely due to a lack of essential infrastructure including roads and utilities connections, as well the distance to nearby services such as shops, schools and community facilities (Elton Consulting, 2020).

Visual impacts to the Mountain Ash and Brisbane Grove Precincts have been assessed as very low (refer to Section 6.3.2.2 of the EIS). Some potential future dwellings in elevated areas of these precincts may have distant views toward the Project Area. In these elevated locations, the Project development footprint would remain at least 4 km to 5 km away and there would be very little change to the overall view, with the outlook onto rural pastures remaining the focus. Photomontages of the Project, as viewed from these Precincts, are presented in **Photo 4.1** and **Photo 4.2**.




**Photo 4.1 Mountain Ash Precinct – 40° Single Frame Photomontage**




**Photo 4.2 Brisbane Grove – 40° Single Frame Photomontage**

The assessment concluded that the Project is considered to have a negligible adverse impact capacity for growth for the regional city, on the basis that:

- The majority of urban growth is planned to occur on the west, north and eastern fringes of the city, where the Project would not be visible.
- The Project is assessed as having a very low visual impact within the two closest fringe precincts, Mountain Ash and Brisbane Grove.
- There is a very low likelihood of further growth or intensification of development within the Mountain Ash and Brisbane Grove precincts due to the significant constraints which are identified in the UFH Strategy. As such, further encroachment of urban development around the Project Area during the life of the Project is very unlikely.

| **Scenic Quality** |
| --- |
| *Clause 2.42 (2)(b)(ii), the proposed development is visible from parts of the city footprint. The Gundary Plain does have a unique scenic quality and landscape character that should be considered by DHPI as part of its assessment.* |

**Summary of EIS and LVIA Findings**: The LVIA assessed views to the Project from Goulburn, including key landmarks, tourist attractions and existing and planned urban release areas. The assessment found the Project would not directly change visual characteristics within the city fringe or urban precincts, and would not adversely affect the regional city's scenic quality or character. The assessed impact of the Project on the city's scenic quality and landscape character is low.

The potential visual impact on Goulburn as a regional city was assessed in the LVIA (refer to Section 6.3 of the EIS), by identifying the potential impact to the existing and future character of the city's urban and fringe precincts (particularly considering future urban growth on the southern fringe such as the Mountain Ash and Brisbane Grove Precincts), and by identifying and assessing the impact to main views from the regional city.

Eight key viewpoints were identified within Goulburn City and its fringes for further assessment and visual inspection (refer to Figure 6.2 of the EIS). These were:

- RCVP 1 – Mountain Ash Precinct.
- RCVP 2 – Brisbane Grove Precinct.
- RCVP 3 – Rocky Hill War Memorial.
- RCVP 4 – Auburn Street, overlooking Belmore Park.
- RCVP 5 – Eldon Street, near (former) St Johns Orphanage site.
- RCVP 6 – Montague Street, overlooking the Anglican Cathedral.
- RCVP 7 – Goulburn Brewery.
- RCVP 8 – South Goulburn MacDonalds carpark.

The assessment was based on the visual sensitivity of each viewpoint location and the magnitude of change resulting from the Project, in accordance with the Technical Supplement.

#### 4.14.3.1 Characterising Goulburn's Scenic Quality and Landscape Character

The first stage of the LVIA was a baseline analysis of the existing character of the landscape, and its sensitivity to the proposed change as a result of the Project. The baseline analysis considered the physical landscape attributes and discussed the general landscape values of the community, local council and affected landholders. The scenic quality of the landscape was also classified based on site inspection and criteria in Table 2.1 of the Technical Supplement.

The results of the baseline analysis showed that the landscape is highly valued by the local community and has thus been assessed as having 'moderate' scenic quality based on community perception.

#### 4.14.3.2 Scenic Quality and Landscape Character Impact

The assessment concluded that the Project would not directly change visual characteristics within the city fringe or urban precincts and would not adversely affect the regional city's scenic quality or character. The Project's impact to Goulburn's landscape character has therefore been assessed as low. In summary, the assessment found:

- The Project would not be seen (or be barely visible) from the city centre (RCVP 4), Saint Saviour's (Anglican) Cathedral (RCVP 6), and visitor locations (RCVP 7 and RCVP 8).

- From the closest future growth areas south of the Hume Highway (RCVP 1 and RCVP 2), as well as from the elevated existing residential area of Eldon Street (RCVP 5), the visual impact would be very low (i.e. the Project would occupy a small part of the view but not be a prominent feature), as shown on **Photo 4.3** below.

- From the most elevated public viewpoint within Goulburn (RCVP 3), the visual impact would be low. The Project would be visible from the southern side of the lookout, however, would not noticeably deteriorate the scenic quality of the view, as shown in **Photo 4.4** below. The solar modules would be relatively inconspicuous and affect a very small proportion of the view available from this location.

Photomontages of the existing, and likely future view from the closest future growth areas (RCVP 1 and RCVP 2) appear in Appendix 11 of the EIS, along with photographs of the existing view from regional city viewpoints (RCVP 3 to RCVP 8).




**Photo 4.3 Estimated Location of the Project Area from Former St John's Orphanage (RCVP 5)**

*Source: Envisage, 2024.*




**Photo 4.4 View of Project Location from Secondary Viewpoint at Rocky Hill War Memorial and Museum (RCVP 3)**

Furthermore, the EIS and the LVIA considered the Project's impact on the scenic quality and landscape character along the city's primary and secondary approaches by road.

Section 6.3.2.1 of the EIS notes that Windellama Road is the only approach that may experience visual impacts as a result of the Project. The impact to Windellama Road was assessed in Section 6 and Section 7 of the LVIA as ranging from very low to low. Lightsource bp has also committed to undertake infill planting along Windellama Road to further reduce views for Windellama Road users. With the proposed infill planting established (approximately five years after operations commence), the residual visual impact rating for Windellama Road was assessed as very low (refer to **Photo 4.5** and **Photo 4.6** below).




**Photo 4.5 Windellama Road (Looking North) Mitigation Photomontage**




**Photo 4.6 Windellama Road (Looking South) Mitigation Photomontage**

Overall, with the implementation of the visual mitigation measures, the Project would have a very low to low impact to Goulburn's landscape character and would not result in any adverse impact on the scenic quality and landscape character of the Goulburn regional city for the purposes of section 2.42(2)(b)(ii) of the T&I SEPP. In addition, mitigation measures proposed as part of the Project have been designed with the objective of minimising the visual impact of the Project and have considered feedback from the local community and Council and would therefore not be incompatible with the overall landscape and scenic quality of the area.

### 4.14.4 Site Suitability

| **Land Use** |
| --- |
| *Whilst the land is zoned RU1 Primary Production, the reality is that the majority of the Gundary Plain's northern end (between the Hume Highway and Bullamalita Rd) has been subdivided over time and is characterised by allotments that could be characterised more as "lifestyle" lots rather than agricultural lots in the truest sense. These matters will require a complex assessment by DPHI and Council requests the issues be duly considered.* |

Consideration has been given to Council's comments regarding the 'lifestyle' characteristics of the northern end of the Gundary Plains. However, the Project Area is zoned RU1 Primary Production where solar farms are permitted with consent and impacts to the rural residential amenity have been assessed in accordance with the Solar Guidelines and found to be acceptable.

Council's strategic planning documents specifically promote renewable energy projects for the region, particularly where these:

- Do not compete for land identified as being of prime crop and pasture potential.
- Have access to the existing electricity network.

As identified in the EIS, the Project is located in an area with good available solar resource, on LSC Class 3 to 6 land and has ready access to the existing electricity network. Through the proposed on-site grid connection, the Project avoids the need to construct additional connection infrastructure outside of the Project Area, such as high voltage (HV) transmission lines and substations. As such, the Project's ability to have an onsite grid connection would avoid any additional environmental, social and cultural impacts to several neighbouring landholders associated with the construction of grid connection infrastructure. Moreover, the proximity of load centres means that less energy is lost in the transportation of the generated energy so more can be used rather than wasted.

The Soil and Agriculture Assessment (Appendix 10 of the EIS) determined that the Project Area is mostly poor to moderate agricultural land, with approximately 63 ha verified as Class 3 and the remaining 639 ha ranging from Class 4 to 6. No part of the Project Area is mapped as Biophysical Strategic Agricultural Land (BSAL), State Significant Agricultural Land or critical industry clusters (CICs). The existing land use within and surrounding the Project Area further provides the opportunity to implement agrisolar (sheep grazing). The Project would not result in permanent changes to agricultural land use or productivity, as it is expected that the Project Area would be returned to agriculture following decommissioning. Sheep grazing may also continue on the Project Area once construction has been completed to mitigate any temporary agricultural productivity impacts of the land.

The available solar resources, combined with proximity to the transmission line and the current land use make the location suitable for a productive solar farm.

Furthermore, the Project layout and design has been extensively refined throughout the EIS phase to locate the Project to avoid significant conflicts with existing or approved residential and commercial uses of land surrounding the Project, and to avoid and minimise impacts to site constraints (such as watercourses, high quality biodiversity values, cultural heritage values, natural hazards including flooding and bushfire threat) and sensitive receivers, as further detailed in Section 1.5 of the EIS. These refinements have been implemented as an outcome of ongoing consultation with landholders, targeted ecological surveys conducted across the Project Area, the findings of the detailed environmental and cultural heritage assessments for the EIS and in response to community and stakeholder feedback during the preparation of the EIS. The EIS indicted that while the Project would have some potential impacts, these impacts can be effectively avoided, managed and mitigated and the Project will result in environmental, social and economic benefits.

**LEP Zoning Objectives**

*The land subject to the Gundary Solar Farm proposal is zoned RU1 Primary Production in accordance with the Goulburn Mulwaree Local Environmental Plan 2009. The objectives of the zone are as follows: Zone RU1 Primary Production 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 with adjoining zones.*
- *To promote the use of agricultural land for efficient and effective agricultural production.*
- *To avoid or minimise impacts on the natural environment and protect environmentally sensitive land.*
- *To allow the development of non-agricultural land uses which are compatible with the character of the zone.*
- *To allow the development of processing, service and value-adding industries related to agriculture and primary industry production.*
- *To protect and enhance the water quality of receiving watercourses and groundwater systems to reduce land degradation.*
- *To minimise the visual impact of development on the rural landscape.*
- *Council has considered the suitability of the proposed development site and determined that the proposed development is inconsistent with the objectives of the zone. In particular, the objective to minimise the visual impact of development on the rural landscape.*
- *It is the opinion of Council that the proposal must be aligned with all the zone objectives and not just a select few. Therefore, this matter requires careful consideration and assessment and Council requests all the objectives be duly considered.*

**Table 4.2** outlines the Project's compatibility with the objectives of the RU1 zoning.

**Table 4.2 LEP Zoning Objectives**

| Objective | Project Compatibility | Section of EIS where addressed |
|---|---|---|
| **To encourage sustainable primary industry production by maintaining and enhancing the natural resource base.** | As highlighted in Section 6.7.4.3 of the EIS, soil disturbance during the construction phase of the Project would be localised and limited to minor disturbance (due to vegetation removal and stockpiling of materials) with some areas having higher impact surface disturbance (due to excavation works). The EIS committed to all stripped soil will be stockpiled and re-used from where it was stripped to mitigate long term effects on soil resources during operation. This localised approach would further promote the reinstatement of the soil profile to its original condition.<br>The EIS further noted that the risk of groundwater impacts during construction of the Project is expected to be low, as site levelling will likely require excavation of no more than 0.40–0.60 m, and trenches for underground cables are expected to be no greater than 1.0–1.2 m deep. There are no anticipated impacts on groundwater anticipated and any risks to water quality are expected to be readily manageable. Water use during the construction and operation of the Project will be minimal and water will be brought to site by tanker as required. As such, the current surface and groundwater resources used by local landholders are not anticipated to be impacted by the Project.<br>The Agriculture Impact Assessment completed for the Project therefore found that impacts to soil and water resources, including the LSC capability of the land will be managed and mitigated during all phases of the Project. Accordingly, a CEMP and OEMP will be developed in consultation with the DPIRP Agriculture to manage and mitigate any potential risks to soil and water resources within the Project Area. | Section 6.7 and Appendix 10 |
| **To encourage diversity in primary industry enterprises and systems appropriate for the area.** | The Agriculture Impact Assessment further indicated that agricultural land use and productivity of land adjacent to the Project Area and in the broader Goulburn Mulwaree LGA will not be affected by the Project as the associated agricultural resources will not be impacted. Therefore, the Project will not negatively impact any existing agricultural enterprise outside of the Project Area. | Section 6.7 and Appendix 10 |
| **To minimise the fragmentation and alienation of resource lands.** | The Project is highly reversible and will not permanently impact the future productivity of the land. Furthermore, the Project would diversify the current land use by potentially allowing ongoing agricultural activity for sheep grazing concurrently with the Project, preventing fragmentation of agricultural land in the region. | Section 6.7 and Appendix 10 |

| Objective | Project Compatibility | Section of EIS where addressed |
|---|---|---|
| **To minimise conflict between land uses within this zone and with adjoining zones.** | A Land Use Conflict Risk Assessment (LUCRA) was completed for the Project to identify and assess the potential for land use conflicts, including visual and other amenity related impacts, with neighbouring land uses and to identify suitable management measures to minimise any potential impacts (refer to Appendix 10 of the EIS). This included a risk identification and ranking process accordance with *Land Use Conflict Risk Assessment Guide* (DPI, 2011). The majority of risks identified pertain to the wider locality and community, as opposed to the agricultural operations of immediate neighbours. With the implementation of the management and mitigation measures outlined in **Appendix 2** of this report, the residual land use conflict risk is considered acceptable in the context of the Project scale and can be maintained by the Project with respect to the wider locality and community. Residential land use conflict risk can be avoided or managed accordingly with immediate neighbours. Ongoing consultation with neighbouring landholders will continue throughout all stages of the Project to identify and address concerns if they arise<br>Additionally, once decommissioned, the Project Area will be remediated and returned to agricultural production.<br>The Project is therefore considered to be compatible to coexist with the primarily agricultural land uses within the surrounding area and would not affect agricultural productivity in adjacent areas. | Section 6.7 and Appendix 10 |
| **To promote the use of agricultural land for efficient and effective agricultural production.** | As discussed above, the Project is highly reversible and will not permanently impact the future productivity of the land.<br>Once operational, the Project has been designed to be compatible with agricultural activity through the ability for continued use of the Project Area to occur through sheep grazing.<br>It is estimated that the Project will result in a loss to primary productivity of up to $280,624 per year and represents 0.6% of total agricultural productivity value in Goulburn Mulwaree LGA. This level of economic impact is negligible and is outweighed by the economic benefits including ongoing jobs and economic stimulus that will be generated by the Project over its operational as detailed in Section 6.15 of the EIS. | Section 6.7 and Appendix 10<br>Section 6.15 and Appendix 19 |
| **To avoid or minimise impacts on the natural environment and protect environmentally sensitive land.** | As highlighted throughout the EIS, the Project has made a concerted effort to avoid and minimise impacts to biodiversity values with zero credits being generated across the proposed Development Footprint of 512 ha. Remnant vegetation along the northern and southern boundaries of the Project Area is being retained, which improves connectivity with areas of remnant vegetation located adjacent to the Project Area. Similarly, the Project design incorporates setback buffers of approximately 20–40 m around all second and higher watercourses within the Project Area, where they provide biodiversity value, which will continue to provide some form of habitat corridor (however degraded they may be). | Section 6.4 and Appendix 7 |

| Objective | Project Compatibility | Section of EIS where addressed |
|---|---|---|
| | Overall, the Project layout and design has resulted in the avoidance of 27.89 ha of NSW listed threatened ecological communities and 37.96 ha of Commonwealth listed ecological communities. Furthermore, two threatened species were detected within the Project Area during targeted surveys. These include one individual of Key's Matchstick Grasshopper (*Keyacris scurra*) and 20 individuals of *Eucalyptus macarthurii*. All threatened species locations and habitat areas have been avoided in the Project layout and design.<br>Whilst the Project will require the disturbance of approximately 14.02 ha native vegetation from within the 512 ha of the Development Footprint, these areas consist of native pasture, low condition primary grassland and paddock trees. Residual biodiversity impacts are therefore limited to the highly degraded grasslands within the Project Area which, albeit still containing some native plant diversity, are largely agricultural remnants and are in such a degraded state that they fail to meet the BAM defined value thresholds that generate biodiversity credits. | |
| **To allow the development of non-agricultural land uses which are compatible with the character of the zone.** | The Project will involve the development of a non-agricultural land use (i.e. energy generation).<br>Throughout the detailed assessment phase, Lightsource bp has sought to avoid and minimise potential visual impacts to nearby residences through Project redesign and layout refinements.<br>The Project is considered compatible to coexist with the primarily agricultural land uses within the surrounding area and would not affect agricultural productivity in adjacent areas. | Section 6.7 and Appendix 10<br>Section 6.8 and Appendix 11 |
| **To allow the development of processing, service and value-adding industries related to agriculture and primary industry production.** | Whilst the Project is not directly related to agriculture and primary industry production, the ability of the Project to diversify the income streams for landholders, as well as the land use for the Project Area (should sheep grazing be implemented during the operational phase) are providing benefits to the local area. | Section 6.7 and Appendix 10 |
| **To protect and enhance the water quality of receiving watercourses and groundwater systems to reduce land degradation** | The Project has been designed to avoid and minimise impacts to water resources within and downstream of the Project Area by implementing the following:<br>• Maintain setback buffers of approximately 20 m to 40 m around second order and higher streams, in particular where these have biodiversity value.<br>• Avoid placement of Project infrastructure within flood prone areas (1% Annual Exceedance Probability (AEP)).<br>• Design solar panels with a 500 mm freeboard for the lowest edge above the maximum 1% AEP flood event.<br>• Instal riparian fencing (such as a latched tube watercourse crossing) where the security fence crosses a watercourse or creek. | Section 6.12 and Appendix 15 |

| Objective | Project Compatibility | Section of EIS where addressed |
|---|---|---|
| | In addition, specific stormwater treatment measures would be implemented (such as vegetated swales along the downslope side of solar panel arrays and bioretention basins) to capture and treat runoff from the Project.<br>Water quality impacts have been assessed in detail in the Water Resources Impact Assessment (WRIA) report prepared for the Project. Standard environmental management measures will be implemented and would adequately manage any impacts. This includes water and erosion management controls to be employed to minimise any erosion and discharge or sediment (or other pollutants) during construction. With the implementation of these measures, in addition to the impact avoidance through project design, the potential impacts on water quality are anticipated to be.<br>Furthermore, the Project would focus on habitat restoration efforts along the stream banks of Gundary Creek and or Bullamalito Creek. This service will act as both a remediation action for the creek lines, build connectivity, and restore habitat features for the riparian zones. | |
| **To minimise the visual impact of development on the rural landscape.** | The Project has been designed to minimise and reduce visual related impacts where possible. This involved:<br>• Removing approximately 50 ha of solar arrays in the north-west corner of the Project Area. This is also the part of the Project Area that is closest to Goulburn City.<br>• Relocation of the centralised BESS approximately 1.2 km to the east, away from sensitive receivers on the north-west.<br>• Removal of 20 decentralised BESS units located nearest to sensitive receivers.<br>• Strategically located landscape screening in consultation with neighbouring landholders and Goulburn Mulwaree Council.<br>A detailed Landscape and Visual Impact Assessment (LVIA) was undertaken for the Project. A total of the 52 viewpoints were assessed in the LVIA, which included public roads, private residences and representative locations for potential future dwellings within 4 km of the Project.<br>Only one viewpoint (R27) was found to have a moderate visual impact rating, with the remainder having a low or very low visual impact rating. No viewpoints were rated high. Photomontages were prepared from viewpoints where access to properties were possible to illustrate the potential visual impacts associated with the Project. Further visual analysis (provided in **Appendix 6**) undertaken following EIS exhibition demonstrates that additional screen planting along the western boundary of the Project (assuming a mitigation height of 7 m at approximately five years) reduces the visual impact rating for R27 to a low. | Section 6.8 and Appendix 11 |

| Objective | Project Compatibility | Section of EIS where addressed |
|---|---|---|
| | Consultation with the landowner at R27 and other affected landowners within 1 km of the Project has been undertaken by Lightsource bp to discuss potential visual impact mitigation options which may include landscape screening or other agreed measures.<br>Furthermore, a draft landscape plan was developed for the Project, informed by feedback from these landowners and Council, to reduce the impact of the Project to landscape character and viewpoints. This plan is provided in Figure 6.13 of the EIS with photomontages illustrating the view of the Project with landscape screening available in Appendix 11 of the EIS.<br>With the implementation of the visual mitigation measures, the Project would have an overall low to very low visual impact to surrounding receivers. Furthermore, mitigation measures proposed as part of the Project have been designed with the objective of minimising the visual impact of the Project, and have considered feedback from the local community and Council, and would therefore not be incompatible with the overall landscape and scenic quality of the area. | |

## 4.14.5 Social and Economic

**Social Impact Assessment**

*The Social Impact Assessment (SIA) is thorough and clearly reflects the division in the community relating to the project coming through the stakeholder engagement. The main themes from the engagement being:*

- *Positive impacts of the project on the local and regional economy, employment, income, and skills development, especially during the construction phase.*
- *Negative impacts of the project on the visual amenity, landscape character, rural lifestyle, and heritage values of the area, particularly noted by surrounding landowners.*
- *Indirect social impacts associated with environmental impacts of the project, including the effect on environmental values relating to flora and fauna, water resources, soil quality, and air quality in the area, and the measures to avoid, minimise, or mitigate these impacts.*
- *Social impacts of the project related to traffic and road safety, noise and vibration, dust and glare, and health and wellbeing of the community, and the measures to avoid, minimise, or mitigate these impacts.*
- *Opportunities and challenges of the project in relation to social infrastructure and service provision, such as the demand and supply of housing, education, health, and emergency services, including the local contributions made by the project and the coordination of activities with local and state government agencies.*
- *Benefits and risks of the project for the community wellbeing and social capital, such as the enhancement or disruption of community cohesion, community identity and values, and the processes of engagement and involvement of stakeholders in project planning and decision making.*
- *The SIA has clearly outlined the local and regional impact of the proposal and has included a thorough assessment of cumulative impacts including those from a broad range of SSD projects either approved or proposed and at varying stages. Additionally, the assessment of residual impacts following mitigations has also been thorough.*
- *Development impacts can range from positive to negative dependent on a range of factors including proximity to the site. The SIA is partly intended to ensure that positive impacts can be managed to assist in the reduction of negative impacts where experienced. The main way that this is achieved is through the proposed Community Benefit Sharing scheme.*
- *It is noted that Section 3.3.2.1 refers to the NSW Draft Energy Policy Framework which has recently been adopted. One of the amendments to the guideline is the inclusion of a Battery Energy Storage Systems (BESS) rate within the community benefit sharing requirements.*
- *Significant issues posed through SSD projects with a large construction workforce include the impact on local private rental accommodation and the impact on the local labour pool noting that the unemployment rate in Goulburn is very low being 2.8% in the June Quarter and below the State /Regional unemployment rate (Forecast i.d). To address these impacts the SSD application proposes:*

| Social Impact Assessment |
| --- |
| • *to continue planning workforce and employment requirements as per the project's Accommodation and Employment Strategy (AES). This will involve, the prioritisation of local service providers (e.g. accommodation/housing, education, employment), to operate a Housing and Accommodation Expression of Interest Register, the implementation of actions and strategies in the Project's AES, including distribution of workforce accommodation across the social locality to reduce impacts on vulnerable groups, the provision of a Planning Agreement to Goulburn Mulwaree Council to support the funding of social infrastructure and other community programs/initiatives, and will explore opportunities to partner with accommodation providers in the local area to minimise use of broader housing.*<br>• *to establish and maintain an Expression of Interest (EOI) for contractors and services providers in the local area while in the project planning and development phase (pre-construction), will advertise and promote local employment and procurement opportunities through targeted engagement collateral, local procurement sources, industry engagement, and local media, and will collaborate with local employment providers to assist with the sourcing of local employment and procurement. Further, the Project will establish and maintain working relationships with key industry and government stakeholders in the region, will ensure the provision of accessible opportunities and working with relevant First Nations training and employment groups, will incorporate additional weighting in tenders and EOIs to prioritise procurement from local companies and will give consideration to a local spend strategy, where local workforces are encouraged to access services such as food and recreational activities within the vicinity of the project.*<br>• *to partner with the local TAFE and other education providers to facilitate training in renewable energy employment opportunities and through such partnerships, will provide apprenticeships and trainee opportunities with ongoing work experience. The project is to include engagement approaches and tailored training opportunities for the employment of women and First Nations people through dedicated resourcing and project prioritisation. Further, the project will develop and commit to clear pathways between training / upskilling and job opportunities on the project, will work with local service providers, education providers and procurement stakeholders and will target female training opportunities.*<br>• *will develop and commit to clear pathways between training / upskilling and job opportunities on the project and will collaborate with local stakeholders including Council and local industry associations to manage any adverse effect on the local labour market.*<br>• *will continue to implement the Community Shared Benefit Scheme (including both the Neighbourhood Benefit Sharing Program and the Planning Agreement) to ensure direct benefit from the project is received by the local community. Community investment initiatives are to be targeted to community needs and priorities and developed in consultation with community groups, and there will be clear application process and publication of selection criteria for eligibility to community benefit programs/initiatives to be disseminated publicly.*<br>• *In conclusion, the project will have an impact on surrounding landowners which is why the community shared benefit scheme is proposed to be based on a hierarchy of established impacts. Impacts to the broader region in relation to the economy, availability of labour and housing are identified, and the mitigations proposed are reasonable in the context of the proposal.* |

Comment from Goulburn Mulwaree Council is noted.

**Local Employment**

*The labour force data provided at section 3.2 of the Economic Impact Assessment relies on September 2023 data provided by the Australian Government Small Area Labour Markets. Since this time, there has been a reduction in the unemployment rate for the Goulburn Mulwaree Local Government Area from 3.2% to 2.8% and a reduction in unemployed persons from 530 to 492 to June 2024.*

*There is significant competition for labour within the construction, engineering and trades industries from large scale employers within the local government area. There are four SSD scale extractive industries, and several large scale manufacturing industries that employ in excess of 200 people each. Several local employers have entered into arrangements with the Department of Home Affairs for either skilled migration arrangements or company specific arrangements to address this shortage as they are unable to attract or retain staff due to this competition. It is also worth noting that whilst there are high numbers of construction businesses and employees in the region, these are needed to fulfil housing targets as detailed in the Goulburn Mulwaree Council Urban Fringe Housing Strategy, as well as more broadly the targets set by the NSW Government.*

The unemployment data referenced in the Economic Assessment were the most recent available at the time the report was finalised (which was during early July 2024). Notwithstanding, the EIS noted that based on the outcomes of the Accommodation and Employment Strategy (AES), a target for a base case of 5% local employment is feasible for the Project given the current tight labour market and economic conditions. The local employment target was also tested with Councils and key stakeholders during the engagement undertaken for the AES, and it was agreed that the 5% target could be achievable. It is noted that the study area for the AES included townships within a 1hr drive from the Project Area (such as Goulburn, Yass, Braidwood, Bungendore, Queanbeyan, Crookwell, Mittagong, Moss Vale and Bowral). This is based on the assumption that those townships are most likely to service the Project's local employment requirements due to the maximum daily commute time for workers to safely get to and from their place of work.

The EIS further notes that to meet the base case target of 5% local employment, Lightsource bp and the Project EPC Contractor will adopt the following measures as appropriate to prioritise the employment of local workers where possible and to maximise benefits to the local community:

- Establishment and maintenance of relationships with local contractors and service providers through an EOI Register.
- Advertising Project-related opportunities to the local community through local media, community groups and regional procurement or industry stakeholders.
- Early consultation with local community groups and employment agencies to provide targeted and accessible advertisements and open tenders.

To achieve a moderate (10%) and/or aspirational (20%) local employment target, Lightsource bp and the EPC Contractor will also consider the following additional measures:

- Consult with local employment agencies to facilitate employment of local workers.
- Provide accessible opportunities for First Nations employment and training groups.
- Work with local stakeholders to understand workforce readiness in the area.
- Incorporate additional weighting in tenders and EOIs to prioritise procurement from local companies.

- Provide a shuttle bus service to the site from key population centres such as Yass or Goulburn.
- Provide local training opportunities.
- Provide a dedicated local employment and procurement officer to facilitate relationships with contractors, local workforces and service providers.

| **Cumulative Effects on Employment** |
| --- |
| *Whilst the EIS acknowledges the competing concurrent major projects, there are also additional SSD projects preparing SEARS with an estimated construction workforce of 200–300 that are looking to start construction in 18 months – 2 years, so H1 2026 and H2 2026, that should be reflected in the cumulative effects assessment.* |

In accordance with the *Cumulative Impact Assessment Guidelines for State Significant Projects* (DPHI, 2022c), the cumulative assessment completed for the EIS considered the SSD applications that were public at the time the EIS was finalised. In addition, for some of the SSD applications sufficient detail relating to those projects were not available to inform the cumulative assessment. Where construction timeframes were not known, predictions were made about the likelihood of overlapping construction periods, based on the most current and publicly available information at the time of writing the EIS. This is presented in Section 6.18.2 and Appendix 21 of the EIS. Appendix 21 of the EIS also provides a comprehensive list of all other developments that were considered during the cumulative assessment, with reasoning why these were included or excluded from the assessment. A key consideration for inclusion was the construction timing, duration and also peak construction period for these developments and whether there would be any overlap with the construction period anticipated for Gundary Solar Farm.

At the time of finalising the EIS, it was anticipated that construction for Gundary Solar Farm would commence early 2026 (subject to environmental approvals, licensing and completion of design and procurement processes) and would take approximately 18 to 24 months to complete. Peak construction period was anticipated to be approximately 9 months towards the middle of the construction period. Due to an extended assessment process, it is likely that construction would commence in late 2026 or early 2027. Further delays to this timing may occur due to environmental approvals, licensing and completion of design and procurement processes.

As outlined in Section 6.18.3.6 of the EIS, measures to manage the Project's contribution to the cumulative effects on employment include:

- A Social Impact Management Plan (SIMP) will be developed and implemented for the Project and include measures to address potential cumulative social and economic impacts (both positive and negative) and provide an appropriate platform for Lightsource bp to manage the contribution of the Project to the relevant cumulative issues.
- Monitor and evaluate the effectiveness of the AES, to developed strategies in the lead up to the construction phase of the Project to reflect and respond to actual regional demand conditions at that time, especially in relation to concurrent projects within the Goulburn Mulwaree LGA and neighbouring LGAs. During the Project's pre-construction and construction phases, the AES would be reviewed bi-annually by the EPC Contractor to assess the effectiveness of steps taken to secure sufficient accommodation for the workforce.

**Demographic Data**

*In relation to Section 3.5.2 Township Services – Marulan, this data is understated. The population of Marulan at the 2021 census was 1,428 and the estimated population at 2024 is 1,468. The EIS lists the population at 857 residents. Whilst there is mention of some of the key services, there are also significant employers and major projects as detailed above which are not captured in this summary.*

The comment from Council is noted. Whilst it is acknowledged that the Economic Assessment understated the data for Marulan, it was based on ABS 2023 data available at the time of preparing the report to provide a general understanding and overview of the area's demographics. The Marulan data does not however directly influence the outcomes of the Economic Assessment.

**Accommodation**

*One of the Goulburn Mulwaree LGA's largest social challenges at present is housing availability and affordability. A projected construction workforce accommodation need of 237 workers, at the peak of the project, is likely to place additional strain on the local housing market, which is already subject to housing stress derived from the current cost of living crisis. The EIS notes that from a project perspective, it will be important to ensure commercial accommodation demands don't result in a shortage for tourism purposes.*

*Whilst we agree with this statement, it is also important to note that Council also seek to protect the most vulnerable members of our communities in regard to accommodation.*

*Should there be a reduction in available rental housing, this historically has impacted the lower socioeconomic component of the rental housing market who are unable to afford any uplift in rental prices that come with increased demand.*

*Our local data also indicates that there is insufficient short-term accommodation available on concurrent weekends resulting from large scale sporting events that are held in Goulburn. These events range from state and national sporting events, and motor sports events that attract participants and spectators from around Australia. As this demand consistently occurs all year round, Council would expect that this would impact the ongoing availability of accommodation. These matters will require a complex assessment by DPHI and Council requests the issues be considered.*

The AES completed for the Project reviewed the availability of accommodation and housing across providers located within a 1-hr drive from the Project Area (the Study Area). This included the townships of Goulburn, Yass, Braidwood, Bungendore, Queanbeyan, Crookwell, Mittagong, Moss Vale and Bowral.

The AES recommended the following mix and uptake of available of accommodation for Project workers:

- 30% of available temporary accommodation (hotels, motels, caravan park cabins) – equating to 189 rooms.
- 30% of available Airbnb properties – equating to 124 Airbnb rooms.
- 2.5% of available rental stock – equating to 13 rental properties.

The AES indicated that this allocation of accommodation should be spread across townships within a 1-hour drive from the Project, located in the Wingecarribee, Queanbeyan-Palerang, and Goulburn Mulwaree LGAs.

It is acknowledged that Canberra is located within a 1-hour drive from the Project Area. Due to its proximity to the Project, it may be considered as another option for the surplus demand which may occur during peak cumulative demand periods. This option would only be used following the exhaustion of all NSW options for accommodation and based upon the availability within Canberra itself. It is noted that Canberra experiences fluctuations in availability of accommodation due to key political events and being host to a number of large developments and infrastructure projects.

Lightsource bp is committed to reduce or avoid any upward pressure on housing prices, rental costs and demand that may result from the Project's activities through:

- Where possible, employing local workers already residing in the region to reduce the demand for short-term accommodation.
- Monitoring and evaluating the effectiveness of the AES to assess the effectiveness of steps taken to secure sufficient accommodation for the workforce.

| **Contributions** |
| --- |
| *In accordance with the Goulburn Mulwaree Local Infrastructure Contributions Plan 2021 (LICP), s7.12 contributions apply to the development, however as previously stated the state government has recently introduced the energy framework for benefits sharing rather than the council seeking a straight-out contribution based on the project value. The Applicant has lodged a letter of offer with the Council which was declined by the Council Executive 11 December 2024. The offer is low and likely not consistent with the current guidelines consequently not supported. A revised Letter of offer would be required and endorsed by Council before the application could be determined. These matters will require a complex assessment by DPHI and Council requests the issues be duly considered and that Council is given the opportunity to further comment on the imposition of appropriate conditions.* |

In line with Council's submission and the NSW *Benefit Sharing Guideline* (DPHI, 2024), Lightsource bp has committed to increase the offer in the Voluntary Planning Agreement (VPA) with Council to bring it in line with the $850 per MW per annum for the duration of the Project's operational life (40 years).

### 4.14.6 Decommissioning

| **Life of the Proposal** |
| --- |
| *Clarification is required as to whether the development proposal will be limited to an operational life of 40 years, or if components will be re-purposed with new PV equipment and the proposal will remain on the site indefinitely. Consistency with reports in Appendices is to be ensured, for example, the Soil and Agriculture Assessment indicates temporary impacts in justifying loss to agricultural activity.* |

Should the Project be approved, the development consent for the Project will include standard conditions regarding the cessation of operations, decommissioning and rehabilitation of the Project Area. Should the Proponent seek to extend the life of the Project, this would be subject to a modification application or a new SSD application depending on the duration and scale of the proposed extension.

| Decommissioning |
| --- |
| *Details of the decommissioning of the solar farm at the end of its operational life, or the repurpose of components with new PV equipment (to enable its continuing operation), needs to be clarified in the EIS. If complete decommissioning is proposed, the proposal is required to detail how this will be carried out, to restore the land to its pre-developed state, or demonstrate how the re-purpose process will mitigate against additional adverse environmental impacts.* |

A Decommissioning and Rehabilitation Management Plan (DRMP) for the Project and associated infrastructure will be prepared in advance of decommissioning in consultation with the relevant regulatory authorities. The basis of the plan will be that the Project and associated infrastructure are to be decommissioned in line with the applicable legislative requirements and best practice guidelines existing at that time. Should the Project be approved, the development consent for the Project will include standard conditions regarding the cessation of operations, decommissioning and rehabilitation of the Project Area. Lightsource bp or its contractors will seek to recycle all dismantled and decommissioned infrastructure and equipment, where feasible and practicable. The below general rehabilitation methodology will be applied for the Project at the end of its operational life:

- Any areas excavated during the decommissioning process will be refilled with clean, compatible sub-grade material, compacted and contoured to blend as seamlessly as practicable with the natural landform. Subsequently, topsoil will be reinstated to mirror the density and consistency of the neighbouring terrain.
- Areas which have been compacted by heavy machinery during decommissioning will be restored through ripping and topsoil replenishment and graded to mimic the slope and contour of the natural landscape.
- Areas designated for pasture restoration will be seeded with an agreed-upon mix selected in consultation with landholders and the appropriate regulatory authority, aimed at meeting the approved final land use objectives of the Project.
- To facilitate plant growth, all revegetated areas will be fertilized during seeding and maintained until sufficient coverage is achieved.
- Erosion control measures will be implemented during the decommissioning and rehabilitation phases. This may include but is not limited to:
    - Fencing around newly rehabilitated areas to prevent livestock and pest access.
    - Mulching around newly established vegetated areas.
    - Adequate levelling and contouring of the rehabilitated areas.
- Rehabilitation performance criteria will be established in the DRMP and will address any relevant requirements of the development consent. However, it is anticipated that these criteria will, as a minimum, provide that the land impacted by the Project:
    - Is safe, stable, and non-polluting.
    - Is free draining.

- Is free from any physical hazards that could endanger people or wildlife, e.g., by removal of infrastructure, and covering of foundation pads with soil.
- Meets the specified LSC classification, being either consistent with the LSC prior to operations, or as otherwise specified within the development consent.
- For agricultural land, is restored to the appropriate LSC for agricultural suitability consistent with the determined final land use, e.g., grazing.

### 4.14.7 Agriculture

| Agrisolar |
| --- |
| *The EIS indicates that current agricultural use will cease within the project area, and, once construction is complete, the dual use of the land for agricultural being sheep grazing purposes, may be used to offset loss of agricultural production. Additionally, the Soil and Agriculture Assessment indicates that following a construction period of approximately one year, subject to the approval of project stakeholders, the proponent anticipates the implementation of agrisolar, the integration of solar panels and livestock grazing. If the project area is intended to also be utilised for sheep grazing, this requires further investigation to refine the development proposal, and to accurately quantify impacts on agricultural activity. Concurrent grazing of sheep would offer co-use benefits and weed management options without the need for regular spraying. Reducing grass down would likely reduce the risk of a bush fire impacting the facility. If concurrent grazing of sheep does not occur, is it reasonable to remove 700ha of land from agricultural use for such a long period of time. These matters will require a complex assessment by DPHI and Council requests the issues be considered.* |

The comment from Council regarding the benefits of agrisolar is noted. Lightsource bp is currently implementing agrisolar on one of their other sites and have recently done an investigation into the potential benefits. The full article is available at this link: https://lightsourcebp.com/nz/news/wool-quality-and-sustainability-insights-from-lightsource-bps-wellington-solar-farm/.

The Gundary Solar Farm has been designed with agrisolar in mind, and whilst Lightsource bp will endeavour to implement agrisolar on the site once its operational, this will be subject to ongoing discussions with the landholder and other sheep grazers in the area.

### 4.14.8 Visual

| Landscape Screening |
| --- |
| *The scenic qualities of the rural landscape and the views of Gundary Plains are an important characteristic for local community. Following the initial consultation period some changes were made to the proposal to mitigate impacts including:*<br>• *Removal of approximately 50 ha of solar arrays in the north-west corner of the Project Area to reduce visual and noise impacts.*<br>• *Relocation of the centralised BESS approximately 1.2 km to the east, away from sensitive receivers on the north-west.*<br>• *Removal of 20 decentralised BESS units located nearest to sensitive receivers.* |

**Landscape Screening**

- *Further refinement of solar arrays to avoid impacts specifically to Eucalyptus macarthurii.*
- *Strategically located noise attenuation (noise barriers) around loudest project infrastructure.*
- *Strategically located landscape screening.*

*The planting proposed is a minimum to address views to the site. Ongoing maintenance for these areas will be of importance to ensure the success of the plantings.*

*Given the degraded nature of the site due to past land uses, it would behove the project to increase the proposed planted areas, as a community benefit. Additional planted areas should be included utilising local native species for biodiversity benefit. As the watercourses and ridgetops are not developed in the proposal these are the ideal locations for regeneration of the natural environment by the use of local native species. The plant list in the Landscape Plan is a good start. These matters will require a complex assessment by DPHI and Council requests the issues be duly considered.*

Planting of local native species have been proposed as part of the landscape plan as outlined in Section 6.8.5 of the EIS. Should the Project be approved, a maintenance plan would be prepared for proposed landscaping that includes:

- defined initial establishment period (minimum of 12 months)
- schedule for monitoring planting areas and watering during the establishment period
- ongoing maintenance practices during and post establishment (such as a weeding/mulching regime)
- guidance for replacement planting (for plants that fail to thrive).

In addition to landscape screening proposed in the EIS, the Project would furthermore focus on habitat restoration efforts along the stream banks of Gundary Creek and or Bullamalito Creek to provide remediation action along the creek lines, build connectivity, and restore habitat features for these riparian zones.

### 4.14.9 Biodiversity

**Improving Biodiversity Values within the Project Area**

*The Biodiversity Assessment Method specifies that the biodiversity hierarchy of avoid - minimise – mitigate should be applied when designing projects that may impact on biodiversity values, and the EIS report states that the project has been strategically designed to avoid and/or minimise impacts on biodiversity where practicable. However, while the proposal does demonstrate avoid and minimise, it is lacking in proposing any strong positive measures to mitigate impacts on biodiversity. There has been almost no attempt to mitigate impacts by considering measures to restore, enhance or create habitat. The proposal includes the following stated "control measures":*

- *Workforce education and training*
- *Implementation of vegetation protection zones*
- *Ecologist pre-clearance surveys and supervision of works*
- *Erosion and sediment control measures*

**Improving Biodiversity Values within the Project Area**

- *Weed management*
- *Fencing*
- *Access control and fauna exclusion measures*

*These are all measures that will help to reduce potential impacts on existing biodiversity, but do not constitute positive actions to restore and enhance biodiversity values. The EIS states that: "the Project will require the disturbance of approximately 14.02ha native vegetation, consisting of native pasture, low condition primary grassland and paddock trees, from within the 702ha of the Project Area." It is disappointing therefore that the proponent has not taken the opportunity to undertake some active planning for provision of revegetation of the site to create significant new habitat and provide landscape connectivity to mitigate the loss of 14ha of native vegetation, including trees. The use of landscaping and planting of vegetation screening is presented only as a potential mitigation measure for visual impacts and a draft landscape plan is provided in Figure 6.13. This is restricted to relatively minor plantings of only five metres wide, in relatively small areas of the site.*

*Following consultation with Goulburn Mulwaree Council, the proposed landscape plan has incorporated suitable native plants that will help with improving biodiversity values, but the areas to be planted are relatively minor, and as noted, the stated intent is only to address potential impacts on amenity visual impacts and not to mitigate loss of biodiversity resulting from the project. This matter will require a complex assessment by DPHI and Council requests the issues be considered.*

Additional habitat restoration efforts will be employed for the Project along the stream banks of Gundary Creek and or Bullamalito Creek to act as a remediation action for the creek lines, build connectivity, and restore habitat features for these riparian zones.

**Temporary Laydown Areas**

*The EIS mentions that there will be construction laydown areas distributed throughout the site suitable for temporarily storing plant and equipment, these areas will be compacted road base and regenerated to previous condition afterwards. However, the laydown areas do not appear to be identified on the BDAR plans, therefore are they in the included survey area which appears to be the solar farm footprint or are they outside of the BDAR survey footprint.*

It is confirmed that the temporary construction laydown areas identified throughout the Project Area have been included in the overall development footprint and Subject Land that was surveyed and assessed in the BDAR. Therefore, all areas that would be temporarily disturbed during the construction phase of the Project have been assessed in the BDAR survey footprint.

## 4.14.10 Traffic and Transport

**Construction Traffic Generation and Distribution**

*Council's preference is for heavy vehicle haulage to occur via proposed Option 2, South Goulburn interchange / Garroorigong Road / Sloane Street to Braidwood Road, has been adopted for OSOM vehicles and general haulage, rather than Option 1 (North Goulburn interchange / Sydney Road / Lagoon Street / Union Street / Reynolds Street / Grafton Street / Sloane Street to Braidwood Road) which conflicts with school precincts and the CBD. The preferred transport route is a combination of State and local roads. General construction traffic will comprise –*

- *semi-trailers (19m) for the delivery of solar panels and associated components within shipping containers;*
- *heavy rigid vehicles (HRV 12.5m) or truck and dogs for delivery of materials such as gravel and building materials;*
- *agitators (concrete trucks; and*
- *vans and utilities.*

*Five (5) oversize and/or overmass (OSOM) vehicle trips will be required to transport battery and sub-station components to the project site. The courier is required to obtain a permit from the National Heavy Vehicle Regulator for these trips. The potential OSOM vehicles to be used will be low loader trailers with an overall vehicle length ranging between 30-50 metres.*

*Swept path analyses have been provided that confirm that vehicles can conduct satisfactory manoeuvres along the transport route, subject to minor alterations to signposting and kerbs at the Braidwood Road / Bungonia Road intersection and the use of traffic controllers at the intersection of Sloane Street / Braidwood Road (to facilitate use of the opposing traffic lane).*

*It has been confirmed that Lansdowne Bridge on Bungonia Road can accept the load of the OSOM vehicles subject to a crossing speed of 10 kph. Delivery of oversize and/or overmass (OSOM) and any heavy vehicle or single unit truck movements should be restricted to occur outside school bus hours and school drop off times in consultation with the local bus company.*

*Construction would be expected to occur over a period of 18 to 24 months with a peak construction period of approximately 9 months.*

*The report indicates that the majority of workers will be sourced remotely. To reduce vehicle movements the traffic report recommends the use of shuttle buses to pick up workers from accommodation bases. The estimated daily two-way traffic generation of the Project during 'peak' construction is shown in Table 4.1 of the Traffic Report and is summarised below – Traffic Generation by Vehicle Type Trips per Day (2 Way) Light Vehicles 250 Shuttle Buses 60 Heavy Vehicles 90 Single Unit Trucks 50 TOTAL 450.*

*The Traffic Report indicates that the roads and intersections along the haulage route have sufficient capacity to accept the proposed construction traffic without reducing their Level of Service.*

*No values are given for outside of the peak period. The above values assume 80% of the 250 workers will arrive by shuttle bus.*

*Details confirming this assumption including options available to accommodate the workers for a shuttle bus arrangement to work effectively is required to be demonstrated.*

Council's comment regarding the preference for heavy vehicle haulage to occur via proposed Option 2 is noted. Option 2 is proposed to be the primary transport route for the construction traffic from the Hume Highway to the Project. Should construction traffic need to use Option 1 during the construction phase, the EIS includes a commitment that no Project related construction traffic (heavy vehicles) will be using Option 1 during school zone hours of operation (8:00 am–9:30 am and 2:30 pm–4:00 pm on school days). Prior to the commencement of construction, a Construction Traffic Management Plan (CTMP) would be prepared in accordance with relevant guidelines and in consultation with TfNSW, Goulburn Mulwaree Council and any other relevant stakeholders. The CTMP would outline how construction activities would avoid, mitigate and manage risks involving construction activities, users of the traffic and transport network and residents.

An updated Traffic Impact Assessment (TIA) has been prepared for the Project and is provided in Appendix 5. The updated TIA provides further detail regarding the origin of workforce movements (including shuttlebuses) which is based on the findings of the Accommodation and Employment Strategy (AES) which was completed in support of the EIS (refer to Appendix 18 of the EIS).

As detailed further in Section 4 of the updated TIA report, shuttle buses will transport workers from accommodation locations outside of the Goulburn-Mulwaree LGA to and from the Project. **Table 4.3** provides a breakdown of the % of the workforce to be accommodated in the region. Workers within the Goulburn-Mulwaree LGA are likely to use private vehicles to access the Project.

**Table 4.3 Workforce Accommodation Locations**

| Locality (LGA) | % Accommodated within Region | Number of Workers |
|---|---|---|
| Local (Gundary and immediate surrounds) | 5% | 13 |
| Goulburn-Mulwaree | 17% | 42 |
| Upper Lachlan | 11% | 27 |
| Wingecarribee | 38% | 96 |
| Yass Valley | 6% | 15 |
| Queanbeyan – Palerang | 23% | 57 |

| Road Pavement |
|---|
| *The heavy vehicle component will increase the likelihood of road pavement damage and it is recommended that either road maintenance contributions be sought for the local roads used as part of the haulage route in accordance with Council's adopted plan or that the proponent enter into an agreement to undertake a preliminary dilapidation report on the roads and agree to upgrade to the required standard and repair any accelerated damage. A detailed pavement analysis will be required by Council for local roads prior to any works commencing to establish the life and condition.* |

Dilapidation surveys covering pavement, drainage, and bridge structures will be undertaken in consultation with TfNSW and Council for the proposed transport routes before and after construction. Regular inspections and consultation with Council and Lightsource bp will be undertaken. Any damage resulting from construction traffic, excluding normal wear and tear, will be repaired.

| Operational Traffic Generation |
| --- |
| *Once operational the permanent operations staff and maintenance personnel would generate 10 light vehicle trips (2 way) per day. Hence, very little impact on the traffic route.* |

Comment from Council is noted.

| Project Access |
| --- |
| *Access to the development is proposed by an upgraded entry at the existing property entrance, 961 Windellama Road. As the majority of traffic during the construction and operational phases of the project will be to and from Goulburn a Basic Left Turn (BAL) treatment is proposed and is considered appropriate. Safe Intersection Sight Distance (SISD) is available on each approach to the entry point. It is proposed to construct the upgraded entry at the commencement of the project to facilitate heavy vehicle turning movements.*<br><br>*A Section 138 Roads Act 1993 application with accompanying design plans is required to be lodged with Council as the Road Authority for assessment prior to commencement of construction.*<br><br>*An emergency access is proposed to Kooringaroo Road at an existing rural property entrance.* |

A Section 138 application with accompanying design plans will be lodged with Council as the Road Authority for assessment prior to commencement of construction.

# 5.0 Response to Public Submissions

As outlined in **Section 2.0**, a total of 149 individual public submissions and 11 stakeholder group submissions were received during the EIS exhibition period. In accordance with the Submissions Report Guideline (DPHI, 2024) multiple submissions from the same group or person were counted as one submission.

A response to the key issues raised in these submissions is included in the following sections, grouped by theme as per the categorisation provided in **Section 2.2** using the categories recommended by the Submissions Report Guideline (DPHI, 2024).

Several of the public submissions received were similar or had consistent themes. Where this is the case, the theme of the concern has been provided in bold in the text boxes below with some examples of specific quotes from the submissions provided in normal type to assist the reader. Specific issues, that is, where an issue was raised only once have also been addressed. A Submissions Register is provided in **Appendix 1** to provide a cross reference to each submission received.

## 5.1 Economic, Environmental and Social Impacts

### 5.1.1 Socio-Economic

| **Property Devaluation** |
|---|
| *My experience is that when landholdings are relatively small and land values are well above agricultural values, concerns about economic and amenity impacts are widely held and well founded. S-78590707* |
| *Realestate Agent and property valuer provided a valuation in November 2022 and estimated a reduction of 32% in value as a result of the solar farm. This was before the extent of the solar project and its proximity to our house was known. S-78430719* |
| *The fact is that property values have declined for people. It is not right that a set of individuals should have to pay such a significant, to them, price for this project. Compensate them properly and a degree of the opposition will subside. S-78306956* |
| *There is already clear evidence of property devaluation in the area as a result of the proposed development, with some properties seeing value decreases of more than 30%. The inability to sell properties near the proposed site has become a tangible and serious concern for many homeowners. S-78311956* |
| *When the Gundary Solar Farm was first proposed we were and remain horrified, to the extent we looked at selling our property, however the valuation has dropped significantly circa -30% with no buyers keen to invest due to the proposed Solar Farm. S-78371994* |
| *Property Values are barely mentioned in the EIS and this is a big problem for many of us.<br>Several properties have been unable to sell due to the proposed Solar Factory, and one was sold at a massive 36% loss. S-78451981* |

| Property Devaluation |
| --- |
| *The large number of people living around the proposed solar factory site have been advised by qualified Real Estate agents that their properties will be devalued from 20-30%. Lightsource have not acknowledged this to date and any compensation offered to the very small number of neighbours visited by Lightsource BP to discuss compensation is an insult and by no means in line with real estate devaluation levels. S-78452004*<br><br>*One resident in particular has had her property on the market for over two years and still cannot sell. S-78454207*<br><br>*Residents face up to a 20% decrease in property values, unfairly placing the financial burden of this project on the local community. This loss undermines years of investment. S-78557207*<br><br>*The value of our property dropped drastically the minute news emerged about this project, and since it has dragged on and on. S-78567724*<br><br>*There is currently no statistics on the value lost to those living in the vicinity of large scale renewable projects such as this but some of the local real estate agents estimate that the loss would be anywhere from 10-50% depending on the proximity. That would be an astronomical loss for so many living near this proposed site. S-78597710*<br><br>*There is a significant impact on residents that cannot be resolved by compensation payments. Land values will plunge, the constant vicinity to the panels is not peaceful. The stress/mental health pressures upon residents has already caused significant issues and if the project were approved it would increase drastically. S-78601956* |

It is recognised by the renewable energy industry nationwide that neighbouring landholders to renewable energy projects have recurring concerns regarding the potential impact on their property values (Commonwealth of Australia, 2021). Whilst there is no methodical research in Australia on the impacts of solar farms on property values, international evidence suggests that property value impacts are minimal. Section 4.3.2 of the Social Impact Assessment (SIA) noted that several international studies have been completed in recent years on property prices on land surrounding solar farms and wind farms. These studies indicate that while there is insufficient data to have a conclusive answer, solar farms and wind farms are unlikely to negatively impact on the value of surrounding land in an agricultural setting.

A 2016 Urbis study commissioned by the NSW Office of Environment and Heritage had similar findings and states that for rural properties used for primary production, there is no direct loss of productivity resulting from solar farms or wind farms; therefore, they are unlikely to negatively impact the value of such properties. Likewise, a review of property resale analysis indicated that all of the properties examined demonstrated capital growth that aligned with the broader property market of the time (Urbis, 2016).

It is further noted that a wide range of factors (unrelated to solar farm) can affect property values over time, such as the individual property, demand and supply, utility, scarcity, and transferability. In line with this, the ABS Regional Internal Migration Estimates suggests that regional areas across NSW, including the Goulburn locality, have been seen as popular “tree-change” opportunities for those leaving major cities during the COVID-19 pandemic. Migration patterns such as this may also contribute to property and rental price fluctuations due to low rates of housing availability.

The potential impact of the Project to property values is discussed in Section 6.14 of the EIS and Appendix 18 in the context of a potential impact to the livelihoods of proximal landholders. The SIA noted that during April 2022 and May 2024, approximately 14 properties proximal to the Project have been sold. These are located on Cummins Close, Kooringaroo Road, Mclaughlin Rd, Mountain Ash Road, Shaws Creek Road, and Windellama Road. Properties ranged from less than 1 hectare to 144 hectares, with a median sale price of $910,000, as prices ranged from $4,313 to $2,850,000 (Average sale price $1,430,122.36) (NSW Valuer General, 2024).

The NSW Valuer General outlines that the Goulburn Mulwaree LGA experienced a moderate increase in property prices between July 2022 and July 2023. Market drivers supporting this increase include the proximity of the local government area to Sydney and Canberra, the ongoing local economic growth and affordability of residential properties located within the Council's villages. This increase was not consistent across all sectors, with the commercial and industrial sectors experiencing a stronger increase and the rural sector remaining steady (NSW Valuer General, 2023). It is further noted there was strong decrease in the demand for large sized primary production zoned properties within the LGA, whereas the demand for small to medium sized primary production zoned properties were higher.

The SIA concluded that whilst it is possible that the Project could impact property prices, the impact would be more specific to those properties located in closer proximity to the Project. As highlighted throughout the EIS, Lightsource bp has implemented design changes to reduce the visual and noise impacts of the Project. It is also acknowledged that the NSW Government has noted that further information and analysis is needed to respond appropriately and is undertaking further analysis in consultation with the Australian Energy Infrastructure Commissioner, NSW Agriculture Commissioner and the Clean Energy Council.

In addition, the Clean Energy Council recently released a fact sheet responding to Frequently Asked Questions (FAQs) relating to property values and insurance policies (Clean Energy Council, 2025a). In short, the fact sheet notes that:

- Impacts of large-scale renewable energy projects are small and temporary, generally limited to the construction phase. Any negative effects typically recover within 3 to 5 years after operation begins, and some areas even see increased property values due to improved local infrastructure and economic growth (Bellrock, 2023).
- Large-scale projects can boost local economies and infrastructure, potentially increasing property values in the broader area (Bellrock, 2023). During the operational phase, the land hosting renewable energy often recovers from grazing and cropping, leading to increases in soil and biodiversity values, which can increase property values. Landholders who host renewable energy projects have also spoken about it eliminating the need to sub-divide their land in retirement as it provides ongoing non-farming income.

| **Impacts on Community and Lifestyle** |
| --- |
| *The effect on the livelihoods of over 80 families. S-78303212*<br>*Up to 60 residents and landholders could be impacted by this development. S-78590707*<br>*It will diminish the enjoyment of our property and disrupt the peaceful environment that brought us here in the first place. S-78304993* |

| Impacts on Community and Lifestyle |
| --- |
| *It is a project that characterises poor planning, disregard to community needs and local voices, and threatens to devastate the prime agricultural land and environment of the Gundary Plains. S-78525743* |
| *If the Gundary Solar Factory and the Merino Solar Factory go ahead, they will destroy many people's lives. Every reason we have chosen to live where we do will be destroyed and at no fault of our own. S-78521738* |
| *Keep this out of Gundary and rural NSW. We don't want them. They will destroy our small communities, businesses, homes and ways of life. S-78521848* |
| *No real thought nor care has gone into the proposal to the point that it appears to had been devised with no real concern to the residents, the farmers and overall lifestyle opportunities and conditions we enjoy both locally and within the Goulburn City environment - which attracted us to invest and live out our lives here. There has been no duty of care from the developers taking into our concerns in relation to the impacts to our lifestyle nor future. S-78371993* |
| *Permanently undermine the peaceful, rural environment we cherish. S-78451460* |
| *The proposed site for the solar farm primarily consists of hobby farms, where residents cherish a peaceful and scenic lifestyle. These properties, located close to town, offer a quiet living environment. The planned solar farm would disrupt this tranquillity, fundamentally changing how families experience their homes and the community. The introduction of solar farms may also disrupt the tranquillity of our rural community affecting the peace that many residents value. This disruption is significant and impacts the reason many of us chose to live here. S-78464722* |
| *Given the irreversible damage to community wellbeing, this project should not proceed in its current form. S-78593206* |
| *Why are rural communities being destroyed in order to power NSW? Rural communities did not ask for this, so we should not have to accommodate such projects. S-78527985* |

As stated in **Section 4.14.2.2**, the SIA undertaken for the Project were prepared in accordance with the NSW Government guidelines and assessment standards including, but not limited to, the SIA Guidelines, the Engagement Guidelines and the SEARs.

Engagement is a key component of a SIA program, which affords opportunities to effectively identify, integrate and address social impacts within the Project planning, design and assessment phases.
As discussed in **Section 3.1**, Lightsource bp has been consulting with local stakeholders since 2022, building a presence in the region through meetings with local landowners, neighbouring property owners, Councils, local service providers and relevant Government agencies. In addition, independent consultation lead by the Umwelt Social team was undertaken in two phases for the Project, during mid-2022 and late 2022 to early 2024, that consulted a number of stakeholder groups to inform the development of the SIA.
This allowed for community engagement to be undertaken during two key stages of the assessment process; during the Project design phase to allow for scoping of key concerns and impacts, and during the draft environmental assessment to inform the technical studies and appropriate strategies to seek to further avoid or minimise / manage the environment and community impacts.

Concerns and feedback relating to the Project identified throughout the engagement process, have been considered by Lightsource bp and used to inform the refinement of the Project design and the development of the EIS including the proposed management and mitigation measures. The SIA provides a consolidation of community consultation outcomes which have informed the assessment and evaluation of Project-related social impacts and opportunities, and social impact management planning.

The SIA considered impacts to a number of key social impact categories, such as:

- Community and way of life.
- Livelihoods.
- Decision making systems.
- Surroundings.
- Accessibility.
- Health and wellbeing.
- Culture.

There is the potential for the Project to result in community conflict, due to differing opinions in relation to renewable energy development and potential Project impacts. This impact is likely compounded by the large number of renewable energy projects currently in the planning phase or being developed across NSW, and perceived issues relating to distributive equity of the negative and positive impacts of the Project. The SIA has identified that any negative social impacts of the Project can be mitigated or managed to reduce their significance, with positive impacts enhanced if appropriate measures are put in place.

The SIA noted that residual social impacts associated with the Project that are considered significant (i.e. high impact significance rating) include:

- Change in sense of place due to loss of visual amenity as a result of industrialisation of the landscape and the loss of agricultural nature of land for proximal landholders with a view of the Project.
- Generation of local employment and procurement opportunities for local businesses.
- Improved social capital for local community infrastructure and initiatives associated with community benefit sharing programs i.e. VPA.
- Intergenerational equity and improved liveability due to contribution of the Project to renewable energy generation.
- Stress and anxiety associated with the Project and uncertainty of the Project assessment process, also due to cumulative impact of concurrent project development within the locality.
- Heightened levels of community outrage associated with perceived inability to inform Project planning and decision-making processes.

Social impact management planning is a key consideration of SIA and ensures that the impacts identified through the SIA process, and through community consultation activities, are managed effectively across the life cycle of the development (Franks & Vanclay, 2013).

As highlighted throughout the EIS, Lightsource bp has committed to a range of management and mitigation measures and enhancement approaches to address impacts.

This has included:

- Extensive refinement of the Project layout and design to reduce amenity impacts as detailed in Section 1.5 of the EIS.
- Regular updates and ongoing engagement with the community, including proximal landholders as detailed in Section 5.0 of the EIS.
- A suite of management plans to be prepared should the Project be approved, to effectively construct and operate the solar farm as detailed in Section 7.0 of the EIS.

Further to this, Lightsource bp has proposed several mitigation and enhancement approaches to address social impacts through the implementation of a Community Benefit Sharing Program, including:

- Neighbourhood Benefit Sharing Program – targeted at delivering benefits to neighbours within 1 km from the Project Area boundary and those most directly impacted by Project.
- Community Enhancement Fund – focused on delivering economic support for local organisations and community events.
- Planning Agreement with Council.

**Minimal Community Benefits**

*The Goulburn Group supports the construction of the Gundary solar farm but only on the condition that it provides significant and tangible benefits for the local community. S-78340464*

*CE4G supports the construction of a solar farm in the Gundary plains by Lightsource bp but subject to a number of conditions: We believe the project can and should contribute to a benefit sharing fund at a much higher rate. The current proposed financial contribution to benefit sharing is grossly inadequate. S-78528978*

*The economic benefits touted by the proponents are short-term and heavily reliant on present government incentives to subsidise the investment. While I acknowledge that there will be an initial inflow of jobs and investment during construction, these are temporary 'sugar hits' that offer little in terms of sustained economic growth for the community. Once construction is complete, the ongoing economic benefit to the local community will be minimal. The long-term economic impact will be borne by the community. S-78525743*

*I do not believe sufficient attention has been given to the Community Benefit Fund. Page 37 of Appendix 19 states an allocation of $250,000 as a one-off payment. I believe this falls short when compared with other similar projects such as the Winterbourne wind farm in New England who have committed to pay $1 million to a Community Benefit Fund at the start of construction and $750,000 per annum thereafter based on a 600 megawatt development. S-78353231*

*No community benefits program. S-78529217*

*They have no interest or intent to filter back into the Goulburn community. S-78533486*

*This project offers very little benefit to our local community. S-78547711*

*They are trying to purchase 'future favor' through offering untimed, unqualified, and unquantifiable direct and indirect community benefits. S-78559747*

*There has only been vague promises of compensation or 'community benefits'. S-78623958*

As outlined in Section 2.7 of the EIS, Lightsource bp has developed a Neighbourhood Benefit Sharing Program as part of the EIS phase to ensure those residents living closest to the Project can share in the direct financial benefits. The Program is set to commence should the Project be approved, and construction commences. Under the Program, residents within 1 km of the Project boundary will be eligible to participate in the Construction Neighbourhood Benefit Sharing Program. Residents within 500 m of the Project boundary will be eligible to participate in both the Construction and the Operation Neighbourhood Benefit Sharing Program. The Program has been benchmarked against industry standards and considers the nature of the landscape surrounding the Project.

Furthermore, in line with Council's submission and the *NSW Benefit Sharing Guideline* (DPHI, 2024), Lightsource bp has committed to increase the community benefit scheme for the Project, to bring it in line with the $850 per MW per annum for the duration of the Project's operational life (40 years). Lightsource bp has been in discussions with Council about the updated VPA offer.

This has resulted in an increase to the offer in the Neighbourhood Benefit Sharing Program. Lightsource bp has been discussing the updated offer with eligible residents during the preparation of this Submissions Report.

It is noted that following initial discussions with the Goulburn Mulwaree Council and proximal landholders, it was expressed that the Community Benefit Fund should be directed specifically towards nearby residents. Lightsource bp has therefore developed the Neighbourhood Benefit Sharing Program, as a tailored initiative for the Project and not commonly implemented within the solar industry.

**Mental Health Impacts**

*The constant noise, increased traffic, and disruption during construction, combined with the permanent alteration of the landscape, may lead to heightened stress levels and mental health concerns. S-77919962*

*The deterioration of the peaceful, rural environment we once enjoyed, combined with the fear for our safety and financial stability, has created a constant source of worry that affects not only myself but also my family. S-77920216*

*The developer's actions have already caused significant mental health distress within the Gundary Plains community. The proposal has created an atmosphere of uncertainty and anxiety among residents…with some residents expressing feelings of helplessness and powerlessness. S-78311956*

*Have British petroleum thought about the mental health of the residents living around this proposed project? Stress, anxiety and frequent fear of the outcome are causing sleep problems and irritability. S-78436460*

*It is well-documented that environmental changes of this nature can lead to negative psychological effects, and I am concerned about the long-term impact on my well-being. S-78445712*

*The stress and anxiety caused by the prospect of living near a massive industrial development has taken a serious toll on my family's mental health. The constant worry about our safety, property value, and the long-term effects on our environment is creating a significant psychological burden that affects our overall wellbeing. This level of stress is neither fair nor acceptable. S-78451460*

*An individual considered ending their life, what support has been forthcoming. Mental health is brushed over in the EIS as though it does not exist. S-78472457*

*Diagnosis of depression and anxiety as well as suicide have occurred in many of the bordering neighbours of this project. S-78503981*

**Mental Health Impacts**

*There has been and continues to be extreme mental health issues being experienced by many badly affected landowners. BP classify this mental health as 'stress and anxiety' and therefore has no desire to accept what its proposal is doing to peoples' lives and livelihoods. S-78515226*

*The project has caused widespread anxiety and stress. S-78557207*

The EIS acknowledged that mental health has been raised as a growing concern for the community during the community engagement program. The assessment process, with its defined phases, can be drawn out. Communities are often exposed to assessment and decision-making processes that are lengthy and protracted, extending over many years which can cause uncertainty for concerned community members, and therefore impact more on mental health.

Lightsource bp has been engaging with the local community since April 2022 in relation to the Project, seeking to build relationships and understand stakeholder perspectives and needs in the region through meetings with proximal and neighbouring landholders, community / interest groups, service providers, Aboriginal stakeholder groups, Goulburn Mulwaree Council and relevant local, state and Federal government agencies. This ongoing engagement has resulted in significant changes to the Project design, as outlined in Section 1.5 of the EIS, and has assisted in development of management and mitigation measures proposed for the Project. In addition, engagement has been undertaken with the broader community, neighbouring Councils, functional stakeholders (e.g. education, accommodation and employment providers), businesses and various non-government organisations and interest groups. This engagement has further informed the design of the Project and has been ongoing throughout the assessment process, and if the Project is approved, the engagement will be ongoing during the life of the Project.

**Limited Local Employment and Training Opportunities**

*There are inadequate levels of local community employment forecast - both during and following construction. There are no mandated numbers of local employment, which means the measly 5% target will simply not be enforced or reached. S-78529217*

*There will not be 400 jobs for the people of Goulburn. According to the EIS, at most there will be only 12.5 local jobs during the peak period of construction. S-78597720*

*Solar power plants consist of complex specialized equipment, requiring highly skilled technical specialists to install and maintain it. In analogy to setting up a fuel station, such teams of specialists travel around the country to set up solar power plants. There is no local work force involved. Maintenance and breakdowns are dealt with by another team of specialists again. It is way more economic to have such teams travelling around to fix such issues. S-78604472*

*An estimated 12.5 long-term jobs are estimated for the project, along with $250,000 of funding over the lifetime of the development for the local community. This is incredibly underwhelming considering the project size. S-78606956*

*This submission supports the construction of the Gundary solar farm but only on the condition that it. Offering at least half the jobs during construction and operation to local employees. S-78340464*

*Community Energy 4 Goulburn supports [Gundary Solar Farm] subject to…a commitment from the developers to employ local people and local businesses on the project wherever possible. S-78528978*

| Limited Local Employment and Training Opportunities |
| --- |
| *Some points of interest in the EIS are… "Support the local regional economy by preferencing local workers and businesses in the development, construction, and operation of the Project" The Provided EIS states only "6 FTE jobs for the local community" during operations. (as quoted in table ES.1) Although on page 5 table 1.3 only four jobs are predicted. Whether lies or a typo it is clearly a failure to meet a key objective of the project. S-78462460*<br><br>*Lack of long-term jobs – Construction workers are generally transient & very short lived - there may be only a few long-term jobs for the region. S-78494549*<br><br>*The Scoping Document claims an additional 400 jobs during the construction phase and two to four permanent staff during the operational phase. Very few of these jobs will come from the local Goulburn Mulwaree area. The EIS estimates only 12.5 jobs will be filled from the local area. S-78501972*<br><br>*Based on their Scoping Report, Goulburn would be lucky to get 87 jobs during the 9 Month peak period of construction. S-78515226*<br><br>*There are inadequate levels of local community employment forecast - both during and following construction. There are no mandated numbers of local employment, which means the measly 5% target will simply not be enforced or reached. S-78529217*<br><br>*Most of the employment and leadership roles will be internal rather than external Australian local people. S-78559747*<br><br>*Having lived in the area for a long time, I have encountered numerous crews who have been employed to build windfarms within the shire. In my experience, these crews are made up of either foreign working visa holders, or persons who are not local area residents. Once the project is complete, they leave, and make no further contribution to the town. S-78604469*<br><br>*An estimated 12.5 long-term jobs are estimated for the project. This is incredibly underwhelming considering the project size. S-78606956*<br><br>*The four employees will do little to bolster local employment opportunities. S-78623714*<br><br>*The Goulburn Group supports the construction of the Gundary solar farm but only on the condition that it provides significant and tangible benefits for the local community. It asks the NSW government to require the developer, Lightsource bp, to make specific commitments to: Offering at least half the jobs during construction and operation to local employees, training program for a significant number of students and linked to employment on the project, preference to hiring local businesses and to local suppliers. S-78340464* |

#### 5.1.1.1 Construction Employment Opportunities

The local employment target of 5% that is proposed for the construction phase of the Project is based on the findings of the Accommodation and Employment Strategy (AES) that was completed as part of the EIS. The AES found that the current employment and labour market of towns within a 1-hour to 1.5-hour drive from the Project (referred to as the social locality) represents a tight labour market with low and declining unemployment. This is due to a range of factors:

- During stakeholder consultation, it was highlighted that local industries are struggling to fulfill workforce needs and therefore have been looking at sourcing skilled migrant workforces to meet current or existing employment needs.
- There is a low proportion of females employed as electricians and labourers in the social locality.

- There are limited training facilities and courses available at TAFEs within the social locality.
- Stakeholder consultation highlighted significant skills drain from the area, with local trade and construction workers delivering services in Canberra and other areas of Regional NSW. This skills drain is reportedly driven by the significant number of projects and the greater economic value of projects on offer in Canberra and other areas of Regional NSW.

The AES concluded that it is unlikely that a significant proportion of the workforce will be able to be sourced locally given current workforce constraints. As a result, the AES considered three local employment targets:

- Base case (5%).
- Moderate (10%).
- Aspirational (20%).

The Base case scenario (5%) has been developed as local employment target for the Project, equivalent to 13 FTEs. When tested with local Councils and key stakeholders, it was agreed that a 5% local procurement target could be achievable based on current economic conditions.

Lightsource bp is committed to prioritise the employment of local workers and to maximise the benefit to the local community through. Should the Project be approved, the AES will be reviewed and updated to confirm measures to prioritise the employment of local workers and the procurement of local businesses for the construction and operation of the Project.

#### 5.1.1.2 Operational Employment Opportunities

Section 6.15.2.1 of the EIS noted that, once operational, 14 full time equivalent (FTE) jobs will be supported nationally by the Project (consisting of 4 direct and 10 indirect FTE jobs). Of this total, the Study Area is expected to benefit 6 FTE ongoing jobs associated with the Project.

#### 5.1.1.3 Other Economic Outcomes for the Local Region

The Economic Assessment completed for the Project (refer to Appendix 19 of the EIS) further indicated that the Project is expected to generate the following direct and indirect economic outcomes for the local region:

- A capital investment of approximately $650 million of which approximately $98 million will be retained in the local region during construction.
- Construction workers relocating to the region would be expected to inject a further approximate $11 million (2024 AUD) in new spending into the economy over the construction phase, supporting approximately 28 FTE jobs in the service sector in the region over this time.
- Ongoing economic stimulus of approximately $114 million over 40 years (CPI adjusted) relating to operational wage stimulus, community/neighbour payments, increased Council land tax returns.

| Increased Insurance Policies / Public Liability Insurance |
| --- |
| *The presence of a large solar farm in close proximity to residential properties may lead to increased insurance costs for homeowners some insurance providers may refuse coverage or impose higher excesses due to perceived risks associated with living near large-scale solar developments. It is unreasonable to expect local residents to bear the increased costs and stress associated with heightened insurance premiums. S-77919962*<br><br>*Residents have been informed by insurance companies that our insurance premiums and policies will likely increase as a result of the increased fire risk and public liability issues associated with the solar farm…insurers may classify the area as high risk. This will not only increase costs for residents but could also result in difficulties obtaining adequate coverage. S-77920216*<br><br>*Solar projects are subject to significant fire risks. In the NSW Legislative Assembly on the 29 November 2023, there was a question raised by the Member for Dubbo, Mr Dugald Saunders in relation to Solar Farms and Public Liability Insurance specifically: "Farmers with properties adjacent to solar farms across the State, including those in Glanmire recently, have been refused public liability insurance due to the potential damage from fire." A condition of approval, if the project is approved, should consider the rights and protections of adjoining owners who currently are unable to insure their properties because of potential fire risks from solar developments. S-78436721*<br><br>*Not one land owner in the area is able or will be able to obtain public liability insurance to cover them in the case of an incident on their property moving onto the Solar Farm. It is unobtainable, or, IF by any chance an insurer would offer cover, the land owner will not be able to afford it, the premiums would be so high. S-78451981*<br><br>*As solar farms and BESS are often built on or amongst arable cropping lands. Fires often occur on farms through negligence. If a neighbour to a solar farm is found negligent for starting a fire that spreads into a multimillion-dollar solar farm, the farmer would be sued by the solar farm's insurance company for damages, replacement costs, clean-up costs and loss of income whilst out of operation. A ten or twenty million Public Liability Insurance Policy is not going to cover fire damage to say, a 750-million-dollar-solar farm. So, the solar farms insurance company would more than likely force a property sale on the negligent neighbour to help recover financial damages. S-78593224* |

A recently published article by the Insurance Council of Australia (2024) acknowledges that there is a growing concern for landholders about the impact a solar farm project may potentially have on their public liability insurance. The article further states:

> *'Current information indicates that insurers generally do not have specific concerns related to a property hosting transmission lines or neighbouring energy infrastructure. At the time of writing, the Insurance Council is not aware of any instances where Insurance Council members have been unable to provide insurance or have increased premiums as a result of a farm (or a neighbouring property) hosting energy infrastructure.*
>
> *However, wherever you live in Australia – whether you're directly exposed to extreme weather impacts or not – insurance premiums are rising because of the escalating costs of natural disasters, the increasing value of homes and vehicles, making them more expensive to replace, inflation pushing up building and vehicle repair costs, and the increasing cost of doing business for insurers.*
>
> *As with any insurance policy, a number of factors are considered by an insurer when offering coverage relating to the individual circumstances of the policyholder. Likewise, any subsequent claim under an insurance policy will be determined on the wording of the particular policy of the policyholder.'*

In addition, the Clean Energy Council recently released a fact sheet responding to Frequently Asked Questions (FAQs) relating to property values and insurance policies (Clean Energy Council, 2025a). In short, the fact sheet notes that:

- The Insurance Council of Australia (ICA) has stated that insurers do not have specific concerns related to neighbouring clean energy infrastructure. At the time of writing, the ICA is not aware of any instances where its members have been unable to provide insurance or have increased premiums as a result of a farm (or a neighbouring property) hosting energy infrastructure.
- Increases to premiums are unlikely to be related to clean energy projects. Increases in premiums are being experienced across Australia due to the escalating costs of natural disasters, increasing value of homes and vehicles, inflation pushing up building and vehicle repair costs and the increasing cost of doing business for insurers.

It is therefore anticipated that there will not be any effect on the ability of neighbouring landholders to obtain cost competitive insurance premiums.

| **Tourism Impacts** |
| --- |
| *Will completely ruin the pleasure that visitors to the area currently get from it. It definitely will not encourage visitors to stay in accommodation in the area. S-78517230* |
| *The area relies heavily on Tourism and the visual impact of hundreds of thousands of solar panels, inverters and battery storage facilities would adversely impact the scenic qualities which tourists, and locals currently enjoy. S-78524727* |

It is noted in the EIS that the community raised varying perspectives on tourism impacts during the community engagement program for the EIS. Some community members were concerned that the Project would detract from tourism and may impact on the views from Goulburn as a regional city, whilst others felt that seeing the Project could be an attraction. Some suggestions included installing a viewing platform / tourism attraction with information and/or inviting schools and the community on tours of the solar project.

Views of the Project from eight key viewpoints within Goulburn city and its fringes (within 10 km from the Project) were identified for detailed assessment as part of the LVIA (refer to Figure 6.2 of the EIS). These were:

- RCVP 1 – Mountain Ash Precinct.
- RCVP 2 – Brisbane Grove Precinct.
- RCVP 3 – Rocky Hill War Memorial.
- RCVP 4 – Auburn Street, overlooking Belmore Park.
- RCVP 5 – Eldon Street, near (former) St Johns Orphanage site.
- RCVP 6 – Montague Street, overlooking the Anglican Cathedral.
- RCVP 7 – Goulburn Brewery.
- RCVP 8 – South Goulburn MacDonalds carpark.

The assessment concluded that there would be no significant adverse impacts to the visual characterises from the city and its fringes and the Project would not adversely affect the city's scenic quality or character. The Project's impact to Goulburn's landscape character has therefore been assessed as low as set out in the LVIA that forms Appendix 11 to the EIS, and which was prepared in accordance with the DPHI's Technical Supplement. In summary, the assessment found:

- The Project would not be seen (or be barely visible) from the city centre (RCVP 4), Saint Saviour's (Anglican) Cathedral (RCVP 6), and visitor locations (RCVP 7 and RCVP 8).
- From the closest future growth areas south of the Hume Highway (RCVP 1 and RCVP 2), as well as from the elevated existing residential area of Eldon Street (RCVP 5), the visual impact would be very low (i.e. the Project would occupy a small part of the view but not be a prominent feature), as shown on **Photo 4.3**.
- From the most elevated public viewpoint within Goulburn (RCVP 3), the visual impact would be low. The Project would be visible from the southern side of the lookout, however, would not noticeably deteriorate the scenic quality of the view, as shown in **Photo 4.4**. The solar modules would be relatively inconspicuous and affect a very small proportion of the view available from this location.

Photomontages of the existing, and likely future view from the closest future growth areas (RCVP 1 and RCVP 2) appear in Appendix 11 of the EIS, along with photographs of the existing view from regional city viewpoints (RCVP 3 to RCVP 8).

In addition, the LVIA identified and assessed views from five public key viewpoints within 4 km from the Project, including:

- PR1 – Goulburn Airport.
- PR2 – Windellama Road.
- PR3 – Kooringaroo Road.
- PR4 – Bullamalita Road.
- PR5 – Painters Lane.

The assessment found that overall, the visual impact to these public viewpoints would be very low to low. Landscape screening is proposed along Windellama Road and Kooringaroo Road, near both Project access points, to mitigate the visual impact from these viewpoints. Lightsource bp has committed to implement a landscape plan that will provide targeted landscape screening along the perimeter of the solar farm to further mitigate visual impacts.

In addition, the assessment found that the Project would not significantly change the appearance of night-time light within the Gundary Plains.

Impacts on tourism in relation to availability of accommodation have been considered and addressed in the Accommodation and Employment Strategy (Appendix 18 of the EIS) therefore impacts on tourist accommodation not anticipated.

| Accommodation / Tourism Impacts |
|---|
| *My endeavour to run a farm stay at 540 Kooringaroo road to supplement my income till retirement would not be feasible if the development is approved. The drawcard for the farm stay is quiet country living with rolling pastures not a neighbouring industrial development with high level noise generation (well above current ambient levels). The approval would greatly hinder my business plans with advice being that it would not be advisable to proceed with the business venture should approval be granted. This will be a potential loss off income from the proposed business venture (farm Stay) of an estimated $45,000.00 pa. S-78462460*<br><br>*I also wouldn't be able to run a farm stay for visitors in my cottage with all of the construction noise taking place over a long period of time, as people come here to enjoy the peaceful hobby farm life. In the EIS it states that I will be subjected to louder than normal noise levels during construction but then in another section they state that all landowners at the exception of one resident who would be considered moderately impacted, are apparently low to very low impacted. S-78454206* |

This property has been identified and assessed in the EIS as R6 (refer to Figure 2.4 of the EIS).

R6 was identified as requiring detailed assessment as part of the LVIA (refer to Table 5.1 of the LVIA provided in Appendix 11 of the EIS). A bare earth render was prepared to illustrate the predicted view from R6 to the Project (refer to Figure E3-21 of the LVIA) as access to this property was not available at the time of the visual site inspections. The LVIA identified that the view from this property towards the Project is from the side of the dwelling (therefore classified as a secondary viewpoint) and that there is a row of pine trees between the dwelling and the Project. Based on the results of the detailed assessment, summarised in **Table 5.1** below, the visual impact rating for R6 is predicted as low.

**Table 5.1 Detailed Visual Assessment Results for R6**

| Occupied cells in BER | Magnitude Rating (Assigned rating as per Table 4 of Technical Supplement) | Viewpoint Sensitivity (Determined as per Table 5 of Technical Supplement) | Visual Sensitivity Rating (Assigned as per Table 8 of Technical Supplement) | Visual Impact Rating (Assigned as per Table 9 of Technical Supplement) |
|---|---|---|---|---|
| 9 | Low | Low[5] | Low | Low |

The Noise and Vibration Impact Assessment (NVIA) completed for the Project predicted that during construction there may be some activities that would exceed the 45 dB(A) noise-affected management level (NML) at R6. Specifically, R6 is predicted to experience:

- 6 dB(A) noise exceedance during Site Establishment and Civil Works (Scenario 1). Scenario 1 is anticipated to occur during Month 1 to Month 4.
- 1 dB(A) noise exceedance during Piling and Foundations (Scenario 2). Scenario 2 is predicted to occur during Month 2 and Month 20.

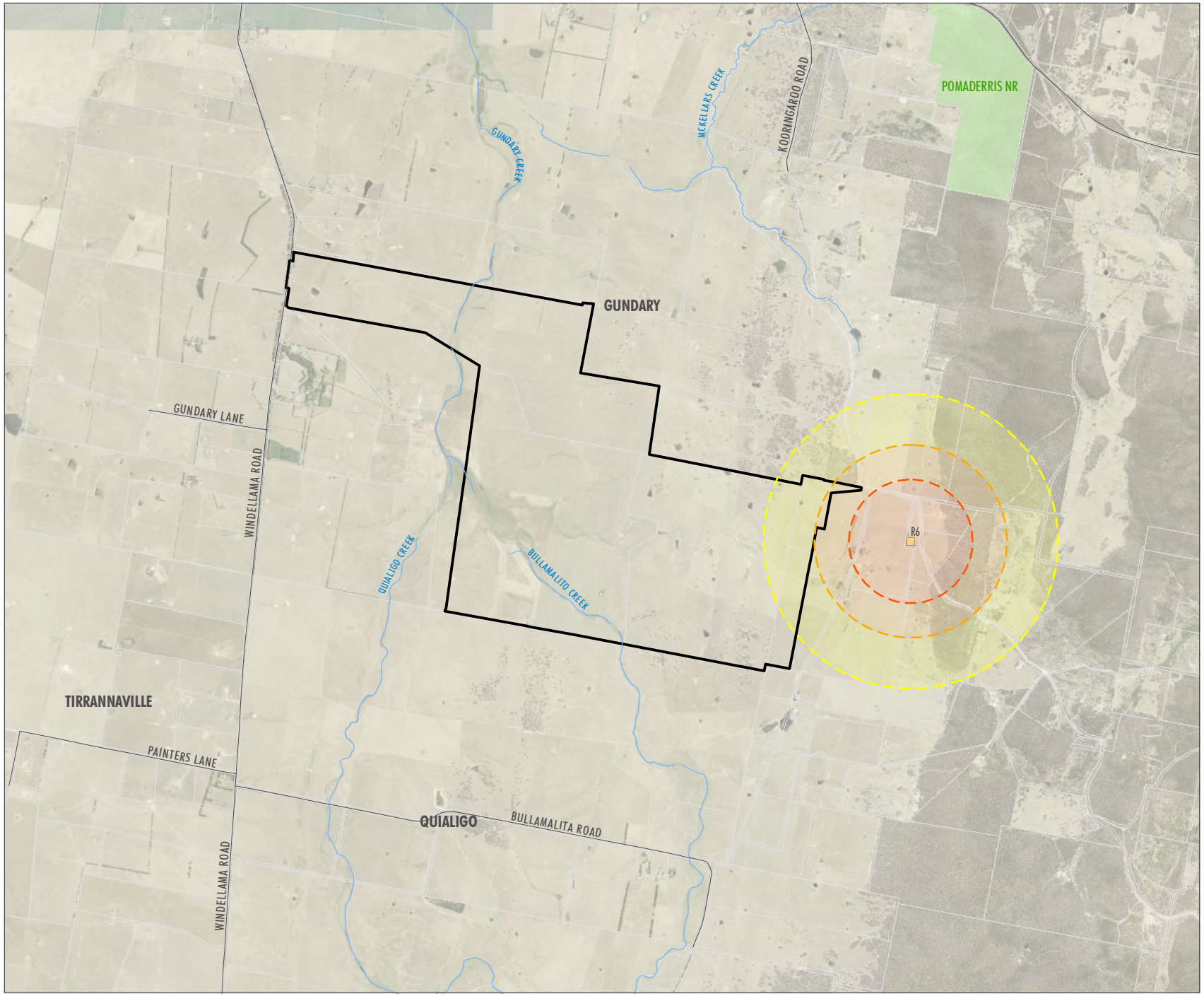
[5] Secondary view from dwelling in rural area.

It is noted that construction noise levels may fluctuate based on the number and location of equipment in operation at any given time. In accordance with the Interim Construction Noise Guideline (ICNG), Lightsource bp has committed to implement a range of measures during the construction period in order to mitigate and manage any potential construction noise impacts at R6, as outlined in **Appendix 2**. These will include, but not be limited to: restricting noise generation activities to within standard construction hours (7:00 am to 6:00 pm – Monday to Friday and 8:00 am to 1:00 pm on Saturdays), notification to affected landholder prior to commencement of any works associated with the activity that may have a noise impact, environmental induction of all employees, contractors and subcontractors prior to commencing work, noise emitting plant to be directed away from sensitive receivers and to be throttled down or shut down when not in use, non-tonal reversing beepers would be fitted and used on all construction vehicles and mobile plant used regularly on site and for any out of hours work.

A spatial risk map is provided in **Figure 5.1** for the worst-case predicted exceedances (Scenario 1). Effectively, **Figure 5.1** defines the buffer zone from the receiver where the predicted construction noise levels would more than 45 dB(A). Equally, the area outside of the buffer zones indicate where construction activities can be undertaken without any noise exceedance.

Lightsource bp has been consulting with this landholder regarding the Project and any potential visual and noise impacts to their property.

The EIS demonstrated that the Project will not preclude the future development of surrounding land (refer to Section 6.7.4.7 of the EIS). Additionally, Lightsource bp has committed to the implementation of management and mitigation measures to address any residual impact associated with the Project (**Appendix 2**). The Project's location meets the principles for better site selection set out in the Solar Energy Guidelines (DPHI, 2022a).




# FIGURE 5.1

R6 - Sc.1 Site Establishment and civil works (worst-case scenario) Noise Risk Contours 45-55 dB(A)

- Non-associated Dwelling
- Lot
- Local Government
- Project
- NPWS

**Noise Risk Contours**

- 55dB(A) Buffer Zone
- 50dB(A) Buffer Zone
- 45dB(A) Buffer Zone




0 500 1,000

Metres

Scale: 1:0 at A4
GDA 1994 MGA Zone 55

This document and the information are subject to Terms and Conditions and Umwelt ( Australia) Pty Ltd ("Umwelt") Copyright in the drawings, information and data recorded ("the information") is the property of Umwelt.This document and the information are solely for the use of the authorized recipient and this document may not be used,copied or reproduced in whole or part for any purpose other than that which it was supplied by Umwelt.Umwelt makes no representation, undertakes no duty and accepts no responsibility to any third party who may use or rely upon this documentor the information.
APPROVED FOR AND ON BEHALF OF Umwelt

**Image Source:** ESRI Basemap (2023) | **Data Source:** NSW DFSI (2023)

### 5.1.2 Bushfire

| Increase in Bushfire Risk |
| --- |
| *The proposed solar farm is located in an area accessible via a single road, raising serious concerns about emergency access, particularly during bushfire season. Large-scale solar installations can increase fire risk due to the presence of electrical equipment, high-voltage transformers, and flammable components. In the event of a fire, having only one road in and out of the area could severely limit the ability of emergency responders to reach the site and evacuate residents. Furthermore, it has come to light that the local Rural Fire Brigade may not have adequate access to the solar farm site. Without proper access roads and emergency response plans in place, there is a significant risk of uncontrolled fires spreading to nearby properties and farmlands, endangering lives and livelihoods. The increased fire risk associated with the project poses a grave threat to both the environment and the community. S-77919962* |
| *The proposed solar farm poses a serious fire risk that endangers the safety of my family and other residents along our road. Currently, the access to our properties is limited to a single road with one way in and one way out. In the event of a fire breaking out at the solar farm or its substations, residents will be trapped with no secondary route for evacuation. This lack of access is a critical safety hazard that could result in devastating consequences during a fire emergency. While the developers have indicated that a 20,000-litre water tank will be installed on-site, this amount of water would be grossly insufficient in the event of a large-scale fire, particularly given the size of the project and the high fire risks associated with solar panels and substations. Additionally, the installation of a large locked security fence around the perimeter of the proposed site would severely hinder the Rural Fire Service's ability to access the area and control a fire effectively. In a rural setting where every second counts during a fire, such barriers could lead to catastrophic delays and increased risk to life and property. S-77920216* |
| *I believe that they have underestimated the strength of the winds in this area and the speed at which fire can spread. Fires have spread as fast as 7.5 km in 10 minutes in this very area. S-78306956* |
| *It is imperative that fire risk management strategies and infrastructure be approved by the relevant fire authorities. What opponents do not appear to realise is that a neighbour with sound fire risk management and infrastructure is an advantage to them, lessening their own risk. S-78306959* |
| *The fire risk and fire management proposal is catastrophically under estimated. The fire risk/management plan is undeniably not adequate to deal with the historical extreme dry weather events that the Gundary Plains experiences, this puts more than just neighbours at risk if a fire was to escape the proposed project area. S-78311468* |
| *The fire risk posed by large-scale solar infrastructure, including solar panels, inverters, and lithium battery stations, is a major concern…residents could find themselves trapped in the event of a fire. The presence of a large-scale solar facility could exacerbate this danger, potentially putting lives at risk. S-78311956* |
| *We are in a grass fire prone area. The solar installation will be fully fenced. A fire entering or starting on the solar farm will be very difficult to defend. The restricted space between rows of panels could easily trap firefighters with disastrous results. Our local R.F.S will not enter the fenced area, a fire driven by our intense North Westerly winds will move rapidly through the solar factory and create critical risk to the many residents on the Eastern Side. The Kooringaroo Road is a dead end, partially dirt with narrow crossings, it would not cope with firefighters entering and locals escaping. People will be trapped. Loss of property and possibly loss of life will result. The R.F.S have been highly critical of the BP Lightsource fire management provisions. S-78312498* |

| Increase in Bushfire Risk |
| --- |
| *FIRE RISK is a serious issue on Gundary Plains, with prevailing warm winds mostly from the north west, November to April. Solar panels with their associated infrastructure and large-scale lithium batteries bring an increased fire risk. There are over 40 residences on Kooringaroo Road, a dead-end road, that have a likelihood of being trapped by fire. A fire emanating from this area would be extremely difficult to stop from spreading to other assets well beyond the solar factory. It would be pushed along by the north westers. S-78326731* |

As highlighted throughout the EIS, Lightsource bp has sought to avoid and minimise the potential bushfire risk associated with the Project through Project design. Specifically, the Project as illustrated on **Figure 1.2**, has been designed to include:

- A 10 m APZ around the perimeter of the Project Area.
- Primary site access via Windellama Road with supplementary site access via Kooringaroo Road for emergencies, including 10 emergency accesses via gates along the perimeter fencing to allow emergency egress.
- Dedicated non-combustible water tanks throughout the Project Area with a combined capacity of 180,000 L.
- Access tracks on the Project Area would be designed with turning bays to provide safe access for emergency services personnel.

Further to this, Lightsource bp will implement the following management and mitigation measures for the Project:

- A Bushfire Emergency Management and Operations Plan will be developed and implemented for the Project in accordance with PBP 2019 and in consultation with DPHI Hazards, RFS and FRNSW. The plan will identify all relevant bushfire risks and mitigation measures associated with the construction and operation of the Project.
- Bushfire training day with RFS once the Project is commissioned.
- Notification of the local NSW RFS Fire Control Centre for any works that have the potential to ignite surrounding vegetation, proposed to be carried out during a bush-fire fire danger period to ensure weather conditions are appropriate.

As noted in Section 6.13.2 of the EIS, bushfire risk has been assessed by Peak Land Management, a BPAD Level 3 Bush Fire Practitioner, in accordance with Planning for Bush Fire Protection 2019 (PBP 2019).

The assessment concluded that with the development and implementation of the above measures, it is considered that potential bushfire risks associated with the Project can be appropriately managed. This aligns with expectations and requirements of NSW RFS and FRNSW.

| Increase in Bushfire Risk |
| --- |
| *The Gundary Rural Fire Brigade has concerns about the scale and potential increased risk of a fire starting within or near the solar farm. Below are some of the concerns:*<br>1. *Limited access to the site - Only 2 access points into the whole solar farm.*<br>2. *Due to the potential safety risks with electricity and other hazards associated with solar photovoltaic systems such as toxic and flammable gasses, it is highly unlikely we would send crews into the solar farm if there was a fire. This has the potential for the fire to escalate in size and make it harder to control when it comes out the other side.*<br>3. *If a fire was to start in or near the solar farm, the fire has the potential to cut off Kooringaroo Rd which is a dead end road. This may limit the ability of residents to evacuate the area in catastrophic fire conditions.*<br>4. *The Gundary Rural Fire Brigade has had one meeting on site with Lightsource BP. The information given around electrical, bush and grass fire management was vague and there has been no correspondence since that meeting.*<br>5. *A large lithium-ion BESS has the potential to be extremely hazardous if it were impacted by fire or damaged by some other means.*<br>6. *Without an emergency response plan being prepared prior to potential approval, it is difficult for the Gundary Rural Fire brigade to get a full understanding of the on ground practicalities around fighting a fire within or near the solar farm site. S-78529708* |

Following the advice received from the Gundary Rural Fire Brigade and FRNSW at the site meeting held in May 2024, Lightsource bp incorporated additional bushfire control measures into the Project layout and design. These included:

- Ten additional emergency accesses via gates along the perimeter fencing to allow access points to the Project Area in case of an emergency, as shown on **Figure 1.2**.
- Increased the number of water tanks within the solar farm to a combined capacity of 180,000 L, as shown on **Figure 1.2**.
- Access tracks to be designed with turning bays to provide safe access for emergency services personnel.

In addition, as stated above, Lightsource has also committed to implement the following measures for the Project:

- A 10 m APZ around the perimeter of the Project Area.
- Supplementary site access via Kooringaroo Road for emergency access only.
- A Bushfire Emergency Management and Operations Plan will be developed and implemented for the Project in accordance with PBP 2019 and in consultation with DPHI Hazards, RFS and FRNSW. The plan will identify all relevant bushfire risks and mitigation measures associated with the construction and operation of the Project.
- Bushfire training day with RFS once the Project is commissioned.

- Notification of the local NSW RFS Fire Control Centre for any works that have the potential to ignite surrounding vegetation, proposed to be carried out during a bush-fire fire danger period to ensure weather conditions are appropriate.

### 5.1.3 Landscape and Visual

| Impacts to Visual and Landscape Character |
|---|
| *I do not object perse to solar farms, but this proposal will change the landscape and ambiance of our beautiful city forever, and the proposed location is clearly not appropriate. This massive project (which is over 2/3 the size our city) will completely destroy the rural country outlook – and replace it with a sea of solar panels as far as the horizon. S-78606718* |
| *This will also have ugly consequences on the landscape. S-78527985* |
| *This visual intrusion will not only destroy the aesthetic appeal of our home but also permanently undermine the peaceful, rural environment we cherish. S-78451460* |
| *We currently have a magnificent view looking across the valley, and if this development goes ahead a significant reason for the placement of our home will be completely destroyed. BP Lightsource has grossly underestimated the effect to which we will be visually affected, stating that there will be a minimal impact. This is simply untrue as our home is on top of a hill and looks across the valley to cover almost the entire project site. S-78597710* |
| *It will wreck regional natural and rural landscapes, destroy native habitat and undermine community cohesion. S-78533484* |
| *The open and scenic view from my property is essential to our daily enjoyment and quality of life. This visual intrusion will not only destroy the aesthetic appeal of our home but also permanently undermine the peaceful, rural environment we cherish. S-78451460* |
| *I oppose the solar farm because it would significantly impact the natural beauty and unique character of the landscape I grew up in, Gundary. The loss of these open views and the disruption to the area's sense of place would diminish what makes Gundary so special. S-78505499* |
| *"The assessment determined that the existing landscape is locally important and highly valued by the local community. However, it does not include distinctive or rare landscape features and is not scenically recognised beyond the local area" What an absolute load of rubbish… Any screen planting would require several years of growth before any noticeable screening of glare. S-78462460* |
| *There is no option for mitigation of the impact of the views of the industrial factory as it will have a high visual impact because of the topography of the chosen site, the size of the land coverage by the panels and the size of the sub-station and other infrastructure. S-78421706* |

The LVIA, which forms Appendix 11 to the EIS, was prepared in accordance with the methodology set out in the DPHI's Technical Supplement and was prepared by Envisage, a suitably qualified and experienced visual impact consultant.

As highlighted throughout the EIS, Lightsource bp has sought to avoid and minimise potential visual impacts associated with the Project through an iterative design process.

Section 6.8 of the EIS notes that the following design refinements have been applied to the Project:

- Approximately 50 ha of solar arrays in the north-west corner of the Project Area was removed.
- The centralised BESS was relocated approximately 1.2 km to the east, away from sensitive receivers on the north-west.
- 20 decentralised BESS units located nearest to sensitive receivers were removed from the layout.
- Strategically located landscape screening included in the Project layout, in consultation with neighbouring landholders and Goulburn Mulwaree Council.

A Landscape and Visual Impact Assessment (LVIA) was undertaken by Envisage as part of the EIS (refer to Appendix 11 of the EIS) to assess the change in visual amenity and landscape character due to the Project. The LVIA assessed the following visual effects of the Project:

- The effect of the Project on the landscape (i.e. landscape character impact) through a landscape character assessment.
- The effect of the Project with regard to their views and visual amenity (i.e. visual impact).

The assessment indicated that the Project would introduce a large area of mostly low-level built structures (with repetitive, linear patterning) across open, undulating, grassed pastures, and that the Project is reversible (it could be removed with relatively little residual impact to the landscape). Therefore, the assessment determined that the Project would not have a significant adverse impact on the landscape character of Gundary Plains.

Modelling was used to visualise views from private viewpoints (residences) and public viewpoints (local roads and the Goulburn Airport), including eight key viewpoints from within Goulburn and its fringes (approximately 10 km away). With the implementation of landscape screening along sections of the perimeter fencing, the assessment indicated that the highest residual visual impact (moderate) would occur at R27. The remaining residual visual impacts would be very low to low. No high residual visual impact is predicted for any viewpoints. Further visual analysis (provided in **Appendix 6**) undertaken following EIS exhibition demonstrates that additional screen planting along the western boundary of the Project (assuming a mitigation height of 7 m at approximately five years) reduces the visual impact rating for R27 to a low.

Photomontages with mitigation landscape planting 5 years following construction have been prepared to illustrate the effect of screen planting (see Appendix 11 of the EIS).

## 5.1.4 Decommissioning and Rehabilitation

| Decommissioning and Rehabilitation / No Financial Commitment |
|---|
| *Fails to provide any guarantee of decommissioning and/or land remediation. BP's policy is to obtain approval and build the solar installation, but then "spin off" the asset to another entity which is more interested in running and maintaining a project of this kind. Contrary to the proponent's disingenuous claim in the EIS, it will not be the proponent who is called upon to clean up and remediate the site in a couple of decades. This explains why in all of the thousands of pages in the EIS and its appendices, only one paragraph is dedicated to decommissioning. Not a single word is written about remediation of the land. S-78552713*<br><br>*Insufficient information and planning in regards to decommissioning of the development: With no estimate of the cost of decommissioning, and the only obligation listed as "The law regarding decommissioning will be followed at the time", there is no guarantee of total rehabilitation of the site. Thus, there could be a high risk of degradation of toxic electronical components if not required to be removed once the life of the project has ended, leading to toxic contamination. S-78606956*<br><br>*I am concerned that at the end of life of the solar factory we will be left with a toxic mess beside us which will be not only unsightly but will contaminate and pollute our property. Lightsource only offers weasel words regarding a commitment to decommission. It is likely that Lightsource will not be the owner/operator of the solar factory when it comes to decommissioning. S-78421706*<br><br>*At end of life how will the panels be recycled? Where are these panels made that makes them less toxic than other forms of energy? How, being shipped from overseas, are these in terms of a carbon footprint? None of this has been established. S-78601956* |

Should the Project be approved, the development consent for the Project will include standard conditions regarding the cessation of operations, decommissioning and rehabilitation of the Project Area. Lightsource bp or its contractors will seek to recycle all dismantled and decommissioned infrastructure and equipment, where feasible and practicable.

A Decommissioning and Rehabilitation Management Plan will be prepared for the Project in advance of decommissioning in consultation with the relevant regulatory authorities. This Plan will demonstrate a commitment to ensuring appropriate environmental management is undertaken during the decommissioning and rehabilitation phase of the Project in accordance with legislative requirements, conditions of consent, stakeholder interest and industry best practice.

The below general rehabilitation methodology will be applied for the Project at the end of its operational life:

- Any areas excavated during the decommissioning process will be refilled with clean, compatible sub-grade material, compacted and contoured to blend as seamlessly as practicable with the natural landform. Subsequently, topsoil will be reinstated to mirror the density and consistency of the neighbouring terrain.
- Areas which have been compacted by heavy machinery during decommissioning will be restored through ripping and topsoil replenishment and graded to mimic the slope and contour of the natural landscape.

- Areas designated for pasture restoration will be seeded with an agreed-upon mix selected in consultation with landholders and the appropriate regulatory authority, aimed at meeting the approved final land use objectives of the Project.
- To facilitate plant growth, all revegetated areas will be fertilized during seeding and maintained until sufficient coverage is achieved.
- Erosion control measures will be implemented during the decommissioning and rehabilitation phases. This may include but is not limited to:
    - Fencing around newly rehabilitated areas to prevent livestock and pest access.
    - Mulching around newly established vegetated areas.
    - Adequate levelling and contouring of the rehabilitated areas.
- Rehabilitation performance criteria will be established in the DRMP and will address any relevant requirements of the development consent. However, it is anticipated that these criteria will, as a minimum, provide that the land impacted by the Project:
    - Is safe, stable, and non-polluting.
    - Is free draining.
    - Is free from any physical hazards that could endanger people or wildlife, e.g., by removal of infrastructure, and covering of foundation pads with soil.
    - Meets the specified LSC classification, being either consistent with the LSC prior to operations, or as otherwise specified within the development consent.
    - For agricultural land, is restored to the appropriate LSC for agricultural suitability consistent with the determined final land use, e.g., grazing.

### 5.1.5 Agriculture

| **Consideration of Agrisolar as Part of the Project** |
| --- |
| *Combining agricultural activity with solar farming. As numerous examples have shown, sheep grazing not only is compatible with solar farms but it can increase the productivity of grazing operations as well as benefiting the operator of the solar farm through vegetation control and reducing the risk of fire.*<br>*While Lightsource bp says it intends to reach an agreement with a local farmer on sheep grazing, the EIS falls short of the commitment we believe is required. The farmer concerned should be given a say in the final design of the solar farm so as to accommodate the need for suitable pasture, water and appropriate fencing. We also have argued to the company that it should explore more intensive farming on the land for horticulture, including food production, as is increasingly being practised successfully overseas.*<br>*S-78340464* |

**Consideration of Agrisolar as Part of the Project**

*There has been some evidence that sheep can still graze under the solar panel arrays. However the solar panels are of course designed to extract energy from the sun so most of the area underneath them is in shade. Therefore with the amount of sunlight falling on the ground beneath them being considerably reduced, any grass/crop beneath them being used to feed sheep cannot be of good quality because it is robbed of most of the sunlight - and that occurs when it is sunny let alone with cloudy weather. S-78538708*

*Animal welfare is also a pressing issue. If sheep graze under the solar panels, their risk of flystrike during summer increases. If flies infest the sheep and the signs of distress go unnoticed because they are hidden beneath the panels, this could lead to serious health consequences. Flystrike is painful and can become fatal if untreated. We must ensure livestock well-being in the area is prioritized. S-78464722*

*I do not accept the proposition that sheep are able to graze under the panels and that there is no loss of grazing area. That is a fundamentally ludicrous assertion evidently made by someone with little to no understanding of farming practices, nor by someone who understands livestock… S-78604469*

Lightsource bp is currently implementing agrisolar on one of their other sites and have recently done an investigation into the potential benefits. The full article is available at this link: https://lightsourcebp.com/nz/news/wool-quality-and-sustainability-insights-from-lightsource-bps-wellington-solar-farm/.

The Gundary Solar Farm has been designed with agrisolar in mind, and whilst Lightsource bp will endeavour to implement agrisolar on the site once its operational, this will be subject to ongoing discussions with the landholder and other sheep grazers in the area.

Should agrisolar be implemented at the Gundary Solar Farm, a Sheep Grazing Vegetation Management Plan (SGVMP) will be developed in consultation with the relevant regulatory agencies prior to the commencement of any sheep grazing. The SGVMP will outline measures for agrisolar in line with the *Agrisolar Guide 2021* and other animal and welfare standards and guidelines. This will include measures to manage the stock appropriately, including a requirement to keep the stock in good health, ensuring frequent shearing (to keep wool growth low), ensure mustering is conducted in an agreed safe manner, and that any fatalities are managed by the farmer.

**Impacts to Agriculture and Food Security**

*This is a waste of good fertile soil that's needed for agriculture purposes. S-78377982*

*We need food security for Australia and destroying agricultural land is opening our nation up for trouble. S-78527985*

*The Gundary Plains is prime agricultural land and should be treated as such, not sold out to a multinational company to line their pockets with heavily subsidised profits which they have no interest or intent to filter back into the Goulburn community. S-78533486*

*I am surprised that a Solar Farm is being proposed for the Goulburn area. Goulburn is known for its agricultural land which is often used for grazing sheep and cattle - in fact the BIG Merino is a symbol for the area. I would have thought a Solar Farm would have been put in a more arid area where the soil quality is not as good. S-78538708*

*The use of prime agricultural lands for this project is insane, a more appropriate site should be sought. S-78547711*

**Impacts to Agriculture and Food Security**

*It is of no surprise [LSbp] have disregarded the significance, value, and harmony that the prime agricultural land of Gundary Plains holds for food security and our rural economy. S-78525743*

Section 6.7.4.1 of the EIS notes that the Project would result in the cessation of agricultural land use on 702 ha of mostly poor to moderate agricultural land for approximately 40 years. This represents an estimated 0.6% of agricultural land within the Goulburn Mulwaree LGA, measured against the LGA's total agricultural land use of 116,771 ha.

The Project would also reduce primary productivity within the Project Area of up to $280,624 per year, representing an estimated 0.6% of agricultural productivity with the LGA (measured against the LGA's total agricultural commodities gross value of $51,097,547).

These temporary impacts associated with the Project would be mitigated with the establishment of sheep grazing once construction has been completed. However, this is subject to further engagement with the landholder and/or regulatory authorities. Should sheep grazing be established on the Project Area, Lightsource bp will develop measures to manage the co-existence of farming activities and the operation of the Project. Accordingly, a SGVMP will be developed in consultation with the relevant regulatory agencies.

The Project would not result in permanent changes to agricultural land use or productivity of the Project Area, as it is expected that the Project Area would be returned to agriculture following decommissioning (unless otherwise agreed with the landholder and/or regulatory authorities).

Based on the above, the EIS noted that impacts to agricultural land use and productivity for the Project Area are therefore considered negligible.

Agricultural land use and productivity of land adjacent to the Project Area and in the broader Goulburn Mulwaree LGA will not be affected by the Project as the associated agricultural resources will not be impacted. Therefore, the Project will not negatively impact any existing agricultural enterprise outside of the Project Area.

When the Project is decommissioned, the Development Footprint will be remediated to enable agricultural production to resume. Commitments to decommissioning and rehabilitation of the Project Area were included in the EIS, and are anticipated to form conditions of approval, to enable appropriate remediation.

The commitments made in the EIS, including the development and implementation of a Construction Environmental Management Plan (CEMP), which identifies Project-specific erosion and sediment control measures under an ESCP, as well as an OEMP including a Sheep Grazing Vegetation Management Plan (if sheep grazing is to be undertaken), are also expected to form conditions in the development consent, and will enable appropriate environmental management of the Project throughout the construction and operational phases to mitigate potential agricultural related impacts.

## 5.1.6 Biodiversity

| Impacts to Biodiversity / Environmental Harm |
| --- |
| *While BP claims to have minimised clearing native vegetation, this development will undoubtedly disrupt the natural environment. Noise, construction, and the industrial footprint of the solar farm will have lasting consequences for local wildlife. Many native species could be displaced or lose critical habitat due to this development. S-78313721* |
| *The animals and plants that would be destroyed and displaced for this hideously ugly solar farm, are unacceptable. The ecological impact is far too great. I'm all for alternative energy sources, but not at the cost of such ecologically rich farming land. S-78353238* |
| *This 1650-acre project with 740740 panels, 154 lithium batteries and a High Voltage substation will have a detrimental impact on the environment and surrounding residence. S-78422744* |
| *Moreover, clearing land for solar panels can harm native vegetation and wildlife, potentially leading to a loss of habitat and negatively impacting local ecosystems. The removal of plants and trees disrupts the natural balance of the environment, affecting not only the species that rely on these habitats for shelter and food but also the overall biodiversity of the area. Many local animals and insects play vital roles in maintaining the ecosystem, such as pollinators that support plant growth and species that control pest populations. Displacing these animals can lead to longer-term ecological imbalances. S-78487737* |
| *This could have devastating consequences for local waterways, impacting both human health and biodiversity. Additionally, the project threatens the habitat of numerous native species, including vulnerable birds, reptiles, and marsupials. The installation of vast solar panels, along with heavy construction and increased traffic, will disrupt breeding patterns and reduce biodiversity, causing long-term harm to the region's ecosystems. S-78525743* |
| *The Gundary Solar Farm project poses significant threats to the environment, local communities, and biodiversity. Given the irreversible damage to flora, fauna, and community wellbeing, this project should not proceed in its current form. S-78593206* |
| *"This is an unproven, unreliable experiment using inferior, environmentally destructive, toxic contaminating JUNK THAT NOBODY WANTS & WON'T EVEN WORK MOST OF THE TIME… S-78453747* |

As highlighted throughout the EIS, avoiding impacts to areas with high ecological value has been a key consideration in the Project design and layout for the Gundary Solar Farm. This has been achieved through designing the Project to take advantage of the most disturbed areas, including land assessed as Category 1 – Exempt Land, which has undergone extensive cultivation and are currently managed for livestock grazing. These areas have lower biodiversity values. The Project's 512 ha Development Footprint therefore consists largely of Category 1 – exempt land (>97%) with some areas of native pasture, low condition primary grassland and paddock trees (<3%).

Remnant vegetation along the northern and southern boundaries of the Project Area is being retained, which improves connectivity with areas of remnant vegetation located adjacent to the Project Area. Similarly, the Project design incorporates setback buffers of approximately 20 m to 40 m around all second and higher watercourses within the Project Area, where they provide biodiversity value, which will continue to provide some form of habitat corridor (however degraded they may be).

Overall, the Project layout and design has resulted in the avoidance of 27.89 ha of NSW listed threatened ecological communities and 37.96 ha of Commonwealth listed ecological communities. Furthermore, two threatened species were detected within the Project Area during targeted surveys. These include one individual of Key's Matchstick Grasshopper (*Keyacris scurra*) and 20 individuals of *Eucalyptus macarthurii*. All threatened species locations and habitat areas have been avoided in the Project layout and design.

Whilst Lightsource bp has strived to avoid and minimise impacts on biodiversity through the design process, not all impact could be avoided. The Project will require the disturbance of approximately 14.02 ha native vegetation (consisting of native pasture, low condition primary grassland and paddock trees) from within the 512 ha Development Footprint. Residual biodiversity impacts are therefore limited to the highly degraded grasslands within the Project Area which, albeit still containing some native plant diversity, are largely agricultural remnants and are in such a degraded state that they fail to meet the BAM defined value thresholds that generate biodiversity credits. As highlighted throughout the EIS, the Project made an extensive effort to avoid and minimise impacts to biodiversity values with zero credits being generated across the proposed Development Footprint.

Furthermore, Lightsource bp has committed to the implementation of the following specific control measures to further minimise the impacts of the Project on biodiversity:

- Workforce education and training.
- Implementation of vegetation protection zones for areas to be retained.
- Ecologist pre-clearance surveys and supervision of works.
- Erosion and sedimentation control measures.
- Weed management.
- Fencing, access control and fauna exclusion measures.

### 5.1.7 Traffic and Transport

**Inadequate Access and Road Infrastructure**

*Windellama road is not in great condition with many pot holes filled and refilled in Gundary area, the amount of daily traffic proposed by the solar factory will only increase the degradation of the road… Lightsource BP say there will be 250 light vehicles per day, 60 shuttle buses 90 heavy vehicles and 50 light truck movements. A LOT of traffic on what is essentially a small country road meant for local traffic ONLY. S-78451981*

*The Windellama Road on the Western side is a mosaic of repairs at the moment. The road needs to be rebuilt to take the 2 years of heavy transport in the establishment phase. Fifes Bridge is a serious big transport risk as it is narrow and on a blind curve. The bridge needs to be rebuilt and widened, and the road straightened to take the large trucks. Will B.P be providing finance for these works? S-78312498*

*The primary access point for the proposed Gundary Solar Factory is on Windellama Road, which is ill-equipped to handle the influx of industrial traffic. Fifes Bridge is too narrow for large vehicles alongside regular commuter traffic, and the road sees heavy use during holiday periods as it is a major route to the coast. Significant upgrades would be essential if the solar farm proceeds. S-78521475*

| Inadequate Access and Road Infrastructure |
| --- |
| *Windellama Road and Fifes Bridge cannot accommodate the industrial traffic this project would bring without major upgrades. Current infrastructure is unsuitable for this scale of development. S-78557207* |
| *Inadequate Infrastructure: Local roads and bridges are not equipped for the heavy industrial traffic this project would bring. S-78587984* |
| *Local roads, particularly Windellama Road and Fifes Bridge, are ill-equipped to handle the industrial traffic this project would generate. Without substantial upgrades, the current infrastructure cannot safely support the scale of development proposed. S-78584456* |
| *The road cannot handle 600 more vehicle movements per day, the local council cannot upgrade the road with internal funding and the project most certainly has not allowed for such. S-78606458* |
| *Kooringaroo Road. Earmarked as an emergency exit the connection to this road should be available for site access for staff & contractors to avoid the extra travel time. S-78623714* |

Vehicle access to the Project is proposed via an existing driveway on Windellama Road which will be upgraded to accommodate the movement of heavy vehicles, with an additional emergency access point provided via Kooringaroo Road (for emergencies only).

As outlined in **Section 3.3**, additional traffic assessments have been completed as part of the Submissions Report in response to Transport for NSW's submission. This included an updated Transport Impact Assessment (TIA) and a route survey from the proposed Ports of import (Port Kembla and Port Botany) to the Project Area for both transport routes (i.e. Option 1 and Option 2). The purpose of the route survey is to determine the pinch points along the routes and give best estimates of modifications and works required to enable OSOM cargo to be brought to the Project Area. The updated TIA and route survey is provided in **Appendix 5** of this report.

The route survey indicated the transport of the OSOM components for the Project from Port Botany and Port Kembla is feasible along the proposed transport routes, with only minor modifications required to make the route suitable for the OSOM load (which is a 170-ton transformer). The routes from each port use roads on the approved NSW OSOM Load Carrying Vehicles Network map, which are commonly used to take OSOM components out of either Sydney or Wollongong and onto the Hume Highway. From the Hume Highway at Goulburn, there are two options to get onto Windellama Road, i.e. a northern (Option 1) and a southern (Option 2) option, both of which have been assessed.

Option 1 between the Hume Highway and Bungonia Road is an approved and designated OSOM vehicle route. Option 1 would therefore be utilised for OSOM vehicle movements, namely 10 vehicle trips (two way) throughout the construction phase of the Project. OSOM deliveries via Option 1 would be undertaken with appropriate traffic management measures, including but not limited to, the usage of pilot vehicles, warning signage, and/or lights.

As noted in Section 6.11.3.6 of the EIS, Lansdowne Bridge on Bungonia Road has been identified as a restricted structure. Consultation with TfNSW during the EIS has confirmed that Lansdowne Bridge was replaced in 2019 from a timber structure to a new concrete bridge. TfNSW also confirmed that Council was now the relevant road authority for the new bridge.

Consultation with Council confirmed that:

- Lansdowne Bridge was designed to AS5100-2004 Bridge Design with a traffic loading of SM1600.
- The design traffic speed is 70 km/h, with a posted speed limit of 60 km/h.
- The bridge has been designed to a Heavy Load Platform Loading of HLP320, restricted to one vehicle at any one time.
- HLP320 Loading may be permitted up to +/- 1 m laterally in either direction from centre of carriageway, with vehicle speed restricted to 10 km/h.

The TIA concluded that subject to a detailed vehicle loading analysis for OSOM (to be completed by the EPC contractor once OSOM vehicle dimensions and loadings are confirmed) and implementation of the control measures highlighted by Council, the upgraded bridge can accommodate the Project's OSOM vehicles.

**Increase in Traffic Volumes and Road Safety Risks**

*Lightsource BP say there will be 250 light vehicles per day, 60 shuttle buses 90 heavy vehicles and 50 light truck movements. A LOT of traffic on what is essentially a small country road meant for local traffic ONLY. S-78451981*

*The country road will become a main thoroughfare increasing risk to all on the road with the active wild life. S-78567997*

*Neighbours, both adjacent and more distant, do not want this solar farm to be created due to the … vast movement of trucks and materials being carried on our narrow local roads. S-78570208*

*Traffic congestion at the intersections of Sloane Street and Braidwood Roads in particular will cause major congestion during the construction phase of the project. S-78529217*

*The extra 300+ vehicles on the road daily with also pose a high risk of more damaged roads, wider vehicles on a single lane country road where cyclist also ride their bikes. Traffic will be forced to move closer to the edge of the road which may potentially cause more accidents. S-78570956*

*Increased heavy vehicle traffic poses severe dangers to pedestrian safety. The route also impacts high-traffic community hubs such as the Railway Bowling Club, Belmore Park, Goulburn Visitor Information Centre, Goulburn Railway Station and the Goulburn Marketplace. Increased truck movements will disrupt these spaces, posing risks to pedestrian safety and diminishing the area's liveability. S-78525743*

The updated TIA indicate that the road network has sufficient capacity to accommodate the peak construction traffic generation of the Project without affecting the Level of Service at any key intersections along either route option. No traffic congestion is therefore anticipated as a result of the increased traffic volumes generated by the Project.

As stated in Section 6.11.3.4 of the EIS, the proposed Project access at Windellama Road meet the design requirements and safe intersection sight distance (SISD) defined by Austroads.

The selection of Option 2 as the primary route for general construction traffic will avoid potential conflicts with sensitive land uses (including Goulburn North Primary School and St Joseph Primary School) and high-traffic community hubs (such as the Railway Bowling Club, Belmore Park, Goulburn Visitor Information Centre, Goulburn Railway Station and the Goulburn Marketplace).

| Vibration Impacts to St Clair Homestead |
| --- |
| *Increased heavy vehicle traffic poses severe dangers to pedestrian safety and threatens the structural integrity of the heritage-listed St Clair Homestead. S-78525743* |

Two transport routes from the Hume Highway to the Project Area have been considered and assessed in the EIS, and include:

- Option 1: Hume Highway – Sydney Road – Reyolds Street – Grafton Street – Sloane Street – Braidwood Road – Bungonia Road – Windellama Road.
- Option 2: Hume Highway – Hume Street – Garroorigang Road – Sloane Street – Braidwood Road – Bungonia Road – Windellama Road.

St Clair Homestead is located on Sloan Street in Goulburn, along the Option 1 route.

As stated above, general construction traffic will select Option 2 as the primary route and would therefore not travel passed the St Clair Homestead.

| Damage to Local Roads |
| --- |
| *Windellama road is not in great condition with many pot holes filled and refilled in Gundary area, the amount of daily traffic proposed by the solar factory will only increase the degradation of the road S-78451981* |
| *The Windellama road would require a significant upgrade to safely support the huge increase in large heavy traffic getting to and from the site for installation. The Fifes Bridge is too narrow for two trucks to safely pass and the north approach to the bridge is not visible with enough distance to safely stop a heavy vehicle S-78452004* |
| *Despite claims made in the EIS, the proposed traffic routes will create significant disturbance (and damage) to Local and State Roads. The intersection will require stregthening and/or remediation works with 140 heavy movements per day at the construction peak S-78529217* |
| *The extra 300+ vehicles on the road daily with also pose a high risk of more damaged roads, wider vehicles on a single lane country road where cyclist also ride their bikes S-78570956* |
| *The transport of machinery and the solar panels to site will have a detrimental effect on the single lane carriageway of Windellama Rd. S-78604720* |

The EIS includes a commitment that dilapidation surveys covering pavement, drainage, and bridge structures will be undertaken in consultation with TfNSW and Council for the proposed transport routes before and after construction, should the Project be approved. Refer to **Appendix 2** for more detail.

### 5.1.8 Contamination and Other Hazards

| Release of Toxic Chemicals from Solar Panels |
| --- |
| *The negative effects on soil health, water resources, and local wildlife habitats could have far-reaching consequences for both the environment and the community. S-78476714* |
| *Solar Panels will be damaged during installation causing leaching, they do not last forever and will need replacing. S-78552458* |

| Release of Toxic Chemicals from Solar Panels |
| --- |
| *There is the insidious, continuous emission of dreadful toxic chemicals into our land, waterways and sky. S-78567724*<br><br>*The materials used in solar panels contain harmful substances that could contaminate the surrounding soil and water, posing long-term health risks. British Petroleum has failed to address these serious concerns. S-78584456*<br><br>*The long-term problem of toxic contamination finding its way into soil profiles and waterways including rivers, creeks, farm dams, town water storage systems, city water storage, Oceans and The Great Barrier Reef; and the waste management arising from solar components is acknowledged worldwide as a 'ticking time-bomb. S-78593224*<br><br>*Moreover, the materials used in constructing photovoltaic cells are known to contain carcinogenic materials and pose a risk of causing silicosis. What will happen when these hazardous substances are released into the environment, contaminating our water sources and potentially poisoning the residents of the Gundary Plains. S-78521475* |

Despite the large amount of information circulating about solar panels being toxic, modern crystalline silicon solar panels contain no toxic materials. The claims of toxic solar panels come from the mostly obsolete thin-film (Cadmium telluride – CdTe) solar panels which did contain trace amounts of cadmium and telluride. However, unless these (relatively rare) panels are broken up into fragments, the trace amount of cadmium is contained within the layers and cannot leach out.

The International Energy Agency confirmed the only potential human and environmental concerns in commercially produced PV modules are the trace amounts of lead in the solder of modules. That is the material used to join the panels together. Many manufacturers are seeking to adopt lead-free solders (Clean Energy Council, 2025b).

There is no clear evidence that the leaching of toxic elements from solar panels during the operational phase is an environmental issue in Australia or abroad. For example, a study published in 2019 in the Journal of Natural Resources and Development examined soil samples from beneath operational crystalline silicon photovoltaic modules and from adjacent, module-free environments, and then compared bioavailable element concentrations between these samples. The study concluded that, despite concentration differences for some elements in the two sample locations, no elements were, on average, present in concentrations that would pose a risk to nearby ecosystems. The authors concluded that photovoltaic systems thus remain a cleaner alternative to traditional energy sources, such as coal, especially during the operation of these energy production systems (Robinson and Meindl, 2019).

Although there are a number of materials used in the manufacture of PV modules that are considered toxic, 'for intact PV panels, leaching of these elements is unlikely to occur' because they are encased in a number of protective layers (Robinson and Meindl, 2019). During the manufacturing process of a solar panel, the PV cells are typically encapsulated in a clear hardened resin with strengthened glass protecting the front side, as well as a back side made from a polymer (Clean Energy Reviews, 2020). The completed panel is then further protected by an aluminium frame. These features protect the panel from the environment including extremes in temperature, rainfall, hail and humidity (Clean Energy Reviews, 2020). This robust design, combined with a standard 25-year warranty, reduces the likelihood of cell material being exposed to the environment.

Therefore, there is a negligible likelihood of PV panels causing contamination.

| Release of Toxic Gasses and Chemicals from the BESS |
| --- |
| *Lithium-ion Battery Energy Storage Systems are also a PFAS Contaminant. Forever chemicals used in lithium ion batteries threaten environment, research finds \| Lithium-ion batteries \| The Guardian 14/7/24 https://www.theguardian.com/technology/article/2024/jul/14/forever-chemicals- S-78458706*<br><br>*Noting the Livestock Producer Assurance accreditation application, they recognise and acknowledge that agricultural land WILL BE POISONED by batteries and solar panels. Given this significant fact, these projects should NOT go ahead as they compromise our food security and environmental safety. S-78521741*<br><br>*Toxic PFAS 'forever chemicals' imbedded in lithium-ion batteries present a dangerous source of chemical pollution that new research carried out by Jennifer Guelfo PhD of Texas Tech University and Lee Ferguson PhD of Duke University found in their peer reviewed co-paper published in Nature Communications 8 July 2024 threatens the environment and human health as the industry scales up. S-78593224*<br><br>*As a Rural Fire volunteer we have been advised that the batteries and components will exude toxic fumes and fires will spread quickly to surrounding areas. S-78601220*<br><br>*The fumes originating from different kinds of plastics (PVC insulation, etc.), epoxy-resins (module sealings, electronic components, etc.) and transformer cooling oils (see below) in every inverter and high-power transformer are highly toxic. The main problem is the transformer cooling oil. This oil contains tetra fluoro- and tetrachloro-dioxine which are highly toxic, teratogenic, mutagenic and cancerogenic. Hydrogen fluoride (HF) is the most toxic gas likely to be present in a significant release event during a LIB thermal runaway/fire event involving the type of cells that are likely to be used in the Project. S-78604472* |

A Preliminary Hazard Analysis (PHA) (Appendix 16 of the EIS) considered the hazards and risks associated with the transport, storage and use of hazardous materials at the Project Area, including lithium-ion batteries (LIBs) (a Class 9 miscellaneous dangerous good) and electrical transformer insulating oil (not classified as a dangerous good).

A risk assessment was undertaken as a component of the PHA (refer to Section 6.13.1 and Appendix 16 of the EIS). The PHA considered the results of the consequence modelling and the estimated likelihood of a battery fire and/or thermal runaway scenario resulting in either a fire, explosion or toxic gas release which are summarised below.

#### 5.1.8.1 Toxic Gas Release

The EIS identified that hydrogen fluoride (HF) is the most toxic gas likely to be present in a significant release event during a LIB thermal runaway/fire event involving the type of cells that are likely to be used in the Project. The consequence assessment for a toxic release scenario was therefore based on HF gas release.

Dispersion modelling results indicate that the maximum distance at which an individual exposed to HF emissions from a toxic gas release event at the Project could experience an injury is estimated to be 57 m. Based on the modelling, the potential injurious impacts for the worst-case scenario are considered unlikely to extend to the nearest off-site receivers due to adequate separation distances (of more than 900 m) between the BESS units and off-site receivers.

In addition, the ongoing development and testing of BESS components is systematically reducing the likelihood of a thermal runaway event.

#### 5.1.8.2 LIB Fire

Fire scenario modelling was undertaken to estimate the incident heat flux experienced by a receiver at varying distances from the BESS. Results indicated that the maximum distance at which an individual exposed to thermal radiation from a BESS fire could experience an injury is estimated to be 19 m, well within the Project boundary.

#### 5.1.8.3 Impacts to First Responders and the Environment

Whilst a LIB will generate toxic air emissions during a possible thermal runaway incident, the toxic plume is dependent on the quantity of LIB cells involved in the incident and meteorological conditions influencing the extent and location of the affected area.

Therefore, the risk of potential toxic impacts to first responders can be limited by limiting the quantity of LIB cells involved in a thermal incident (i.e. ensuring non-propagation between adjacent modules, racks and units/containers) and selecting an appropriate location for the LIB BESS with first responder access and egress to the LIB BESS from alternate directions (i.e. to allow access and egress via upwind direction).

If the fire safety strategy relies on the application of water for suppression of the thermal incident, the facility design must incorporate fire water containment with sufficient capacity to capture all contaminated fire water runoff for the expected duration of the incident. Consideration will also be given to the placement and proximity of the LIB BESS to watercourses and drainage pathways to receiving waterways in the event the capacity of the fire water containment system is exceeded.

#### 5.1.8.4 Conclusion

Lightsource bp will implement a range of technical and non-technical risk mitigation and management measures including rigorous design standards and maintenance practices. Compliance with HIPAP 4 criteria is conditional on these technical and non-technical risk mitigation and management measures being implemented.

The PHA concluded that based on the modelling results, and considering that the Project will be appropriately designed, installed and maintained, the associated hazards with LIBs can be safely managed.

The hazardous components of the Project are located at distances greater than the expected impacts of a credible hazard event from the nearest off-site receiver. It is considered that all 'avoidable' risks have been avoided, and the Project location is appropriate.

Additionally, Fire and Rescue NSW (FRNSW) made a submission during exhibition of the Project (refer to **Section 4.7** above) noting that renewables facilities with large scale BESS pose problems for firefighting, and that special hazards exist that may require additional fire safety and management measures.

Recommendations made by FRNSW have been adopted by the Project, primarily centred on the development of additional detailed plans to be finalised in consultation with FRNSW, as summarised below:

- Prior to construction a Fire Safety Study (FSS) is developed in accordance with the requirements of the Hazardous Industry Planning Advisory Paper (HIPAP) No.2 and submitted to FRNSW for review.

- The FSS is to be used to inform the design and as such it is FRNSW Position that the FSS be developed to the satisfaction of FRNSW prior to any further submission being made to FRNSW; this includes: an Initial Fire Safety Report (IFSR) and / or Performance-Based Design Brief / Fire Engineering Brief Questionnaire (FEBQ).
- The FSS should be prepared consistent with the FRNSW Fire Safety Guideline Technical Information – Large scale external lithium-ion battery energy storage systems – Fire safety study considerations.

- Prior to occupation or commissioning, an Emergency Plan (EP) is developed in accordance with HIPAP No.1.
- Prior to occupation or commissioning an Emergency Services Information Package (ESIP) is developed for the site in accordance with FRNSW fire safety guideline – Emergency services information package and tactical fire plans.
- Prior to occupation or commissioning an emergency responder's induction package is developed in consultation with, and to the satisfaction of FRNSW.

The preparation of the additional detailed plans above has been included as updated mitigation measures in **Appendix 2** of this report.

| **Spraying of Toxic Chemicals** |
| --- |
| *BP will spray toxic chemicals on the land. S-78552458* |

Weed spraying would be undertaken in a controlled manner, applying herbicides effectively and safely to target specific weeds while minimising overspray to surrounding vegetation and the environment, as a measure of biosecurity control and weed management. Details of biosecurity control and weed management will be detailed in the Environment Management Strategy to be developed for the Project.

### 5.1.9 Water Resources

| **Flooding Impacts** |
| --- |
| *Total lack of knowledge/research of this area in the initial stages of the development. Flood zone (Sydney Water), a waterway running through the middle of the property which can isolate the eastern paddocks for a number of days. Inability to access majority of paddocks due to flooding. One of the major challenges that the development has to deal with is the lack of access during major flooding events. It is completely cut off as Windellama Rd, Bungonia Rd (access to Kooringaroo Rd) and Painters Lane goes under water. S-78472457* |
| *Flood hazard. The EIS states on page 187: "Flooding within the Project Area is not recorded and no anecdotal information, such as surveyed flood debris marks on landmarks such as fencing, were available for this study."" We observed on surrounding property (that shares a fence with the proposed site) a substantial amount of flood debris visible up to ca. 1.1 m above ground – and the property has a higher elevation than the proposed location for the solar power plant. S-78604472* |
| *Gundary Plain is a flood zone and concrete and other pollutants will wash into local waterways. As Goulburn flows into the Sydney Catchment area Gundary Plain is an entirely inappropriate location for the project. S-78601956* |

As discussed in Section 6.12 of the EIS, avoidance of flood prone areas was a key objective in the Project design process. This involved:

- Avoiding placement of Project infrastructure within flood prone areas (1% Annual Exceedance Probability (AEP)).
- Designing solar panels with a 500 mm freeboard for the lowest edge above the maximum 1% AEP flood event.
- Maintaining setback buffer of approximately 20 m to 40 m around second order and higher streams, in particular where these have biodiversity value.
- Installation of riparian fencing (such as a latched tube watercourse crossing) where the security fence crosses a watercourse or creek.

Impacts of the Project on flood depth, velocity and hazard for the 10%, 1%, 0.5%, 0.2%, and 0.05% AEP events and PMF event were assessed (see Section 6.12.3.3 and Appendix 15 of the EIS).

Modelling results show that the location of the solar panels, substation, BESS and access from Windellama Road are outside of the flood extent and considered suitable in terms of flooding constraints. The panels have been designed with a 500 mm freeboard for the lowest edge above the maximum 1% AEP flood event. Furthermore, areas where the overland flow path exceeds depth and velocity values expected to be high risk for Project infrastructure have been 'excluded' from the Development Footprint. For the remaining areas, the probability of erosion and scour is expected to be minimal.

Access tracks, watercourse crossings (i.e., culvert crossings or causeways) and buried cable reticulation are the only works proposed within or near to the watercourses. Peak flood velocities crossing access tracks will be managed to confirm sediment is not mobilised in a significant rain event. Inspection after storm events will be undertaken to make sure erosion does not impact the access roads through the life of the Project. Erosion and sediment controls will be implemented for the Project in accordance with the *Guidelines for Managing Urban Stormwater: Soils and Construction* (Landcom, 2004). This measure, as well as others, will be documented in an OEMP, which will be developed for the Project to address flood related impacts during the operational phase.

It is anticipated that the preparation and implementation of the OEMP will be included as a condition of the development consent, ensuring the ongoing management of the Project during the operations phase.

| **Water Supply / Decommissioning Farm Dams** |
| --- |
| *The fact that they will decommission a majority of their dams means that they are only running a token number of stock. Changing farming practices due to altering water supply. S-78472457*<br><br>*BP plans to fill in all the dams on the property in order to construct the solar farm but yet ensure they will run sheep on the property as the can graze under the panels but what water source will these sheep have if all the dams are filled in? S-78570956* |

In addition to the 24 small man-made farm dams currently within the Project Area, there is also one WaterNSW registered groundwater bore (GW068697) within the southern part of the Project Area on Lot 1 DP 870101. The bore is described as being drilled to 30 m in depth with a standing water level of 21 m below ground level (mbgl), last recorded in 1990 and is used for domestic water supply purposes under the basic landholder rights works approval 10WA115059, for extraction of water from the Lachlan Fold Belt Greater Metropolitan Groundwater Source.

Water requirements for the Project are described in Section 3.7 of the EIS. Any water supplied to the Project from the existing on-site groundwater bore or farm dams will be sourced under agreement with the relevant landholder while ensuring any licences and approvals are obtained.

Water sources would be confirmed during the detailed design phase and in consultation with suppliers and landholders and be subject to availability. A water sourcing strategy will be developed so that water used during the construction phase does not cause issues to adjacent landowners or other stakeholders. The use of any bore water during construction and decommissioning would be agreed with the landholder and Water Access Licences (WAL) would need to be confirmed and/or obtained.

As noted in the EIS, should sheep grazing be established, measures to manage the co-existence of farming activities and the operation of the Project (such as water sources) will be outlined in a Sheep Grazing Vegetation Management Plan (SGVMP).

**Water Quality Impacts**

*The Gundary Creek is part of the Warragamba catchment, the solar farm is adjacent to and encroaches on the on the Gundary Creek. Pollution of water resources in establishment, operation and deteriorating metal and cabling as well as panel over time will compromise water quality. A fire in the solar factory would be a disaster for Sydney Water releasing toxins into the water supply S-78312498*

*Irreversible Environmental Damage will be caused by this non-sensical plan, with harmful substances ruining our essential, productive land & water systems forever - never to be cleaned up by these vandalising developers & gullible hosts - leaving lasting damage to our environment S-78451229*

*The negative effects on soil health, water resources, and local wildlife habitats could have far-reaching consequences for both the environment and the community S-78476714*

*The toxic run-off from such infrastructure associated with solar factory farms will be damaging to nearby properties and wildlife S-78524481*

*I am also concerned about the potential for run-off of said contaminants from the solar factory into Gundary Creek, which I believe flows into the overall catchment for drinking water and may extend to Sydney drinking water as well. To my knowledge, there is no financial commitment by the developer for the decommissioning and remediation of the site, which likely means this infrastructure will be left to rot when it is inevitably outdated S-78606456*

*The Gundary Plains lie within Sydney's water catchment area, making the environmental risks of this project particularly serious. The construction phase poses significant threats of soil erosion, increased runoff, and potential contamination of water supplies. This could have devastating consequences for local waterways, impacting both human health and biodiversity S-78525743*

*Gundary Plain is a flood zone and concrete and other pollutants will wash into local waterways. As Goulburn flows into the Sydney Catchment area Gundary Plain is an entirely inappropriate location for the project S-78601956*

**Water Quality Impacts**

*I am concerned that parts of our property may be contaminated by water run-off from the solar site. As a livestock producer, I am required to assess the risk of my animals being contaminated. Robust and credible research has been conducted by Stuttgart University that there is a distinct possibility that there will be leaching of solar panels. There is also the possibility of inverter or battery accidents which would lead to pollution S-78421706*

*TOXIC POLLUTION & NO POWER will be the result of this destructive, industrialised rubbish - especially with heavy metals & forever chemicals' posing long-term risks of soil and water contamination, poisoning our ecosystems, wildlife, and future generations. S-78451218*

Section 6.12.3 of the EIS notes that the Project is located within the Sydney drinking water catchment and must therefore be able to demonstrate a Neutral or Beneficial Effect (NorBE) on water quality in accordance with the *WaterNSW guidelines* (2022).

The water quality assessment for the Project was undertaken using MUSIC modelling of the pre- and post-development scenarios to estimate the pollutant loads and concentrations in stormwater runoff discharged from the Project catchment.

Impacts to receiving water quality downstream of the Project are expected to be negligible with the implementation of stormwater treatment measures (vegetated swales along the full length of downslope side of the solar panels) and effective rehabilitation of all disturbed areas post-construction. The EIS includes a commitment that refinement of the MUSIC water quality model will be undertaken during the detailed design phase of the Project to ensure the model reflects the detailed design and to optimise the operational Project stormwater treatment.

The potential for ongoing erosion post construction is considered to be low considering the commitment that all disturbed areas will be appropriately rehabilitated, and any areas identified as exhibiting signs of erosion above expected background levels will be addressed.

All hazardous materials and chemicals will be stored in accordance with relevant Australian standards and other state and local guidelines including the NSW EPA's *Storing and Handling Liquids: Environmental Protection – Participants Handbook*.

Based on the above, and with the implementation of management measures outlined in **Appendix 2**, water quality impacts are expected to be negligible.

### 5.1.10 Noise

**Operational Noise Impacts**

*The introduction of solar farms may also disrupt the tranquillity of our rural community. Inverters and cooling fans can produce noise, affecting the peace that many residents value. This disruption is significant and impacts the reason many of us chose to live here. S-78464722*

*I am concerned about the noise pollution so close to our property. S-78567959*

*The noise of the converters will keep neighbouring properties awake with the humming noise. S-78588477*

Section 6.10 of the EIS highlights that the Project layout and design has sought to avoid and minimise noise impacts to nearby residences. This involved:

- Relocating the centralised BESS approximately 1.2 km to the east, away from non-associated residences on the north-west.
- Removal of 20 decentralised BESS units located nearest to non-associated residences.
- Placement of 5.5 metre high noise walls around the loudest Project infrastructure (such as the substation HV transformers), with the inside of the walls to be lined with acoustic absorption.
- For some decentralised DC BESS PCS stations, the placement of 3 m high noise walls near the condenser units.

The Noise and Vibration Impact Assessment (NVIA) undertaken by Umwelt (refer to Appendix 13 of the EIS) included an assessment of operational noise impacts in accordance with the NSW *Noise Policy for Industry* (NPfI) (EPA, 2017).

The operational noise levels have been predicted under default worst-case meteorological conditions (D class with 3 m/s windspeed or F-class with 2 m/s windspeed) in accordance with the NPfI. It is noted that the above noise barriers have been incorporated into the operational noise model and have been considered in the modelling to act as mitigation measures for operational noise impacts.

The modelling predicted that the operational noise levels for the Project will comply with the day noise limit of 40 dB(A), as well as the evening and night-time noise limit of 35 dB(A) at all non-involved receivers. No noise impacts are therefore anticipated for the operation of the Project.

**Construction Noise Impacts**

*Construction noise levels over 100dB and operation noise over 95dB every 15 minutes. S-78482970*

*Neighbours, both adjacent and more distant, do not want this solar farm to be created due to the above reasons as well as not wanting the noise of construction, the vast movement of trucks and materials being carried on our narrow local roads. S-78570208*

*Pile drivers when driving into granite rock will be in the 140dB range. Lightsource has not even considered this aspect of their noise pollution – it's more than a nuisance. After construction there will be the long-term noise nuisance of ongoing operating noise (Inverters and Battery stations including each of their air conditioning systems along with the axis tilting mechanism) for up to 40 years. We have been told by a neighbour of the Lightsource solar farm at Wellington that we should not agree to an inverter near our house as the noise is constant and loud. S-78421706*

The NVIA undertaken by Umwelt (refer to Appendix 13 of the EIS) included an assessment of construction noise impacts in accordance with the *Interim Construction Noise Guideline* (ICNG) (Department of Environment and Climate Change (DECC), 2009).

Seven indicative construction scenarios were modelled in NVIA to reflect the equipment, activities and locations during different stages of construction:

- Scenario 1 – Site establishment and civil works.
- Scenario 2 – Piling and foundations.
- Scenario 3 – Assembly of all equipment (trackers, inverters, modules, balance of system).
- Scenario 4 – Underground cabling.
- Scenario 5 – Commissioning.
- Scenario 6 – Site rehabilitation, removal of temporary construction facilities.
- Scenario 7 – Primary access upgrade.

The modelling results show that 21 non-involved receivers are predicted to experience some degree of noise during the construction period (i.e. noise levels above the noise management level (45 dB(A)). These are R4, R5, R6, R7, R8, R9, R10, R16A, R16B, R16C, R20, R21A, R21B, R22, R25, R27, R29, R30, R31, R79 and R90, as shown on Figure 2.4 of the EIS. It is noted that the predicted modelling is conservative with noise levels being presented without any mitigation controls applied. In reality, a receiver would experience a range of construction noise, dependent upon the number of plant items operating at any one time and their precise location on site.

No receiver is predicted to be 'highly noise affected' (i.e. in accordance with the ICNG, exposed to noise levels greater than 75 dB(A)).

Noise mitigation and management strategies will be implemented, as outlined in **Appendix 2**, should the Project be approved in order to manage and mitigate the potential construction noise impacts on these receivers.

| **Traffic Noise** |
| --- |
| *My family will have years off putting up with noise traffic and a heap of workers that will not be local. S-78358707* |

The NVIA predicts that for receivers along Windellama Road, Bungonia Road and Braidwood Road the potential traffic noise level is predicted to comply with the daytime noise limit of 60 dB(A) $L_{Aeq(15hr)}$. No road traffic noise impacts are therefore predicted for the daytime period (7:00 am to 10:00 pm).

The potential traffic noise level is predicted to comply with the night-time noise limit of 55 dB(A) $L_{Aeq(15hr)}$ for all receivers at 30 m from the road edge. However, one receiver (R45) is located within 30 m and may experience an elevated road traffic noise level (3.8 dB(A) increase) during the night-time period (10:00 pm to 7:00 am). It is noted however that the predicted noise levels are conservative and is based on peak construction traffic movements, assuming 50% of workforce movements will be prior to 7:00 am.

Management and mitigation measures outlined in **Appendix 2** will be implemented to mitigate and manage any construction road traffic noise impacts associated with the Project.

## 5.1.11 Cumulative Impacts

| Merino Solar Farm |
| --- |
| *Cumulative impacts are likely as there is another large scale solar 'farm' proposed 2 kms apart between Windellama Road and Braidwood Road. The total area will be 14.5sq km. S-78311466* |
| *Additionally we have now learned that another Solar Farm - Merino Solar Farm is proposed and the proposed development area is directly behind our property to the West, North West and South West. Effectively we will be surrounded by Solar farms if these both go ahead totally destroying our lifestyle and these areas around Goulburn city and regions. S-78371993* |
| *A proposal for a second large scale solar development in close proximity on the eastern side of the Gundary Solar site will further compound the fire risk & given the right conditions will pre heat the air entering the Gundary site. There has been no studies or evidence produced to dispel this super heating effect & possible magnification of the horrendous outcomes. S-78494549* |
| *We live within the 4 km. radius of this project and with another proposed solar development on productive farm land which is on our boundary makes it 14.5 sq.kilometres of solar approximately 1.5 million solar panels between the two sites within 10 kilometres of the Goulburn CBD. The loss of valuable farming land the negative effect on local landholders financially and mentally, the restriction of growth of Goulburn and the little financial gain of our community this solar project should not go ahead. S-78547711* |
| *How can BP say that they "will not materially" contribute to the cumulative impact when the Merino Solar development is only 2 kilometres from the Gundary proposal and Windellama Road is the same main access road that will be used? S-78421706* |

The cumulative impacts associated with the Project and the proposed Merino Solar Farm (approximately 1 km away) were addressed in detail in Section 6.18 of the EIS, including in the relevant specialist reports appended to the EIS. At the time of finalising this Submissions Report, no further information on the Merino Solar Farm was available.

Due to the nature of renewable energy projects, most of the potential cumulative impacts are associated with the construction phase (particularly traffic, noise and social impacts) with some visual impacts that may also be cumulative in nature. Many of the other potential impacts associated with the operational phase of the projects are generally limited, due to physical separation of the projects, reduced vehicle movements, and minimal works required during this phase.

### 5.1.11.1 Cumulative Visual

The LVIA assessed six private viewpoints (residences) and one future receiver for potential cumulative visual impacts as these are located such that they could potentially view both projects. The LVIA found that the cumulative visual impact on these viewpoints as a result of the proposed Merino Solar Farm and the Project is anticipated to be minimal, due to:

- the view to either the Project or the proposed Merino Solar Farm (or in most cases both) was secondary from all existing viewpoints
- no viewpoint would see both solar farms within the same field of view
- all viewpoints have limitations to their view, due to intervening vegetation and/or buildings.

With the implementation of visual management and mitigation measures outlined in **Appendix 2**, the potential cumulative impacts on viewpoints would be further reduced. It has also been assumed that should the proposed Merino Solar Farm be approved and constructed, that landscape screening would form part of that project, and over time also reduce views of that solar farm.

#### 5.1.11.2 Cumulative Noise

The NVIA assumed that the construction phase of the Gundary Solar Farm and Merino Solar Farm project would occur concurrently. There is potential for cumulative construction noise at receivers located between both project areas, near Windellama Road. These would include R16A, R16B, R16C, R20, R21A, R21B, R22, R25, R27, R29, R30, R31, R79 and R90.

Noise management and mitigation strategies outlined in **Appendix 2** will be implemented to mitigate any cumulative construction noise impacts.

No cumulative operational noise impact is anticipated due to the combined impact of the operation of the two projects, as the Gundary Solar Farm can readily achieve the Project Amenity Noise level (PANL).

#### 5.1.11.3 Cumulative Traffic

The TIA conservatively assumed that the Merino Solar Farm and Gundary Solar Farm would have simultaneous peak construction periods. As no traffic volumes were available for Merino Solar Farm, the TIA assumed that the Merino Solar Farm will generate 12.5% more construction traffic than the Gundary Solar Farm Project, due to the proposed capacity.

The cumulative traffic assessment determined that, considering the potential increased traffic movements with both projects occurring at the same time, all key intersections along both transport routes for construction vehicles will continue to operate satisfactorily with acceptable Level of Service (LoS). There was however a noticeable change to the LoS at the Sloane Street/Braidwood Road intersection if all construction traffic for both projects were to use the Option 1 transport route.

The EIS therefore includes a commitment that should both projects undertake peak construction simultaneously, Option 2 route will be used for Gundary Solar Farm to reduce potential congestion at the Sloane Street/Braidwood Road intersection.

#### 5.1.11.4 Cumulative Social and Economic

Key cumulative social and economic impacts could include:

- Competition for construction aligned services and labour resulting in a shortage of workers in the regional area.
- A shortage of available commercial and private accommodation due to the demand from multiple infrastructure projects, resulting in a lack of available rooms to service other sectors (i.e. tourism, visitation, business etc) and lack of available rental housing for local communities in a very tight rental market (especially in Goulburn).

- Demands to other services in key townships e.g. health, food services/ facilities and education facilities. With several possible concurrent construction phases for just renewable energy projects in the region there may be a strain on current services to meet the demands of large population influxes causing significant strain on the availability of services for those communities. This can also enhance economic outcomes for local businesses due to the increased commercial activity, spending and revenue generation from workforces accessing and utilising these businesses or services within the townships.

The SIA considered that the potential cumulative impacts associated with the Gundary Solar Farm and Merino Solar Farm will be manageable. A Social Impact Management Plan (SIMP) will be developed and implemented for the Project will include measures to address potential cumulative impacts (both positive and negative) and provide an appropriate platform for Lightsource bp to manage the contribution of the Project to the relevant cumulative issues.

The EIS further includes a commitment to monitor and evaluate the effectiveness of the Accommodation and Employment Strategy (AES), which will assist in the management of the cumulative social and economic impacts.

These strategies will be developed in the lead up to the construction phase of the Project to reflect and respond to actual regional demand conditions at that time, especially in relation to concurrent projects within the Goulburn Mulwaree LGA and neighbouring LGAs.

During the Project's pre-construction and construction phases, the AES would be reviewed bi-annually by the EPC Contractor to assess the effectiveness of steps taken to secure sufficient accommodation for the workforce.

### 5.1.12 Heat Bank Impacts

| Heat Bank Impact |
| --- |
| *Scientists recognise the heat bank impact in summer months we will be very close to the installation and substation. BP Lightsource have no right to impact our environment or our space by modifying local climate conditions. S-78312498* |
| *Global studies indicate that large-scale solar farms create a 'heat bank' effect, increasing temperatures by several degrees for hundreds of meters beyond the solar panels.[EIS] fails to address how this heat impact will affect the families living within its range. This glaring omission renders the proposal incomplete and unfit for approva. S-78313721* |
| *Scientists have documented the heat bank effect, where large installations like solar farms can increase local temperatures, particularly during the summer months. Living in close proximity to the proposed installation and substation, we are deeply concerned about how this phenomenon will impact our daily lives, our environment, and the broader local ecosystem. S-78521475* |
| *The alteration will result in a rise in surrounding temperatures as the waste heat emanating from the panels – as they convert the suns radiation into physical heat – needs to be addressed… up to 80% of the suns energy will be wasted – converted to heat – some reflected as glare. How is this being addressed? S-78623714* |
| *Studies around the world show that large solar farms create a heat bank extending several hundred metres from the perimeter of the panels. It is naturally worse in the summer months. The truth is the heat island impact has never been anticipated by policy makers or that solar projects of this size would be located in places like Gundary. S-78421706* |

Recent research has challenged the idea that large-scale solar farms might act as heat banks and increase temperatures on surrounding land. A recent international scientific study, which used Landsat-derived land surface temperature data, discovered that the temperature of the land surrounding solar farms could be reduced by up to 2.3°C at a distance of 100 m, with the cooling effects diminishing up to 700 m away (Guoqing et al., 2021). This cooling effect, observed even in smaller measurement areas, is thought to be due to the formation of small-scale circulation cells, similar to those around desert cities and water bodies.

The use of single-axis tracking (SAT) technology, which is proposed at Gundary, has an axis of rotation typically around 1.2–1.8 m above the ground and rows are typically spaced at least 5 m apart.
This elevation and panel spacing means that heat build-up under the panels is very unlikely, and if anything, there is a slight decrease in temperature underneath the panels due to shading.

### 5.1.13 Waste Management

| Waste |
| --- |
| *One of the most pressing environmental concerns is the question of what will happen when the solar panels and associated infrastructure reach the end of their lifecycle. Solar panels typically last around 25-30 years, after which they need to be replaced or decommissioned. There is currently a lack of clear plans and regulations governing the disposal of solar panels and the decommissioning of solar farms. S-77919962* |
| *Solar panels/batteries will eventually wear out and need to be disposed of, creating waste that will have an environmental impact. It is not clear in this submission how/where old solar equipment/batteries will be disposed of, who is responsible to pay for this? S-78311468* |
| *Solar panels are not recyclable and are currently buried. Currently there is no effective waste management plan for the decommissioning of solar panels. S-78436721* |
| *Waste management arising from solar components is acknowledged worldwide as a 'ticking time-bomb'. S-78593224* |
| *The disposal of used panels has proved very problematic to other operators. Recycling does not appear to be an option. Of greater concern is that it is likely that Lightsource Development Services will at some stage seek to sell the development. Any agreement as to the rehabilitation or remediation of the land upon the decommissioning of the site will be made much less tenable in the very likely event that BP elect to sell the project at some stage in the future. S-78604469* |

Lightsource bp's Commitment to Sustainability sets out a sustainability framework aligned to UN Sustainable Development Goals. The sustainability framework includes three key pillars: environment, energy and people. As part of the environmental pillar, Lightsource bp commit to improving circularity through waste management practices.

Waste management is addressed in Section 6.16 of the EIS with a draft Waste Management Plan (WMP) provided in Appendix 20 of the EIS. A summary of the commitments made within the WMP and the responsibilities for the implementation of the waste management controls is included as Appendix A of the WMP. Should the Project be approved, the draft WMP will be reviewed and updated with a detailed breakdown of the waste types and quantities in accordance with relevant legislation and guidelines as part of the detailed design and construction phase. Lightsource bp is committed to ensuring waste generated by the Project is able to be reused and recycled in accordance with the waste management hierarchy.

As discussed in **Section 3.1.2**, Lightsource bp has continued to consult with Council regarding waste management, and discussions are ongoing.

Lightsource bp is currently trialling a circular design principle that provides sustainable packaging solutions for most products that contribute a bulk amount of waste during the construction phase. Upon successful trial results, this circular design principle will be implemented into this project. Some wastes may need to be disposed of to landfill, and in this case the proponent will liaise with the relevant local authorities to avoid any cumulative impacts that may result from the waste disposal needs of multiple developments in the region.

It is also anticipated that the commitment to decommission the Project in accordance with the relevant stage legislation would be included as a condition of consent, which provide assurance that decommissioning of the Project must be undertaken following the end of the Project's operational life.

### 5.1.14 Electromagnetic Field Impacts

| **EMF Impacts and Public Health** |
|---|
| *There will be Physical health and wellbeing impacts as a result of potential increased exposure to electromagnetic fields (EMFs) from Project infrastructure. S-78397241* |
| *Electro Magnetic Field. The substation is within 200 mt of a school bus stop, three times the size of what we were told it was going to be. How does this comply with any standard? Irish Solar and, Florida (to mention just two) have agreed with World Health Organisation recommendation, to keep Solar Factories away from residential areas, by over 2km. S-78451981* |
| *Determination of all Public Health & Safety Risks to Human Beings/Ecology/Ecosystems including:- Electrical Force & Electromagnetic Radiation. S-78458706* |
| *As a large electricity facility, the amount of exposure to electromagnetic radiation is unknown. S-78482970* |
| *Electromagnetic Radiation; A very large electricity facility - 740,000 solar panels, 154 inverters, 154 batteries, 30/330 kV substation; Exposure to electromagnetic radiation is unknown; Impact on tractor GPS guidance and Drone guidance is unknown. S-78515226* |
| *Solar infrastructure has too many negative side effects on both the health of people, environment, animals and landscapes. S-78521755* |

Potential for Electromagnetic Fields (EMF) risks associated with the Project were assessed in Section 6.13.3 of the EIS, with suitable safeguards and mitigation measures proposed to reduce any potential risks. Specifically, the layout of the Project has been designed considering separation distances between the EMF sources and sensitive receivers, road users and the general public. In addition, the EIS notes that the design, selection and procurement of electrical equipment for the Project would comply with relevant international and Australian standards for generation of and exposure to EMF. As discussed in the EIS, potential EMF sources reviewed and assessed for the Project included:

- **Solar Arrays and Inverters** – Research into EMF produced by commercial solar PV electricity-generating installations (Tell et al., 2015) showed the following:
    - There was no evidence of magnetic fields created from the PV modules.

- The highest AC and DC magnetic fields were measured adjacent to the inverter and transformer, and both were lower than ICNIRP's occupational exposure limit.
- The strength of the magnetic fields attenuated rapidly with distance (i.e. within 2–3 m the fields dropped to background levels).
- Electric fields were negligible to non-detectable, most likely due to the enclosures provided for the electricity generating equipment.

- **BESS** – EMF is considered in the safety design process for any BESS site. The magnetic field associated with a BESS will vary depending on several factors including configuration, capacity and type of housing. When there is no current flowing, there is no magnetic field generated, meaning that for BESS operations, magnetic fields will only be generated during the charging or discharging cycle. The BESS will be designed in accordance with electrical safety standards and codes, therefore the general public would be excluded from any exposures from these sources.
- **Overhead Transmission Lines** – The magnetic field from transmission lines varies with configuration, phasing and load, however typical magnetic fields near high voltage overhead transmission lines are estimated by ARPANSA to be between 1 and 20 microteslas (µT) (directly underneath) and 0.2 and 5 µT (at the edge of easement).
- **Substations** – The highest sources of magnetic fields associated with a large transmission substation would generally occur at the boundary from the incoming and outgoing transmission lines. Generally, the application of electrical safety standards and codes (e.g. fence, enclosure, distance) will result in exclusion of general public exposures from these sources. This is consistent with the measurement of typical magnetic field reported by ARPANSA of between 1 and 8 µT [6]at a substation fence.
- **Underground Cabling** – Underground networks typically have no electric fields as these are effectively screened by ground cover while magnetic fields at the centreline are higher, but disperse much more rapidly, than for overhead networks (Energy Networks Association, 2016).

The assessment concluded that given the low EFM levels associated with the operation of the Project and the separation distances between the EMF sources and sensitive receivers (more than 130 m), the expected EMF levels generated by the Project would be below the reference levels for occupational and general public exposure as defined in the ICNIRP Guidelines. It is therefore considered that the risk of impacts from EMF generated during operation of the Project would be limited.

### 5.1.15 Heritage

| **Historical Value of Goulburn** |
| --- |
| *Gundary Plains has a rich agricultural and grazing history and is renowned for its unique landscape, which has attracted settlers and families seeking rural lifestyles. The area is also of historical significance, having been observed by early explorers. The development of this industrial solar facility would degrade the scenic quality of the land and detract from the visual appeal that is a primary draw for families looking for rural properties. S-78311956* |

[6] In Australia, electrical devices and infrastructure such as transmission lines and substations, operate at a frequency of 50 Hz which falls within the Extremely Low Frequency (ELF) range of EMF between 0 and 300 Hz.

| Historical Value of Goulburn |
| --- |
| *The Gundary homestead was the centre piece of a large rural holding. Over time the property has been divided into many small holdings providing a rural environment for families, hobby farms and farmers with small numbers of livestock, orchards and tree plantations, retirees living on off farm income are part of our community. The Gundary Plains is a quiet picturesque, peaceful place, a good place to live. BP Lightsource plan to change that! S-78312498* |
| *It is ridiculous how much danger and destruction this will create so close to suburbs and historical land. S-78377979* |
| *Its location seriously IMPACTS THE HISTORICAL CONSERVATION OF THE AREA Gundary Plains is known for its unique landscape as witnessed by the early explorers and it has significant scenic quality that attracts families seeking rural lifestyle holdings. S-78494516* |
| *The project is located within 10 km of our picturesque and historical city of Goulburn [Gundary Solar Farm] will change the landscape and ambiance of our beautiful city forever, and the proposed location is clearly not appropriate S-78606718* |
| *The Gundary Plains are rich in historical significance. Records from 1832 document Aboriginal groups gathering here to celebrate Christmas with early settlers, whose descendants remain in the region, reflecting the deep, enduring connection to this land. S-78525743* |

A Historical Heritage Assessment (HHA) was undertaken as part of the EIS to assess the historical heritage related impacts associated with the Project. A summary of the key findings of the HHA is provided in Section 6.6 of the EIS and the full report is provided in Appendix 9 of the EIS.

The assessment identified no listed items of historical heritage within or in proximity to Project Area. This includes items listed on the World, National and Commonwealth Heritage Lists, in addition to items listed on the State Heritage Inventory (OEH, 2006) and Goulburn Mulwaree LEP. The nearest listed heritage item to the Project Area is 'Pelican' Homestead, which is approximately 3.4 km to the west.

The assessment determined that the Project would have no physical impacts to the listed heritage items in the vicinity. Furthermore, the Project would not remove any evidence of the historical development of the region, a contributory element to the significance of heritage conservation areas. No indirect (visual) impacts to the heritage significance of the listed heritage items in the vicinity would result from the Project.

### 5.1.16 Glint and Glare

| Glint and Glare |
| --- |
| *There will be safety concerns due to potential glint/glare from solar panels. LSBP has frequently told us that there will be no glint or glare. What has changed? They have failed to provide mitigation measures to ensure that we will not be looking at a glare of panels prior to midday when the panels will be facing to the east, straight towards our house and property. S-78397241* |
| *"Kooringaroo Road users were identified as likely to experience glare from the Project in excess of the acceptable threshold of 10 hours per year. Lightsource bp has committed to screen planting along the eastern and north-eastern boundary, to mitigate these potential glare impacts" Any screen planting would require several years of growth before any noticeable screening of glare. S-78462460* |
| *The company will sell this lease as soon as it is up and running the only people making money is the lease owners the neighbouring people get nothing but Glare and noise. S-78588477* |

| Glint and Glare |
| --- |
| *The panel protective cover – I assume glass must be of an anti-glare surface. It needs also to be self-cleaning or of repellent characteristic. S-78623714* |

Potential glint and glare impacts of the Project were assessed as part of the EIS (see Section 6.9 and Appendix 12 of the EIS).

Based on a worst-case solar glare hazard analysis, which evaluated glare based on proximity to receivers, orientation and specifications of the photovoltaic modules, glare exposure for private residential receivers is below acceptable thresholds and no additional mitigation is required.

Kooringaroo Road users were identified as likely to experience glare from the Project in excess of the acceptable threshold of 10 hours per year. Lightsource bp has committed to screen planting along the eastern and north-eastern boundary, as illustrated on the Project layout in **Figure 1.2**, to mitigate these potential glare impacts.

No glare impacts were identified for a nearby landing strip or any associated flight paths.

### 5.1.17 Dust

| Dust |
| --- |
| *The dust generated by construction of this solar factory proposal will contaminate our drinking water which is collected from the roof of our home and stored in an underground tank. The dust will collect as silt in the tank further contaminating our only water supply. S-78436460* |
| *Our beautiful Gundary will be subject to ongoing years of destruction, noise pollution, dust. S-78505462* |
| *Dust, noise and pollution during the 18month to 2year construction period will have a negative effect on nearby residents. S-78547711* |

Section 6.17 of the EIS provides a qualitative assessment of the Project's potential air quality impacts (including dust and exhaust emissions) to address concerns raised by the community in relation to dust generated during construction.

The assessment found that the main air emissions during construction of the Project would be dust and air borne particles generated from construction activities, including vegetation clearing and site preparation, as well as vehicle and equipment exhaust emissions. These emission sources would be localised and temporary in nature for the duration of the construction and decommissioning phases. During operations minor emissions would arise from vehicle use on internal unsealed roads.

Protocols to minimise air emissions will be developed and implemented as part of the Project's CEMP, as outlined in **Appendix 2**. These will include but not be limited to: water suppression on all exposed areas, unsealed roads and stockpile areas when required (visible dust emissions are observed), modification of activities during periods of dry and windy weather, vehicle maintenance and operation protocols, and timely rehabilitation of exposed areas.

### 5.1.18 Goulburn Airport

| Proximity to Goulburn Airport |
| --- |
| *Close to airport (both in 3,000 acres) S-78535970* |
| *The proposal is set near an airport which is used for rescue aircraft to pick up patients or to refuel. S-78421706* |

Impacts to the Goulburn Airport have been considered in the LVIA (Appendix 11of the EIS) and Glint and Glare Assessment (Appendix 12 of the EIS) completed for the Project.

Section 6.8.4.2 of the EIS notes that the Civil Aviation Safety Authority (CASA) has generally advised that large scale solar farms, such as the proposed Project, are very unlikely to be a hazard to aircraft operations unless they are very close to, and aligned with, an airport's approach or take off paths (within 2 nautical miles). The Project is not close to (approximately 3.5 km away), or aligned with, approach or take-off paths. Further, there is no movement (visible to the naked eye) that would be associated with the Project.

In addition, as discussed in Section 6.9.3.3 of the EIS, there would be no glare impacts affecting aviation receivers, and the flight paths would not be impacted by glare from the Project. Therefore, motion and reflectivity would not be a distraction to aviation.

It is further noted that Lightsource bp has other sites that are located in close proximity or directly adjacent an airport.

## 5.2 Procedural Matters

### 5.2.1 Inconsistent with the Transport and Infrastructure SEPP

| Regional City Provisions |
| --- |
| *It does not comply with the Environmental Planning and Assessment Regulation 2021 (NSW), specifically the State environmental planning policies (SEPPs) which do not allow projects like Gundary Solar to be as close to town without satisfying much more stringent criteria. This project does not satisfy the criteria required to be this close to Goulburn. S-78601956* |
| *It is my understanding that the proposed site spans two-thirds of mapped land. This seems to conflict with current town planning guidelines. S-78304993* |
| *We enjoy the SEPP, the government's own protection mechanism protecting the rites of residents living inside a 10-kilometre zone from the centre of Goulburn City. These provisions prohibit large scale industrial developments that adversely impact a resident's sense of belonging, space and appreciation of the Gundary Plains. More than 2/3 of this development is inside the 10km zone. These provisions were upheld recently by the Land and Environment Court when BP Lightsource proposed and another solar factory inside the 10km zone of the city of Mudgee, the project was not approved! S-78312498* |
| *Goulburn has been given a designation as a Regional City under the State Environmental Planning Policy (Transport and Infrastructure) 2021 (SEPP) impact the Project. This project limits Goulburn's ability to grow as a city and expand into surrounding community areas as the population grows. S-78559747* |
| *[Project is] less than 10kms from the Regional City of Goulburn and is located on land that is mapped for Goulburn City's future growth and is in the middle of over 100 Rural lifestyle blocks. S-78597720* |

| Regional City Provisions |
| --- |
| *The proposed Gundary Solar Project is located within 10km from the regional city of Goulburn, which is obviously within the 10km SEPP boundary of the city. S-78606956*<br><br>*Finally, I understand many residents have raised concerns with the compliance with the State environmental planning polices (SEPP) in relation to impact on or 'conflict' with existing uses of the land in either a residential or commercial matter. S-78590707* |

As discussed **in Section 4.14**, section 2.42 of the T&I SEPP seeks to manage the potential land use conflicts associated with utility-scale solar and wind energy developments, by imposing specific mandatory considerations for the assessment of utility-scale solar and wind energy development near certain regional cities. It is important to note that section 2.42 does not prohibit all large-scale solar or wind development on land identified on the Regional Cities Map. Rather, the section creates mandatory considerations for the consent authority when deciding whether consent should be granted for such projects.

An assessment of the impacts to Goulburn as a regional city has been undertaken as part of the Environmental Impact Statement (EIS) and is presented in Section 6.3 of the EIS. This assessment was undertaken having regard to the Solar Guidelines and the NSW Government's *Proposed Infrastructure SEPP Amendments: Renewable Energy and Regional Cities, Explanation of Intended Effect* (EIE) (DPIE, 2021).

Section 5.7 of the Solar Guidelines provide that:

- Where an applicant proposes a large-scale solar development within a mapped area in proximity to a regional city, they should comprehensively address the provisions within the Transport and Infrastructure SEPP.
- Residential and commercial developments that have been approved (but not yet commenced) should be included when identifying the surrounding urban environment.
- The applicant should consult with the relevant council and identify any land identified for future growth in strategic planning documents, including in local strategic planning statements and housing strategies.

The assessment was undertaken having regard to existing and approved residential and commercial development (including the adjacent 'Rosedale' subdivision), as well as the Council's *Urban and Fringe Housing Strategy, Goulburn and Marulan* (UFH Strategy) (Elton Consulting, 2020).

**Figure 4.3** shows the 20 urban and fringe precincts of Goulburn, as identified under the UFH Strategy. The red line (which has been added for clarity) represents an approximate 10 km radius, measured from the Project Area. The assessment considered the following potential impacts to Goulburn City and its fringe areas:

- Scenic quality and landscape character impact.
- Impact on views.
- Other impacts such as glint and glare, noise, traffic, flooding, hazards, social, economic and air quality.
- Land use conflict with residential and commercial uses of land surrounding the Project.
- Capacity for growth.

In short, the assessment found that overall, the Project is not expected to create any significant conflict with existing or approved residential or commercial uses of surrounding land, nor will it impact on future development opportunities for the city as most of the identified urban growth areas lie to the west, north and east of Goulburn from where the Project would not be visible. Also, the risk of conflict with any future airport development is considered low.

Further responses are provided in **Section 4.14.3** relating to specific outcomes of the regional city assessment.

### 5.2.2 Renewable Energy Zone (REZ)

| **The Project is Outside a Renewable Energy Zone (REZ)** |
| --- |
| *The first objection I make is that this proposed development is not even within the published Renewable Energy Zones (REZ) published by the NSW Government. The REZs were developed based on extensive planning, mapping, and consultation to identify areas where renewable energy projects are most suitable. Expanding outside of these zones without clear reasoning could undermine the purpose of this planning. If the REZs are to be a foundational part of the state's renewable energy strategy, it's essential that any development outside those zones be rigorously justified and aligned with broader policy objectives… S-78606206*<br><br>*The first objection I make is that this development is not even within the published Renewable Energy Zones (REZ) published by the NSW Government. This begs the question - why go to the trouble of publishing such zones if it is your intention to consider developments that are outside the very areas you designated?... S-78600976*<br><br>*Residents have also raised concerns that Gundary is not part of a NSW Government Renewable Energy Zone. There are renewable energy zones planned and operational across the state that welcome major projects, but the Gundary region is not one of those… S-78590707*<br><br>*Furthermore, the NSW Government's Renewable Energy Zone (REZ) policy identifies five designated zones for renewable projects, designed to minimise conflict with existing land uses and maximise infrastructure efficiency. The Gundary Solar factory is located outside any REZ, disregarding strategic planning efforts and placing unnecessary burdens on the local community and environment… S-78525743* |

The NSW Government recognises that while most renewable energy development will be concentrated in the REZs, there will be development potential outside the zones that will further support the electricity transition in NSW. The Solar Guidelines therefore applies to all solar energy projects both inside and outside REZs. The EIS for the Project, including any relevant technical assessments, were prepared in accordance with the Solar Guidelines.

As noted in the EIS, the Gundary Solar Farm represents an essential part of the energy transition and:

- Is a direct response to the NSW and Commonwealth's Government's commitments to transition to renewable electricity generation in NSW.
- Will materially assist in addressing this shortfall by delivering approximately 400 MW of renewable energy capacity to the National Electricity Market to help reduce the need to keep coal fired power stations like Eraring Power Station online beyond their current committed retirement date.

- Supports the firming and storage of renewable energy in NSW through the development of either a 325-megawatt peak alternating current or 230-megawatt peak direct current Battery Energy Storage System, or a combination of the two (to a maximum 555-megawatt peak).
- Has ready access to existing transmission line infrastructure that has capacity to transport the electricity to the grid.
- Contributes significant capital investment within the Goulburn Mulwaree region, generating jobs during the construction and operational phases, providing indirect benefits to local services throughout the life of the Project (e.g. indirect employment creation in local and regional economies would include jobs supported through transportation, trade supplies, services, accommodation, catering, retail services, etc.), delivering additional income to host and other associated landowners, and providing benefits to the local community through the implementation of the proposed Benefit Sharing Program and planning agreements with local Councils.

## 5.2.3 Adequacy of Assessments

### 5.2.3.1 Environmental Impact Statement

| Adequacy of the Environmental Impact Statement |
| --- |
| *The Lightsource BP EIS submission was pretty difficult to swallow as there is a huge amount of inaccuracies and missing information that doesn't provide a clear understanding of what they will do in the case of decommissioning, clean up and regeneration of the land (amongst other things), as no financial amount was disclosed or how they would go about fixing their problem. S-78454206* |
| *The Planning Application should be denied and the EIS rejected as the EIS fails to meet expectations for a project of this scale. S-78529217* |
| *This project is a prime example of poor planning and misplaced priorities. It sacrifices long-term, proven, agricultural sustainability, environmental health, and cultural heritage for short-term corporate gain and a politically driven agenda. S-78525743* |
| *Lightsource has said on page 167 of the EIS that "Lightsource bp is consulting with the affected landholders regarding the predicted impacts." This is simply untrue. They have never discussed noise with us at any stage and in fact told us that there would be little noise. They have also never discussed noise with the people on Windellama Rd who will be living within 300m to 800m of the sub-station. S-78421706* |
| *The lack of transparent carbon accounting undermines its claims of contributing to net-zero goals, as lifecycle emissions "from raw material extraction to decommissioning" are poorly documented and underestimated. Furthermore, the project's legislative breaches and inadequate mitigation strategies highlight the risks of proceeding without substantial revisions S-78593206* |

Under the EP&A Act, all development applications for SSD projects must be accompanied by an EIS that addresses the Planning Secretary's Environmental Assessment Requirements (SEARs) for the project. The SEARs identify the information that must be provided in the EIS, including the matters that require further assessment in the EIS and the community engagement that must be carried out during the preparation of the EIS. The EIS for the Gundary Solar Farm was prepared in accordance with project-specific SEARs issued on 10 November 2022, and all relevant NSW Government guidelines and policies.

In NSW, all EIS for SSD projects must be reviewed for their quality and adequacy by a Registered Environmental Assessment Practitioner (REAP). A REAP is a qualified and skilled environmental assessment practitioner who has been certified under an accredited REAP scheme. The EIS for Gundary Solar Farm has been reviewed and signed off by one of Umwelt's REAPs, as provided in the EIS Declaration.
The EIS, including all assessments, have been reviewed by the relevant government agencies and any comments regarding their adequacy have been raised and addressed in **Section 4.0**.

#### 5.2.3.2 Biodiversity Assessment

| Adequacy of Biodiversity Surveys |
| --- |
| *Even though UMWELT would argue that they had been to the site a sufficient amount of times to know what protected species live on the Gundary Plains, they failed to locate what does live on and within the proposed site. That is because turtles don't live under tiles, they live near water. Eagles don't live under tiles, they live and nest higher up. Echidnas are not capable of hiding under tiles. Birds don't live under tiles etc. etc. UMWELT were under the impression that if they laid down a few tiles on the proposed site, that would give them a better idea of what species live here. But it did nothing and so it provided them with insufficient data… S-78454206* |

The biodiversity assessment for the Project was completed in accordance with the Biodiversity Assessment Method (BAM) as required by the NSW *Biodiversity Conservation Act 2016* (BC Act). The BAM is a standardised biodiversity assessment framework that all State Significant Developments are required to follow, including the types of biodiversity survey required, the quantity and the timing (seasons) of the surveys, are defined by the BAM and associated survey guidelines. The BDAR for the Project was completed by one of Umwelt's accredited BAM assessors in strict accordance with the BAM and associated survey guidelines.

Targeted and opportunistic surveys for threatened species were undertaken across the Project Area during 2022 to 2023. **Table 5.2** outlines the dates, methods and species targeted during the surveys.

**Table 5.2 Biodiversity Survey Overview**

| Survey Method | Dates | Details |
| --- | --- | --- |
| **BAM floristic plots** | 31 March 2022<br>3–4 November 2022<br>22 November 2022<br>13 December 2022<br>23 May 2023 | • Eight floristic plots were sampled within the Development Footprint by Umwelt ecologists using a 20 m x 20 m floristic plot nested within each 20 x 50 m vegetation integrity plot assessed. The locations of the plots sampled are mapped to scale and shown as 'BAM Plots' in Figure 2.1 of the BDAR (refer to Appendix 7 of the EIS).<br>• Ten floristic plots were sampled within the Project to assist with providing validation and evidence of avoidance and higher quality vegetation within the Project Area, but not in the Development Footprint.<br>• Nine floristic plots were sampled to verify areas identified as Category 1 – Exempt Land. |
| **Targeted floristic searches** | 31 October 2022<br>3–4 November 2022<br>11 November 2022 | • Threatened flora species were surveyed using parallel field traverse searches with an approximately 10 m separation width, as shown in Figure 2.2 of the BDAR (refer to Appendix 7 of the EIS). These included: |

| Survey Method | Dates | Details |
|---|---|---|
| | | ○ Flockton Wattle (*Acacia flocktoniae*)<br>○ Thick Lip Spider Orchid (*Caladenia tessellate*)<br>○ Dwarf Kerrawang (*Commersonia prostrata*)<br>○ Michelago Parrot-pea (*Dillwynia glaucula*)<br>○ Buttercup Doubletail (*Diuris aequalis*)<br>○ Black Gum (*Eucalyptus aggregate*)<br>○ Paddys River Box, Camden Woollybutt (*Eucalyptus macarthurii*)<br>○ Hoary Sunray (*Leucochrysum albicans* var. *tricolor*)<br>○ Matted Bush-pea (*Pultenaea pedunculata*)<br>○ Swainsona sericea (*Silky Swainson-pea*)<br>○ Austral Toadflax (*Thesium austral*). |
| **Striped Legless Lizard (*Delma impar*)** | 12 September–<br>13 December 2022 | • Surveys were completed using the Commonwealth *Survey Guidelines for Threatened Reptiles* as a guide and included the establishment of 10 tile arrays, each of 50 tiles. A total of 13 checks over 14 weeks were completed between September to December 2022. Figure 1.8 in Attachment A of the BDAR (Appendix 7 of the EIS) shows the tile array for surveys completed. |
| **Key's Matchstick Grasshopper (*Keyacris scurra*)** | 3–4 November 2022<br>16 March 2023 | • Surveys were completed by 10 m parallel transects in areas of PCT 1330. |
| **Koala (Phascolarctos cinereus)** | 23 November 2022<br>12, 19 and<br>31 January 2023 | • Surveys included nocturnal spotlighting, call playback and scat searches during November 2022 to January 2023. |
| **Southern Myotis (*Myotis macropus*)** | 4–23 November 2022 | • Acoustic recording for 19 nights during November 2022. |

The Conservation Planning, Heritage and Regulations (CPHR) division of NSW Department of Climate Change, Energy, the Environment and Water (DCCEEW) have reviewed the BDAR and did not identify any concerns with the type, nor quantity, of biodiversity surveys completed as part of the assessment.

Furthermore, a referral under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) was submitted to the Commonwealth DCCEEW in March 2023 to determine whether the Project will have a significant impact on any Matters of National Environmental Significance (MNES). The DCCEEW's decision after reviewing and assessing the EPBC Referral was that the Project will not have a significant impact on MNES and was therefore declared to be Not a Controlled Action. The Project did not require further assessment under the EPBC Act.

#### 5.2.3.3 Visual Assessment

| Adequacy of the Visual Impact Assessment |
| --- |
| *At no time did anyone request access to my property to determine the visual impact of the proposed development. (We were instead provided simulated render images stating visual impact to be low). S-78462460* |
| *It is all very well to take photos of the view from our properties and then to stretch them and flatten them to suit your purpose. S-78397241* |
| *Next, the way that the company have assessed the visual impact it may be an appropriate methodology to use for a city or suburban home but when you live in an area like Gundary the view from the windows of your home are very much a secondary consideration to the view from outside. You buy property in areas like this for what is on the outside. So, the conclusions made about the amount of visual impact where very much underestimated. S-78306956* |
| *Our property is identified as being impacted in the EIS as an existing residential property. We have a significantly raised Mountain Ash Road view facing towards the Project area with potential visual impacts from the Project. We have not been directly approached by the Project to further investigate the view point. Our property is identified in section 6.8.3 as not needing assessment, but due to its elevation, our property should have been assessed (but wasn't). S-78529217* |
| *The photographs used by LSBP in their visual report have been doctored and provide very inaccurate information about the view that the landowners currently enjoy and the impact of the 660,000 panels, the 14.8 acre sub-station and 6 acre battery plus inverters and smaller batteries. S-78397241* |
| *The photo-shopped images from the western side of our house, a residential only view is absolutely meaningless in a rural landscape where there are many viewpoints. S-78421706* |
| *The scale of the substation and associated towers has been grossly understated with the provided montage views being totally misleading due to the lack of scale. S-78494549* |

In accordance with the SEARs, the NSW Government's *Large-Scale Solar Energy Guideline* (the Solar Guideline) was considered in the preparation of the Landscape and Visual Impact Assessment (LVIA) for the Project (refer to Appendix 11 of the EIS). The Solar Guideline sets out general principles for better site selection, including consideration of site visibility and visual impacts.

The Solar Guideline further requires that a LVIA be prepared in accordance with the Solar Guideline's supporting document: *Technical Supplement – Landscape and Visual Impact Assessment* (the Technical Supplement). The Technical Supplement provides a methodology for assessing, evaluating and mitigating potential impacts on landscape character and individual viewpoints. The Technical Supplement also includes tools that must be used during the preparation of the LVIA to determine:

- The viewpoints that need to be assessed.
- The level of assessment required.
- The extent of the impact.

A detailed description of the LVIA methodology is provided in Section 2 of the LVIA (Appendix 11 of the EIS) with a summary of the key aspects outlined below.

**Identification of Receivers**

Locations with potential visibility to the solar farm were identified by preparing a 4 km viewshed of the Project (considering the height of the solar modules and BESS at 3 m). The viewshed is determined entirely by landform (digital terrain models) and presents the potential maximum area of visibility, without accounting for screening or obstruction by vegetation, buildings, or other features in the landscape. Thus, a viewshed can overstate actual visibility, and therefore field investigations are subsequently required to verify the actual extent of visibility.

The LVIA identified a total of 68 private receivers (i.e. existing residences) within the 4 km viewshed as shown on Figure 6.9 of the EIS.

**Preliminary Assessment**

For each of the 68 private receivers identified within the viewshed, measurements were taken using the preliminary assessment tools in the Technical Supplement to determine whether detailed assessment of these receivers will be required.

The preliminary assessment determined that of the 68 private receivers, 31 were identified as being potentially visually impacted by the Project and required detailed assessment as part of the LVIA. These were R1, R2, R4, R5, R6, R7, R8, R9, R10, R16A, R16B, R16C, R20, R21A, R21B, R22, R25, R27, R29, R30, R31, R32, R34, R35, R36, R37, R43, R77, R78, R79, R90. The location of the above viewpoints are shown on Figure 6.10 of the EIS.

**Detailed Assessment**

All reasonable efforts were made during the LVIA process to access each of the 31 private receivers identified for detailed assessment to take photographs. Site visits to these receivers were undertaken in March and November 2022, May and November 2023 and March 2024. Landholders were contacted beforehand via a letterbox drop or telephone call to arrange a suitable date and time for a site visit. Where access to private viewpoints were available, photographs were obtained from those viewpoints during the site visit and photomontages were prepared to comply with the requirements in the Technical Supplement. Photomontages, modelled views and spatial views were independently prepared by Cambium Group and comply with the requirements prescribed in the Technical Supplement and are found in Appendix E of the LVIA (Appendix 11 of the EIS).

To produce the photomontages, photographs were merged and cropped to achieve a 180-degree horizontal field panoramic image, with a 27-degree vertical field of view. A 3D digital elevation model and master 3D Project model (including all elements of the Project) was then overlaid (and calibrated to the 180-degree panoramic image), then proposed materials and finishes were applied to the master 3D project model. The 180-degree photomontage images are used to determine the visual impact rating in accordance with the Solar Guideline.

However, to show the Project more clearly from that viewpoint, a full-size 50 mm (40-degree) image from within the photomontage area was also prepared and included in Appendix E of the LVIA (Appendix 11 of the EIS). The full-size image more appropriately represents the view of the Project from the human eye. To view the 40-degree-size photomontage most realistically, the image should be enlarged to A3 size (on screen or in print), then, viewed a comfortable arm's length away.

Where access was not available, a detailed bare earth render was produced that represented the worst-case visibility of the Project. Bare earth renders are used to determine the visual impact rating in accordance with the Solar Guideline for those private viewpoints unable to be accessed (for example, if the property owner denied access). A detailed bare earth render was produced that represented the worst-case visibility of the Project for 15 private receivers where properties were not able to be accessed.

As noted in Section 6.8.4.1 of the EIS, the LVIA predicted that following the implementation of visual management and mitigation measures, the following residual visual impacts will be experienced as a result of the Project:

- Moderate impact to one private viewpoint (R27). This impact rating has been reduced to a low following further visual mitigation analysis for R27 (provided in **Appendix 6**).
- Low impact to 22 existing private viewpoints (R2, R4, R5, R6, R7, R8, R9, R16B, R16C, R20, R21B, R22, R25, R30, R31, R35, R36, R37, R43, R77, R78 and R90).
- Very low impact to all remaining viewpoints – from these viewpoints the Project would be barely visible and have little overall effect on the view.
- No viewpoints were rated high.

#### 5.2.3.4 Traffic Assessment

| **Traffic Surveys** |
| --- |
| *There is no evidence of traffic counting during the lead up to the EIS. S-78451981* |

Section 6.11.2 of the EIS identifies that traffic flow surveys were undertaken by TTPP in 2023 as part of the Traffic Impact Assessment (TIA) with further detail about the surveys provided in the TIA (Appendix 14 of the EIS).

Section 3.2 of the TIA notes that peak period turning movement counts were undertaken in August and September 2023 at the following intersections:

- Braidwood Road / Bungonia Road.
- Braidwood Road / Sloane Street.
- Bungonia Road / Forbes Street.
- Bungonia Road / Memorial Road.
- Hume Street / Garroorigang Road / Mazamet Road.
- Sydney Road / Union Street / Lagoon Street.
- Sloane Street / Garroorigang Road.
- Windellama Road / Rifle Range Road.

An automatic tube count (ATC) was also undertaken on Windellama Road at the proposed Project site access.

The locations of the traffic surveys are shown in Figure 3.3 of the TIA. Detailed traffic survey data is presented in Appendix A of the TIA.

### 5.2.4 Social Licence

| Social Licence to Operate |
| --- |
| *[LSbp] shows their arrogance regarding regional people, from whom they demand to have Social Licence. S-78451981* |
| *They have not received a social licence for the project. S-78498728* |
| *The proponent has no social licence for this project from the immediate community nor the wider community... S-78535960* |
| *Overall the proposal beggars belief in that it lacks clear community support, given the developer appears to have ridden roughshod over local needs. There is no social licence or reasonable compensation to either affected landholders or the broader Goulburn community. S-78597483* |
| *LSBP definitely has no social licence to build this installation amongst so many life style blocks and hobby farms. S- S-78397241* |
| *Once again, it shows their arrogance regarding regional people, from whom they demand to have Social Licence. S-78451981* |
| *BP have no social license. S-78457206* |

Lightsource bp has been engaging with the local community since April 2022 to build relationships and understand stakeholder perspectives and needs in the region through meetings with proximal and neighbouring landholders, community / interest groups, service providers, Aboriginal stakeholder groups, Goulburn Mulwaree Council and relevant local, state and Federal government agencies. This ongoing engagement has resulted in significant changes to the Project design and has assisted in development of management and mitigation measures proposed for the Project.

In addition, engagement has been undertaken with the broader community, neighbouring Councils, functional stakeholders (e.g. education, accommodation and employment providers), businesses and various non-government organisations and interest groups. This engagement has further informed the design of the Project and has been ongoing throughout the assessment process, and if the Project is approved, the engagement will be ongoing during the life of the Project.

Engagement has been undertaken as part of the Social Impact Assessment (SIA) undertaken for the Project following the requirements of the NSW Government guidelines and assessment standards including, but not limited to, the SIA Guideline, the Engagement Guidelines and the SEARs. The stakeholder engagement process has therefore afforded opportunities for Lightsource bp to effectively assess and integrate social outcomes within the Project planning, design and assessment phases.

To ensure the Project is contributing positively to the local community, Lightsource bp has committed to increase the financial benefits originally proposed through the Community Benefit Sharing Strategy for the Project. This strategy includes a Neighbourhood Benefit Sharing Program for residents within 1 km of the Project boundary and a VPA with Council.

If approved, ongoing engagement will be undertaken in line with Lightsource bp's Community Stakeholder Engagement Plan (CSEP) throughout the construction and operation of the Project, with regular evaluation to ensure it continues to meet its objectives. Consideration will be given to ongoing communication with host and neighbouring landholders and additional methods for enhancing community engagement, including the identification of new relevant stakeholders as the Project progresses.

### 5.2.5 Consultation Process

| **Adequacy of Consultation with Aboriginal Groups** |
| --- |
| *They severely lack data regarding their communications with indigenous communities, as to whether these communities were concerned about this large scale project. If all they are obligated to do is say that they contacted them but don't need to provide any further information, then there is a major problem with this system. S-78454206*<br><br>*Approving this project without thorough and genuine consultation with Aboriginal communities disrespects our heritage and violates modern planning standards. Indigenous voices must be central in this process to ensure their cultural legacy is preserved rather than sacrificed for corporate interests. S-78525743* |

Section 5.2 of the EIS notes that a comprehensive engagement process was undertaken with the Aboriginal community in regard to the Project in accordance with the relevant guidelines and policies. Throughout the course of the Project, consultation was undertaken with 18 Registered Aboriginal Parties (RAPs) who registered an interest in the Project as part of the Aboriginal Cultural Heritage Assessment (ACHA) process. The RAPs were also involved in the field surveys and excavation program that was conducted as part of the AHCA. Discussion regarding the consultation process with the RAPs for the ACHA is included in Section 6.5.2 of the EIS.

Furthermore, as noted in Section 5.1 of the EIS, engagement with Indigenous groups and service providers in the LGA were also undertaken as part of the SIA for the Project and outcomes of this consultation are included in Section 6.14 and Appendix 18 of the EIS.

| **Adequacy of Community Consultation** |
| --- |
| *Community engagement was extremely poorly conducted with many of us, over 60 families not knowing about this project until after the Bungonia and Goulburn market days. The drop-in sessions were no better in that few questions could not or would be answered by Umwelt and Lightsource BP continually referencing the EIS, where they are still addressed. S-78451981*<br><br>*BP also state that ALL directly affected landowners that live within a kilometer of the proposed site have been consulted. Well, that is a 100% untrue. I live within a kilometer of the site and they have not been in consultation with me. They refused to be in consultation with me due to not wanting to be recorded. Even though they have stated in their EIS submission that they are all about the community and key stakeholders and working with affected landowners. A 100% this has not been the case as we have on so many occasions tried to contact BP to tell them of our concerns and it has gone on deaf ears. S-78454206* |

| Adequacy of Community Consultation |
| --- |
| *I have never been directly contacted by the applicant or any of their representatives. S-78462460*<br><br>*It now appears the large part of my holding called "castlewood" is within the 4km buffer zone & yet I have had no contact from LSbp. This is contrary to the EIS summary that claims that "since 2022 LSbp has been engaging with the local and broader community, seeking to build relationships and an understanding of stake holder perspectives and needs"… This raises the issue that stakeholder consultation may not in fact occurred or been spasmodic. S-78623714*<br><br>*Given the location and natural beauty of the Gundary Plain it isn't surprising that so much opposition has built up. Unfortunately, the developer has chosen to ignore these concerns. S-78590707* |

Stakeholder and community engagement was undertaken in accordance with the requirements of NSW Government guidelines and assessment standards including, but not limited to, the Engagement Guidelines, and the SIA Guideline, while also addressing the requirements of the SEARs.

Lightsource bp recognises the importance of community engagement to the success of this Project and has extensively consulted with the local and broader community, including key stakeholders, as outlined in Section 5.0 of the EIS. The EIS identifies that a total of 528 stakeholders have been directly consulted over a two-year period, commencing early 2022. Consultation has been undertaken in accordance with relevant guidelines.

Despite the submissions inference, Lightsource bp has made a concerted effort to engage with the local and broader community through a range of activities over a two year period, including:

- Establishment of a Project website, community information line and Project email address, including a mechanism for stakeholders to provide feedback regarding the Project.
- Distribution of three separate community information sheets and/or Frequently Asked Questions (FAQ) sheet during the development of the EIS and SIA process posted via unaddressed mail drop to residents in and around Gundary and Goulburn area to provide updates on the Project.
- Individual meetings, phone calls and emails with near neighbours and other interested stakeholders in and around Gundary during 2022 and 2023.
- Hosting a stall at the Bungonia market and Goulburn market during early to mid-2022.
- Personalised letter box drops in May 2023 to near neighbours as part of the LVIA and SIA processes.
- Two rounds of informal drop-in sessions in Goulburn as part of the EIS development, with the first held in November 2022 and the second in March 2024.
- Consultation with interested Aboriginal Parties in accordance with the applicable laws and government guidelines.
- Conducting a random telephone survey, completed by Taverner, obtaining 200 responses from a random sample of mobile and landline numbers of people residing within the Goulburn Mulwaree LGA, specifically within Gundary and Goulburn. The survey aimed to proportionally over-sample people who lived within 5 km of the Project Area to ensure representation of those residents living in closest proximity to the Project.

Lightsource bp has also been in direct contact with all landholders within 1 km from the Project Area to discuss the Neighbourhood Benefit Scheme and discussions have been ongoing post the EIS exhibition, as outlined in **Section 3.1**.

A stakeholder identification process was also undertaken for the Project to support the planning and delivery of community and stakeholder consultation to inform the SIA and the EIS. Issues raised during the engagement process were recorded and have informed investigations undertaken as part of the EIS and the ongoing development of the Project.

As highlighted throughout the EIS, feedback from the community has resulted in significant changes to the Project design (refer to Section 1.5 of the EIS) and has assisted in development of management and mitigation measures proposed for the Project. In addition, engagement has been undertaken with the neighbouring Councils, functional stakeholders (e.g. education, accommodation and employment providers), businesses and various non-government organisations and interest groups. This engagement has further informed the design of the Project and has been ongoing throughout the assessment process, and if the Project is approved, the engagement will be ongoing during the life of the Project.

Consultation with the community and stakeholders are ongoing, as outlined in **Section 3.1** above, and will continue prior to and during construction of the Project. Ongoing consultation activities would aim to provide the community and stakeholders with awareness of construction processes and activities, updates on the proposed timing of construction and opportunities for feedback and input.

The Project website, email address and community information line will continue to be available prior to and during construction. Targeted consultation methods, such as newsletters, notifications, and face-to-face communications will also continue to occur.

| **Consulting Noise-affected Landholders** |
| --- |
| *Lightsource has said on page 167 of the EIS that "Lightsource bp is consulting with the affected landholders regarding the predicted impacts." This is simply untrue. They have never discussed noise with us at any stage and in fact told us that there would be little noise. They have also never discussed noise with the people on Windellama Rd who will be living within 300m to 800m of the sub-station. S-78421706* |

In November 2024, Lightsource bp sent out individual letters to the following receivers regarding the predicted construction noise impacts at their property: R4, R5, R6, R7, R8, R9, R10, R16A, R16B, R16C, R20, R21A, R21B, R22, R25, R27, R29, R30, R31, R79 and R90. The letter also included an offer to discuss any questions or request further information if needed.

### 5.2.6 Post-approval Compliance

| **Guarantee for Post-approval Compliance** |
| --- |
| *What guarantee can the NSW government give the community that any conditions of consent will be adhered to? The evidence so far shows that once approved no proponent bothers to adhere to conditions of consent. By design? or because the project is onsold so many times the details get lost in the process? S-78535960* |

Should the Project receive approval, conditions of consent will be issued to the Proponent, who will be responsible for implementing these during the construction, operation and decommissioning phases of the Project in accordance with the development consent. Should there be a change in ownership once the Project has been approved, the development consent will need to be modified to reflect this change.

Consent authorities have broad powers under the EP&A Act to investigate whether development is being carried out in accordance with the conditions of a development consent. Where a breach is identified, consent authorities may issue an order requiring the breach to be rectified (known as a development control order) or can commence prosecution proceedings against the person responsible. In recent years, the DPHI has significantly intensified its compliance effort in relation to State Significant Development. The outcomes of its regular compliance audits are published on its website.

## 5.3 The Project

### 5.3.1 Scale of the Project

| Project Scale |
| --- |
| *The unprecedented scale of this proposal will completely transform the landscape from productive farmland to exclusively industrialised energy infrastructure. S-78525743* |
| *Unless you have visited this site it is impossible to imagine what 660,000 panels on 700 m hills will look like. Instead of having an view of open plains with paddock trees for as far as the eye can see, the impacted residents will have their eyes drawn to the hideous 3m high glass and metal panels on hills of over 700m high, the huge BESS of 14.8 acres and over 300 smaller batteries and inverters, each the same size of a 40 foot shipping container. S-78397241* |
| *The proximity of this project to Goulburn means that in comparison with other possible locations, landholdings are relatively small, land values are higher (with more downside) and more residents are negatively impacted. S-78590707* |
| *The scale of the proposed industrial site is out of character with the surrounding rural landscape. S-78421706* |
| *Map of Goulburn shows the size of the Solar Farm over an older map of Goulburn. From Cathcart Street. Finlay road, to Sloane Street, across to Lagoon Street out to Mary's mount road, back to Kinghorne street, and extending to Clyde street. It covers an enormous area of Goulburn City. S-78440959* |
| *The SIZE & SCALE is inappropriate – 1650 acres, 740,740 industrial solar panels, 154 battery stations & 167 Inverters (each larger than a 40 foot shipping container), a large 7.4 acre high voltage substation and extra transmission towers and a 400 or 800MW grid scale lithium battery. S-78597720* |
| *The 400 megawatt project for construction comprises of 660,000 photovoltaic solar panels, placed in rows five metres apart, and with a proposed height of between 3 to 4 meters. The Gundary Solar factory will cover approximately 1735 acres of prime agricultural land. For purposes of scale, the entire footprint of the Sydney Airport is just over 2000 acres and is currently the largest airport in Australia. The proponent advises that up to 89 battery stations will be housed in a series of outdoor containers, along with converters, and a substation, with scaffold and lighting arresters up to 22m high. The unprecedented scale of this proposal will completely transform the landscape from productive farmland to exclusively industrialised energy infrastructure. S-78525743* |

While the overall scale of the Project could be considered as substantial, it is important to note that there is no single point from which the entire solar farm will be visible.

The design has been carefully planned to follow the natural contours of the land, minimising visual impact. In addition, features such as vegetation screening and strategic setback zones have been incorporated.

### 5.3.2 Project Design

| Solar Panel Design – Hail and Wind Damage |
| --- |
| *Where is the evidence that a hail storm will not shatter these panels. S-78588477*<br><br>*properties to the east would be at the mercy of a grass fire with the prevailing strong westerlies that sweep across the Gundary plain. I have seen no evidence of any reports of wind speed tests being performed or what wind speed the panels can withstand. S-78601980*<br><br>*No hazard mitigation report mentions hail damage of PV modules. The major hail strike in Canberra during 2020 is a good example of prevalence of such weather conditions in the area. S-78604472*<br><br>*[Lightning] strike damage can be extensive with strike voltages of 1,000,000 volts common. Hail. The whole of the installation could be destroyed by a severe hail event – 'global warming' effects may serve up something unexpected. S-78623714* |

During the manufacturing process of a solar panel, the PV cells are typically encapsulated in a clear hardened resin with strengthened glass protecting the front side, as well as a back side made from a polymer (Clean Energy Reviews, 2020). The completed panel is then further protected by an aluminium frame. These features protect the panel from the environment including extremes in temperature, rainfall, hail and humidity (Clean Energy Reviews, 2020). A robust design, combined with a standard 25-year warranty ensures that the likelihood of cell material being exposed to the environment is very low.

Nonetheless, the following procedures would be adopted so, firstly, panels are unlikely to become structurally compromised, and secondly, if panels do become compromised, potential environmental effects will be avoided:

- Due Diligence Process – as a minimum, panels will meet the Australian standard AS/NZS 5033 for photovoltaic modules and related international standards; panels should be backed by a 25-year warranty and panels should be tested and checked for structural deficiencies (particularly after delivery to site and before installation).
- Robust operational protocols governing procedures for ensuring panel integrity – the Operational Environmental Management Plan (OMEP) would include clear provisions for routinely checking panels to ensure structural integrity and performance throughout the operational period.

| BESS Design |
| --- |
| *This disastrous plan will never provide any reliable, affordable power at all. It relies on the vagaries of the weather & has an incapable BESS… S-78456459* |

As outlined in the EIS, battery storage is proposed as part of the Project. Storage adds significant benefits to renewable generation projects because it allows for the dispatch of energy in accordance with market demand and overcomes potential issues associated with intermittency of output. Battery storage proposed for the Project with a storage capacity of 555 MW, with up to 1,570 MWh storage capacity. Two alternative BESS designs (decentralised DC-coupled BESS, and centralised AC-coupled BESS) have been identified and assessed, with consent being sought for either one, or both options to be implemented.

Due to consistent evolution in battery storage technology, the proposed battery type has not yet been confirmed and will be determined as part of detailed design considering the available technology at that time. Typically, battery storage installations are an area of flat ground, surfaced in road base or gravel, with battery components contained within standard sized shipping containers arranged in rows. A range of technologies will be considered, including:

- lithium-ion battery
- flow battery (vanadium, iron chloride, or zinc)
- compressed air.

As the battery type has not been confirmed to date, the EIS provided a conservative assessment of key issues. As a result, the worst-case outcomes are understood for the assessment process. It is also noted that the BESS design includes asset protection zones and sizeable hardstand areas to allow for a separation distance between combustible vegetation and battery storage units, further limiting the potential for any impacts associated with battery storage.

## 5.4 Justification and Evaluation

### 5.4.1 Project Location

**Unviable Location Due to Goulburn Weather and Climate**

*Until the Proponent can fully articulate how its project can, with a medium term capacity factor over 12 months of under 30%, be relied upon to provide electricity 24/7 in the quantities when needed then this project must not be approved… …To claim the project will supply electricity for ""x"" number of households is blatantly false. Stop the green washing. Be honest and tell us your project is based on falsehoods. S-78156718*

*Goulburn has just 88.4 days of good Solar Irradiance, with fog in the valley over the proposed Solar factory till well after lunch for many days in winter, you wonder how it could possibly be a good investment for anyone, without the handouts from Government it would not happen as it is not viable. S-78451981*

*Historical BOM data for Goulburn indicates 88 days per year will be suitable for maximum solar production. Given solar panels ramp up from 08:00 to peak from around 10:00–15:00 a assuming a total production of 8 Hours per day the overall output. Battery storage cannot be classed as generation as they require electricity to charge & do not create energy so they are generation neutral (at best as there is always losses). Eff is 88/365(days) *8/24(hours) = 8.04% efficient. THIS IS THE WRONG LOCATION… S-78494549*

*Goulburn is known for its wind but not for its daily solar exposure. This is confirmed by BOM data which shows Goulburn has 88.4 mean clear days/year (according to 35 years of BOM data)… S-78515226*

| Unviable Location Due to Goulburn Weather and Climate |
| --- |
| *At 20% capacity it will only provide power for 1.4 full days per week. This will contribute to the severe ongoing degradation of the east coast power grid, due to the replacement of baseload power with unreliable region wrecking 'renewables'. S-78533484* |
| *Approximately 65% of the year Goulburn does not have sunny weather. That means for roughly 240 days of the year this solar farm will yield zero energy. That's crazy efficiency for any project… S-78601956* |

The EIS identified that the Project Area is mapped as having moderate solar exposure (i.e. 15–18 megajoules per square metre of average daily solar exposure) under the Renewable Energy Map of New South Wales (NSW Government, 2016). This is the same average daily solar exposure as parts of the Hunter-Central Coast REZ and Central West Orana REZ.

It is noted that whilst solar generation is most efficient under direct sunlight, solar panels can still operate under indirect sunlight. The efficiency of solar generation is affected by many factors such as sunlight availability, weather conditions, shading of panels, debris, panel orientation, and age of panels.

With regard to the financial viability of the Project, its design has considered various factors, including environmental, long-term sustainability, and financial viability.

The Project has aimed to optimise the land utilization through investment in advanced solar technology and Project design. The panels would be arranged in a series of rows positioned to maximise the solar resources available. The panels would move throughout the day from east to west, tracking the sun. The tracking system is estimated to have a tracking range of 120 degrees, or ≤ 60 degrees from the horizontal position.

Section 2.9.3 of the EIS notes that alternative technologies were considered for the Project, such as:

- A single axis tracking system was chosen for the Project as it allows for more efficient electricity generation than fixed tilt options, leading to more efficient land use.
- Bifacial PV modules were selected for the Project as they allow for more efficient electricity generation than traditional single-sided PV modules, leading to more efficient land use.

Ultimately, the financial feasibility of the Project is a commercial matter, not an assessment matter for DPHI to be considering regarding the Project's merit.

## 5.5 Issues Beyond the Scope of the Project

### 5.5.1 Reliability and Sustainability of Renewable Energy

| Disbelieve in the Reliability and Sustainability of Renewable Energy |
| --- |
| *This project is not a farm. It is heavy industrial infrastructure which has been greenwashed by Lightsource bp to obscure the true nature of their intentions and profitability. S-78525743* |

| Disbelieve in the Reliability and Sustainability of Renewable Energy |
| --- |
| *This is an unproven, unreliable experiment using inferior, environmentally destructive, toxic contaminating JUNK THAT NOBODY WANTS & WON'T EVEN WORK MOST OF THE TIME! The empty promises of clean, reliable, sustainable are all absolute baloney as this deplorable, electrified nightmare is nothing but a great big scam making the carpetbaggers bucket loads of Fake Green cash ripping off the energy deprived, long suffering, unjustly treated public. S-78453747*<br><br>*This disastrous plan will never provide any reliable, affordable power at all. It relies on the vagaries of the weather & has an incapable BESS. S-78456459*<br><br>*This project also exemplifies corporate greenwashing, portraying profit-driven business as environmentally and economically beneficial. S-78525743*<br><br>*Solar has not proved to be a huge producer of renewable energy. S-78604469, S-78604720, S-78606206*<br><br>*Renewable energy is NOT clean, NOT green, NOT zero. S-78593224*<br><br>*This inferior, damaging plan will cause inadequate Grid Reliability - breaking down the stability of the electricity grid, leaving Australians without an Essential Electricity Service that we are paying for to be available on demand. There will disgracefully be BLACKOUTS & unreliable power during critical times, such as during extreme weather events or high demand. S-78453718*<br><br>*It is part of a system that costs billions, does not work reliably and attempts to solve a problem that does not exist, in other words useless and irresponsible use of public funds. S-78454740* |

Concerns regarding the viability of renewable energy stem from the significant obstacles faced by the energy industry during its shift from traditional energy sources like coal and gas to alternative sources of energy such as wind and solar. Renewable energy sources possess distinct physical characteristics compared to conventional sources, exhibit output variations depending on weather conditions and are often situated in remote parts of the electricity grid. However, as additional investments are made across NSW, the challenges related to remote power sources will gradually be surmounted. Moreover, by investing in a diverse range of renewable energy sources and energy storage solutions integrated into the NEM, the issues concerning energy stability will also be resolved. This Project responds to that investment in further sources of renewable energy that will contribute to the overall stability of the grid through the development of an AC or DC BESS.

In addition to renewable energy, various energy storage systems have been hailed as potential solutions to enhance the performance and resilience of the electricity network. An assortment of targeted energy storage systems will be necessary to foster the growth and advancement of domestic energy storage assets and infrastructure in the future. The BESS that will form a component of this Project represents a step toward a more stable and consistent energy supply to the NEM.

This issue is beyond the scope of the Project and the assessment of the Project as a whole.

### 5.5.2 Climate Change

| Disbelieve in Climate Change |
| --- |
| *There is NO verified scientific basis for reduction of CO2 in the atmosphere so this project is a total waste of public money, along with all other such projects. There is in fact reliable verifiable scientific proof that CO2 is beneficial to plant life and by extension to human life on earth." S-78454740* |

| Disbelieve in Climate Change |
| --- |
| *While there is no doubt that the Earth's climate is warming since ca. 1975… … the amount of anthropogenic CO2 amounting to ca. 3 % of the total CO2 emission of the planet, is not a real concern for the climate. We would appreciate it very much if Lightsource bp would not follow the opinion piece of the day, but would get informed to be able to hold up in sound scientific discourse… S-78604472* |

It is beyond the scope of this Project to justify that anthropogenic climate change is occurring. It is noted, however, that the Project is a direct response to the NSW Government's commitment to the renewable energy transition and part of the government's response to climate change risk.

### 5.5.3 Alternatives to the Project

| Alternative Energy Sources |
| --- |
| *Solar projects are considered to be short term installations and the push for nuclear energy in Australia and the rest of the world to provide reliable, sustainable, affordable energy while not emitting carbon dioxide will, in my opinion, see this project, if approved, become a stranded asset…. S-78436721* |
| *Put the coal back in the coalition & add a nuclear power future! S-78453718* |
| *When the powers that be realise that we are living in the Nuclear age & wish to remain an advanced country, most of what is planned for NSW will become obsolete. S-78456459* |
| *The solution to our ongoing power needs should be solar panels and batteries on all homes and it's beyond me that new builds aren't required to by law have them installed… S-78348516* |
| *This is a scam. We already produce too much solar on sunny days during daylight hours...from ROOFTOP solar. We don't need industrial solar destroying our homes, communities and environments. S-78536711* |
| *A shift towards smaller, community-focused renewable energy solutions with rigorous environmental safeguards would better align with Australia's sustainability goals. S-78593206* |

The merits of the NSW Government's energy policy are beyond the scope of this Project. It is noted, however, that large-scale renewable energy developments such as the Project, are just one part of the NSW Government's Electricity Strategy (DPIE, 2019) which advocates for a mix of technologies to improve the efficiency and competitiveness of the NSW electricity market by reducing risk, cost and process-driven delays and by ensuring investment in new energy saving, demand response and generation technologies.

The Electricity Strategy acknowledges that wind and solar technologies generate electricity at low cost and without emissions, however, the ability of these technologies to dispatch electricity is dependent on the weather and time of day. The NSW Electricity Strategy states that renewables are now the most economic form of new electricity generation, with a mix of wind and solar firmed with gas, batteries and pumped hydro expected to be the most economic form of reliable electricity for the State (Graham *et al*., 2024). In combination, these different forms of energy generation and storage will provide sufficient dispatchable capacity to meet NSW peak demand to replace ageing coal-fired power stations and reduce greenhouse gas emissions.

Nuclear power does not currently form part of the proposed energy mix for NSW, according to the NSW Government's Electricity Strategy.

### 5.5.4 Policy and Planning

| Policies and Planning Framework |
| --- |
| *Policy frameworks have failed to anticipate the placement of industrial-scale projects in rural residential areas, leaving residents like us exposed to their detrimental effects. S-78313721* |

The issue of trust in government decision-making is a broader issue and is the responsibility of all government agencies and organisations. Lightsource bp is primarily focused on assessing the environmental and social impact of the Project, ensuring compliance with regulations, and engaging with the community throughout this process.

The process of assessing the environmental and social impact for this Project has been collaborative with the community and relevant agencies and has thoroughly assessed the impact of the Project on sensitive environmental receivers. The statutory provisions applying to the Project with respect to the environmental assessment and planning approval at Federal, State and local level, as well as the roles that these play in the Project's assessment and determination are outlined in Section 4.0 of the EIS.

### 5.5.5 The Proponent

| Misleading Information from Proponent |
| --- |
| *bp does not appear to have been honest and open when in discussion with the residents affected by the proposed Solar Farm. S-78552458*<br><br>*Apart from the fact that the company proposing the development isn't Australian and have not been honest with us. S-78326731*<br><br>*The photographs used by LSBP in their visual report have been doctored and provide very inaccurate information about the view that the landowners currently enjoy and the impact of the 660,000 panels, the 14.8 acre sub-station and 6 acre battery plus inverters and smaller batteries. The map at Figure ES-1 is so out of date. How can a map that is at least 12 years out of date be relied on by LSBP. S-78397241*<br><br>*In the 3 years that I have had to deal with this situation with BP, they have not once been up front and honest with me or answered any of my questions. They have lied all the way through, have zero integrity or compassion for what this community has been put through. S-78454206* |

Whilst Lightsource bp is bp-owned, it operates as a standalone company and an independent brand. Lightsource bp is and will continue to be, committed to genuine and meaningful engagement with the community. Throughout the engagement programme, Lightsource bp has sought to engage the community through multiple channels and have maintained open lines of communication.

Despite the submissions inference, Lightsource bp has made a concerted effort to engage in a genuine and meaningful way with the local and broader community through:

- Establishment of a Project website, community information line and Project email address. The website has a form that enables stakeholders to provide comments and feedback on the Project.

- Distribution of two separate community information sheets and Frequently Asked Questions (FAQ) sheet during the development of the EIS and SIA processes posted via unaddressed mail drop to residents in and around Gundary and Goulburn area to provide updates on the Project.

- Individual meetings, phone calls and emails with near neighbours and other interested stakeholders throughout 2022 and 2023. Through these, neighbours and stakeholders were provided the opportunity to talk one-on-one with the Lightsource bp project team about the Project and the potential impacts on their property and livelihood, and to provide further information to help understand how technical assessments were undertaken. Lightsource bp was also able to discuss and provide further information on broader matters of interest including Lightsource bp's ownership, strategy and interests in the area and Australia more broadly, renewable energy and the broader electricity market, as well as other areas of interest including sustainable procurement, decommissioning and environmental effects.

- Hosting a stall at the Bungonia and Goulburn markets in April 2022 and May 2022 respectively, to provide the community with the opportunity to meet the Lightsource bp project team and obtain information about the Project and provide feedback.

- Personalised letter box drops in May 2023 to near neighbours as part of the LVIA and SIA processes that provided further detail on the potential landscape, visual and social impacts of the Project along with information on how to contact the Lightsource bp project team and provide comments and feedback.

- Two rounds of informal drop-in sessions in Goulburn as part of the EIS development, with the first held in November 2022 and the second in March 2024. These sessions were designed to provide opportunities to learn more about the Project, potential environmental impacts (i.e. noise, landscape and visual, bushfire, construction effects), and the process that would likely be followed to assess and determine the application.

- Consultation with interested Aboriginal Parties in accordance with the applicable laws and government guidelines.

- Conducting a random telephone survey, completed by Taverner, obtaining 200 responses from a random sample of mobile and landline numbers of people residing within the Goulburn Mulwaree LGA, specifically within Gundary and Goulburn. The survey aimed to proportionally over-sample people who lived within 5 km of the Project Area to ensure representation of those residents living in closest proximity to the Project.

- Developing and providing factsheets and frequently asked questions (FAQs) and providing access to technical experts to help answer questions about the Project. This was especially important for highly technical questions which had the potential to cause confusion and misunderstanding.

Lightsource bp has also been in direct contact with all landholders within 1 km from the Project Area to discuss the Neighbourhood Benefit Scheme and discussions have been ongoing post the EIS exhibition, as outlined in **Section 3.1**.

As highlighted throughout the EIS, feedback from the community has resulted in significant changes to the Project design (refer to Section 5.4 of the EIS) and has assisted in the development of management and mitigation measures proposed for the Project.

Examples of such design changes are:

- Removal of approximately 50 ha of solar arrays in the north-west corner of the Project Area to reduce visual and noise impacts.
- Relocation of the centralised BESS approximately 1.2 km to the east, away from sensitive receivers on the north-west.
- Removal of 20 decentralised BESS units located nearest to sensitive receivers.
- Inclusion of dedicated non-combustible water tanks with a combined capacity of 180,000 L distributed throughout the Project Area.
- Additional emergency accesses via gates along the perimeter fencing to allow access points to the Project Area in case of an emergency.
- Access tracks on the Project Area to be designed with turning bays to provide safe access for emergency services personnel.
- Strategically located noise attenuation (noise barriers) around loudest Project infrastructure.
- Strategically located landscape screening.

Consultation with the community and stakeholders is ongoing (refer **Section 3.1** above) and will continue prior to and during construction of the Project. Consultation will continue to provide the community with information about the Project and its timeframes, such as the construction schedule. Lightsource bp will continue to engage with the community and stakeholders to understand to discuss how impacts could be further minimised during the construction phase (for example, specific access requirements).

The Project website, email address and community information line will continue to be available prior to and during construction. Targeted consultation methods, such as newsletters, notifications, and face-to-face communications will also continue to occur.

| **Proponent and Project Ownership** |
| --- |
| *Concerned about the end ownership of this project when Lightsource BP sells it off. S-78303212*<br><br>*I also believe that this project should be declined on the basis that should approval be granted to BP for this project, they will then sell this approval to another overseas developer/generator. This means that most of the project costs and all of the profits will be sent overseas. We should not have our homes devalued, our flora and fauna damaged and our mental health severely impacted, simply to line the pockets of overseas corporations. S-78597710* |

| Proponent and Project Ownership |
| --- |
| *BP have publicly stated that they will be removing the company from renewables and going back to petroleum as they have sustained huge losses from these renewable projects. This statement from www.france24.com, published December 9, 2024 'British oil giant BP is significantly reducing its investment in renewable energy for the "rest of this decade", it said in a statement Monday, noting it was instead entering a joint venture with Japanese power company Jera to create one of the world's largest offshore wind businesses. Since Murray Auchincloss became BP's new chief executive in January, the company has scaled back on its climate targets' reinforces the likelihood that should this project be approved, it will most certainly be sold to an offshore company who will then take over the development. I believe this is also why there has only been vague promises of compensation or 'community benefits' as BP Lightsource are aware that any benefits they negotiate may not be honoured when another company takes over the development of the project. S-78623958* |

Lightsource bp is a renewable energy company that has developed over 1.1 GW of solar across five projects in Victoria, Queensland and NSW. Lightsource bp will, from time to time, divest some of its assets to fund ongoing growth. However, Lightsource bp has no current plans to sell the Gundary Solar Farm Project.

Should the Project receive approval, conditions of consent will be issued to the Proponent, who will be responsible for implementing these during the construction, operation and decommissioning phases of the Project in accordance with the development consent. Should there be a change in ownership once the Project has been approved, the development consent will need to be modified to reflect this change.

### 5.5.6 Subsidies and Corporate Greed

| Government Subsidies and Corporate Greed |
| --- |
| *This project is a solar factory designed to maximise corporate profits and it will come at the expense of the environment and the community. The economic benefits touted by the proponents are short-term and heavily reliant on present government incentives to subsidise the investment. S-78525743*<br><br>*The state will be stuck with the environmental vandalism & extensive contamination caused by Government (taxpayer's) heavily subsidised 'renewable' energy installations… S-78456459*<br><br>*The Gundary Plains is prime agricultural land and should be treated as such, not sold out to a multinational company to line their pockets with heavily subsidised profits which they have no interest or intent to filter back into the Goulburn community. S-78533486*<br><br>*We are told wind and solar are the cheapest, well prove it, remove all subsidises do not build this system on public funds. S-78454740* |

Lightsource bp's Australian entities have not and will not receive taxpayer subsidies to fund the Project. Further assessment of this issue is considered beyond the scope of the Project and assessment of the Project as a whole.

### 5.5.7 Sourcing of Materials and Slave Labour

| Importation of Materials / Slave Labour |
| --- |
| *Virtually all the equipment BP plans on installing on Gundary, will be made in China. Why would we commit our electricity network into a reliance on communist China, which has proven in recent years to be no friend of ours? S-78326731* |
| *We are expected to support a project where technology and construction materials will be subsidized by Australian taxpayers and imported into Australia (creating zero jobs). S-78559747* |
| *We believe there should be a commitment to source supplies locally as a priority. S-78340464* |
| *NEW MODERN SLAVERY CONDITION- requiring proof prior to construction that NO Slave Labour supply chain components be used in construction… S-78458706* |

The PV modules that will be procured for the Project will largely depend on the manufacturer selected for the Project. In most cases, the source of origin will be China given the superior economies of scale of modern Chinese PV manufacturing facilities compared with other smaller suppliers in other countries.

The sourcing of materials for the construction of the Project will comply with Lightsource bp's Modern Slavery and Human Trafficking Statement as well as all applicable Australian and International slavery legislation including the *Modern Slavery Act 2018* (Commonwealth) and any state-based legislation that may be applicable. Furthermore, banks investing in the Project would be required to observe the Equator Principles as part of the Project legal due diligence process.

### 5.5.8 Energy Costs

| Affordably Energy |
| --- |
| *The generated electricity will be exported to the national grid, with no guarantee of lower energy costs for local residents. S-78525743* |
| *The fact is energy costs will keep on rising for ordinary, already struggling householders. S-78451238* |
| *Energy Poverty will result from this Swindle Factory plan that will burden Australians with exorbitant energy costs, driving many individuals & businesses to the wall. We will continue to see prices unjustly skyrocket beyond what everyday Australians can afford, while also exacerbating the national cost-of-living crisis - all because of these pathetic, weather dependent plans that are so destructive & don't work most of the time. S-78453706* |
| *Zero benefit to reducing power bill costs to the people of the Southern Tablelands, particularly Goulburn residents… S-78529217* |

The Australian Energy Market Operator (AEMO) establishes wholesale energy rates in 5-minute intervals. Power producers submit offers specifying the quantity of energy they are prepared to supply to the market and their desired prices. The spot price is then determined by the point where supply and demand intersect. Increasing the overall supply of electricity across the energy grid will contribute to lower prices for Australian consumers by improving the capacity and security of the electricity grid and placing downward pressure on electricity prices. The Project will have a capacity to supply clean energy to power the equivalent of approximately 133,000 NSW homes.

A recent report by the Commonwealth Scientific and Industrial Research Organisation (CSIRO) and AEMO, 'The GenCost 2023–24' report affirms that in Australia, renewable energy stands as the most cost-effective options for both electricity generation and storage (Graham *et al*, 2024).

This issue is considered beyond the scope of the Project and the assessment of the Project as a whole.

# 6.0 Updated Project Justification

This detailed Submissions Report has been prepared to provide an analysis of the issues raised in agency and public submissions and to add further clarification on details of the Project where necessary.

Following the exhibition of the EIS, Lightsource bp has continued to consult with relevant government agencies, Council, landholders and the community more broadly. Consideration of submissions received, and ongoing consultation has led to some Project refinements. These are:

- Additional landscape screening.
- Increased community benefits via the Community Benefit Sharing Strategy developed for the Project.
- Additional management and mitigation measures.

Whilst no changes are proposed to the Project as described in Section 3.0 of the EIS, an update to the boundary of the Development Footprint, as presented on some figures within the EIS (including the BDAR and AHCAR) was required which are provided in the Amendment Report (Umwelt, 2024).

## 6.1 Environmental, Social and Economic Impacts

As discussed in the EIS, the Project has been designed using an iterative approach, commencing with landholder discussion and preliminary constraints analysis, as detailed in the Scoping Report (Umwelt, 2022) to confirm the suitability of the site for a solar farm development. Since then, the layout of the Project including the solar arrays, BESS, electrical reticulation infrastructure, internal access tracks and other supporting infrastructure has been subject to ongoing refinement with the aim of minimising associated environmental and social impacts and addressing feedback from the local community and key stakeholders. The environmental, social and economic impacts of the Project have been identified and subject to a detailed assessment based on:

- Assessment of the site characteristics (existing environment).
- Consultation with relevant government agencies.
- Engagement with local community and other stakeholders.
- Environmental and social risk analysis.
- Application of the principles of Ecologically Sustainable Development (ESD), including the precautionary principle, inter-generational equity and conservation of biological diversity and ecological integrity.
- Expert technical assessment.

The key issues identified were subject to comprehensive specialist assessment to identify the potential impacts of the Project on the existing environment. These assessments are detailed in Section 6.0 of the EIS (including appendices), with further assessment also considered in this report as relevant (refer to **Section 3.3**). Lightsource bp has made further refinements to the Project based on feedback received from the local community and key stakeholders throughout its development. Lightsource bp has considered a range of alternatives in planning the Project and in determining the concept layout throughout the process (refer to Section 2.9 of the EIS).

The Project layout and design was subject to a number of iterations, responding to both environmental constraints and community concerns through refinement of the layout and the overall Project approach. Through the implementation of best practice management, the potential environmental and cultural heritage impacts associated with the Project can be appropriately avoided or managed, which will also address the community concerns and associated social impacts identified during the stakeholder engagement process.

The Project will also contribute significant capital investment within the Goulburn Mulwaree region, generate jobs during the construction and operational phases, provide indirect benefits to local services throughout the life of the Project (e.g. indirect employment creation in local and regional economies would include jobs supported through transportation, trade supplies, services, accommodation, catering, retail services, etc.), deliver additional income to host and other associated landowners, and provide benefits to the local community through the implementation of the proposed VPA with Goulburn Mulwaree Council.

## 6.2 Ecologically Sustainable Development

An objective of the EP&A Act is to encourage ESD within NSW. To justify the Project with regard to the principles of ESD, the benefits of the Project in an environmental and socio-economic context should outweigh any negative impacts. The principles of ESD encompass the following:

- the precautionary principle
- inter-generational equity
- conservation of biological diversity
- valuation and pricing of resources.

Essentially, ESD requires that current and future generations should live in an environment that is of the same or improved quality than the one that is inherited. A full analysis of the Project against the principles of ESD is provided in Section 8.3 of the EIS. As detailed in the EIS, the Project is considered to be consistent with the principles of ESD. Lightsource bp has made minor refinements to the Project since the EIS as outlined in **Section 3.2**. It is considered that the Project continues to be consistent with the principles of ESD. Extensive management and mitigation measures will be implemented, including monitoring programs to measure predicted against actual impacts of the Project (refer to **Appendix 2**).

## 6.3 Conclusion

As discussed in the EIS, the Project is a direct response to the NSW and Commonwealth's Government's commitments to transition to renewable electricity generation in NSW. The NEM needs to rapidly transition to renewable energy to support the NSW Climate Change Policy Framework, as well as the Commonwealth Government's commitments under the Paris Agreement. At present, additional renewable energy capacity is being added to the NEM at a lower rate than what the AEMO has identified as required to achieve the transition to renewable energy (Parkinson, 2023), and the NSW government is looking to streamline renewable energy development approvals in the planning system to deliver the transition to renewables under the Energy Roadmap (NSW Government, 2023).

The Project will materially assist in addressing this shortfall by delivering approximately 400 MW renewable energy capacity to the NEM to help reduce the need to keep coal fired power stations like Eraring Power Station online beyond their current committed retirement date (AFR, 2023). The Project will also support the firming and storage of renewable energy in NSW through the development of a BESS within the Project Area.

The Project represents an essential part of the energy transition with a fully optimised constructible design. The EIS confirms that, while there will be some unavoidable impacts, the extent of these impacts has been minimised through the design process to the extent practicable and appropriate management and mitigation measures have been committed to address the residual impacts. Given the commitment from Lightsource bp to appropriately manage the potential environmental impacts associated with the Project, it is considered the Project would result in a net benefit to the region and broader NSW community. The Project aligns with the principals of ESD and is considered to be satisfied, due to the social, economic and environmental benefits.

# 7.0 References


Bellrock (2023). *Risk and insurance implications in the transition to renewable energy*. Available at: https://bellrockadvisory.com/risk-and-insurance-implications-in-the-transition-to-renewable-energy/ (accessed on 28 May 2025).

Clean Energy Council (2025a). *Fact Sheet – Renewable energy rising: Property values and insurance*. Available at: https://cleanenergycouncil.org.au/getmedia/ad7ee6dc-1892-4b22-ba57-4cc33758afc4/renewable-energy-property-prices-and-insurance.pdf (accessed on 28 May 2025).

Clean Energy Council (2025b). *Fact Sheet – Safe and sustainable: debunking myths about solar panels*. Available at: https://cleanenergycouncil.org.au/getmedia/0366c6ac-9fe4-4b22-a470-5ba726febe18/debunking-myths-about-solar-panel-toxicity.pdf (accessed on 28 May 2025).

Clean Energy Reviews (2020). *Solar Panel Construction*. Available at: https://www.cleanenergyreviews.info/blog/solar-panel-components-construction (accessed 10 March 2024).

Commonwealth of Australia (2021). *2020 Annual Report of the National Wind Farm Commissioner*.

Department of Planning and Environment (DPE) (2022a). *Undertaking Engagement Guidelines for State Significant Projects.*

Department of Planning and Environment (DPE) (2022b). *Renewable Energy Generation and Agriculture in NSW's Rural Landscape and Economy – growth sectors on a complementary path.* <https://www.dpi.nsw.gov.au/__data/assets/pdf_file/0005/1449860/210395fd12ea058abf3b424f4370204d64e105bb.pdf>.

Department of Planning and Environment (DPE) (2022c). *Guidelines for Controlled Activities on Waterfront Land.*

Department of Planning and Environment (DPE) (2023). *Social Impact Assessment Guideline for State Significant Projects.*

Department of Planning, Infrastructure and the Environment (DPIE) (2019). *NSW Electricity Strategy*.

Department of Planning, Infrastructure and Environment (DPIE) (2021). *Proposed Infrastructure SEPP Amendments: Renewable Energy and Regional Cities, Explanation of Intended Effect*.

Department of Planning, Housing and Infrastructure (DPHI) (2022a). *Large-Scale Solar Energy Guidelines*. https://www.planning.nsw.gov.au/policy-and-legislation/renewable-energy.

Department of Planning, Housing and Infrastructure (DPHI) (2022b). *Technical Supplement – Landscape and Visual Impact Assessment.* Large-Scale Solar Energy Guideline.

Department of Planning, Housing and Infrastructure (DPHI) (2022c). *Cumulative Impact Assessment Guidelines for State Significant Projects.*

Franks, D. M., Vanclay, F. (2013). *Social Impact Management Plans: Innovation in corporate and public policy*. Volume 43, November 2013. https://doi.org/10.1016/j.eiar.2013.05.004.

Guoqing, L., Hernandez, R., Blackburn, G., Davies, G., Hunt, M., Whyatt, J. and Armstrong, A. (2021). Ground-mounted photovoltaic solar parks promote land surface cool islands in arid ecosystems. *Renewable and Sustainable Energy Transition*, 2021; 1: 100008 DOI: 10.1016/j.rset.2021.100008.

Elton Consulting (2020). *Council's Urban and Fringe Housing Strategy, Goulburn and Marulan*.

NSW Valuer General (2023). *Land values in the Goulburn Mulwaree local government area*. Retrieved from <https://www.valuergeneral.nsw.gov.au/land_value_summaries/lga.php?lga=529&base_date=01072023>.

NSW Value General (2024). *Report on NSW land values at 1 July 2024*. NSW Government. 25 November 2024.

Robinson SA and Meindl GA (2019). *Potential for leaching of heavy metals and metalloids from crystalline silicon photovoltaic systems*. In Journal of Natural Resources and Development, 2019, 09: 19-24.

Urbis Pty Ltd (2016). *Review of the impact of wind farms on property values*. NSW Government Office of Environment and Heritage, Sydney.

Insurance Council of Australia (2024). *Farm Insurance and Energy Infrastructure*. Retrieved from https://insurancecouncil.com.au/wp-content/uploads/2024/05/Updated-ICA_Briefing_Farm-Insurance-and-Energy-Infrastructure_May-2024.pdf

Paul Graham; Jenny Hayward; James Foster (2024). *Gencost 2024-25: Draft report*. Commonwealth Scientific and Industrial Research Organisation (CSIRO), Australia.

Umwelt (2022). *Gundary Solar Farm Scoping Report*.

Umwelt (2024). *Gundary Solar Farm Environmental Impact Statement*.

Umwelt (2024a). *Gundary Solar Farm Water Resources Impact Assessment*.

Umwelt (2025). *Gundary Solar Farm Amendment Report*.



umwelt
Environmental & Social Consultants

GET IN TOUCH WITH US

**1300 793 267**
**www.umwelt.com.au**

NSW | QLD | ACT | WA | VIC | SA