Muswellbrook Solar Farm

OX2 Idemitsu Joint Venture

Independent Planning Commission

Applicant Meeting

Thursday 16 January 2025

Acknowledgment

The project is located within the Traditional lands of the Wonnarua people. We wish to acknowledge them as traditional custodians of the land and pay our respects to Aboriginal and Torres Strait Islander people past and present. We acknowledge their continuous connection to Country.

OX2 Overview

Portfolio
(Q2 2024)

Development

Onshore wind
11,505MW

Offshore wind
13,768 MW

Solar power
6,804 MW

Energy storage
996 MW

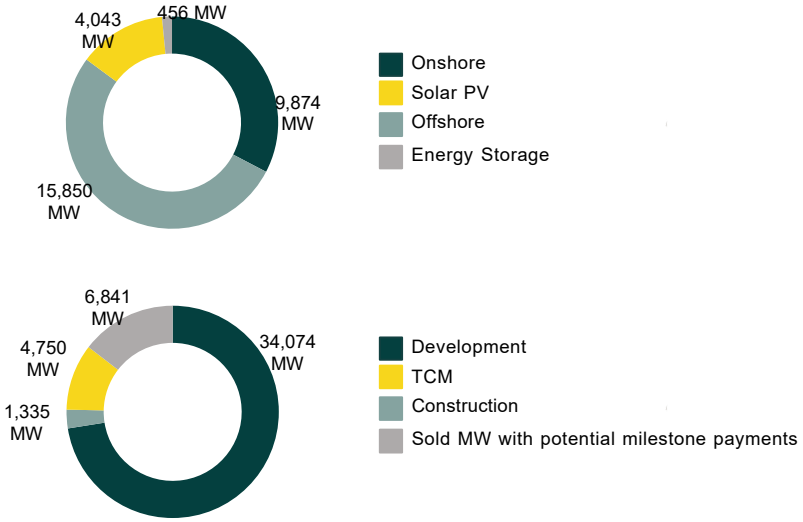
Construction

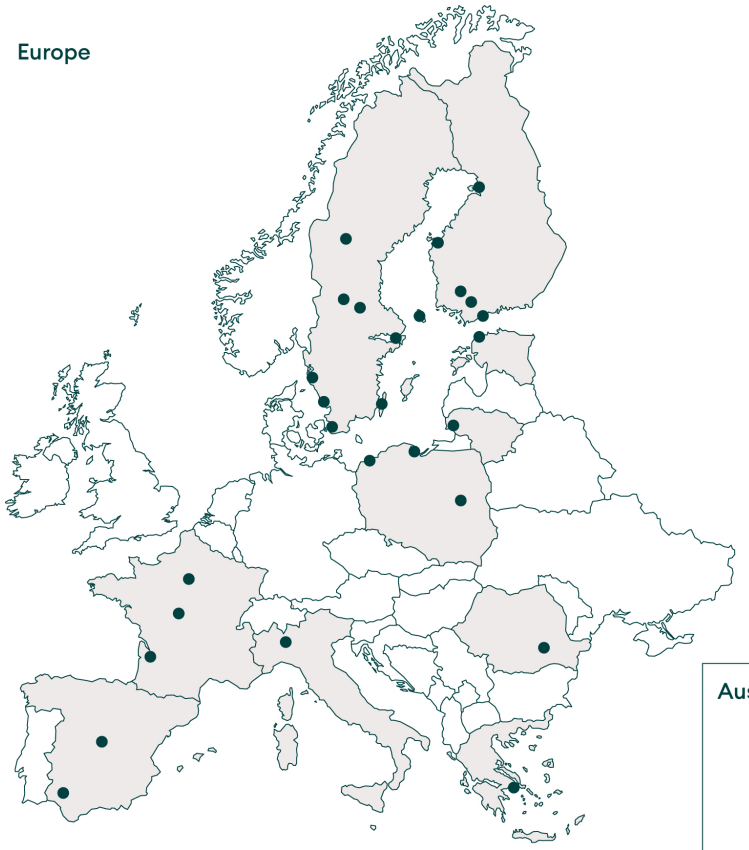
Under construction
1,019MW

Asset management

TCM
5,050 MW

47,375MW
Total portfolio
as per Q2 2024

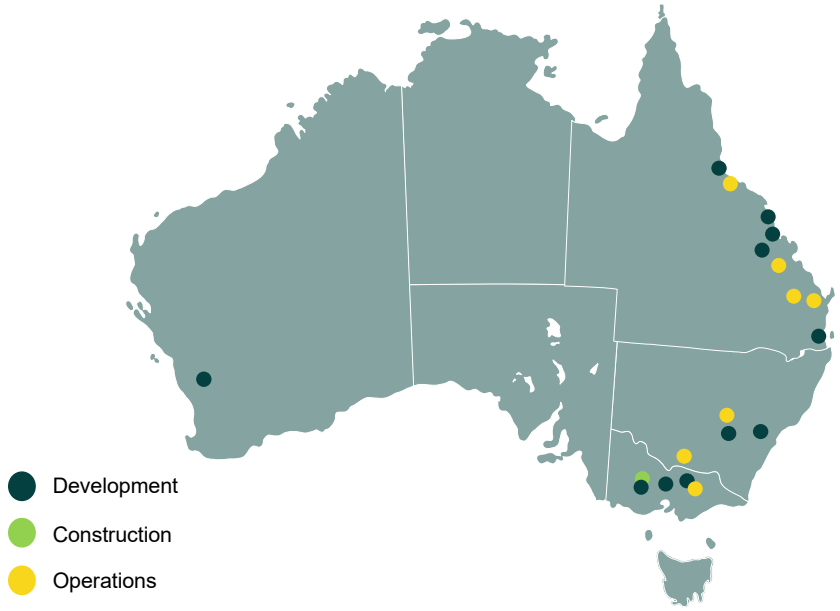




OX2 in Australia is a specialist developer with a pipeline of 11 projects in development or construction and seven solar farms reaching Commercial Operations Date (COD) in the last 7 years

OX2 Australia Overview

- Established in 2015 (named ESCO Pacific) as a leading Australian renewable energy developer and asset manager of utility scale solar farms.
- ESCO was acquired by OX2 in Q2 2023.
- OX2 Australia has a proven track record of delivering to market circa 800MWdc of operational solar generation, and over 3 GW pipeline of wind, solar and storage. OX2 Australia's recent projects include:



OX2 Australia Operational Solar Farms

Finley Solar Farm, NSW – 175 MW, Operational since 2019
The project began exporting electricity in 2019 and is connected to the national grid via Ergon Energy's network.

Ross River Solar Farm, QLD – 148MW, Operational since 2018
The project secured a 13-year power purchase agreement (PPA) with EnergyAustralia.

Moura Solar Farm, QLD – 110MW, Operational since 2023
Moura Solar Farm signed a Power Purchase Agreement (PPA) for 80% of production with CS Energy, a Queensland-owned energy company.

Susan River Solar Farm, QLD – 95 MW, Operational since 2018
The project began exporting electricity in 2018 and is connected to the national grid via Ergon Energy's network.

Childers Solar Farm, QLD – 75 MW, Operational since 2019
The project began exporting electricity in 2019 and is connected to the national grid via Ergon Energy's network.

Wyalong Solar Farm, NSW – 75 MW, Operational since 2019
Wyalong Solar Farm signed a Power Purchase Agreement (PPA) for 62.8% with NBN Co.

Glenrowan Solar Farm, Vic – 125 MW, Operational since 2024
Glenrowan Solar Farm has a Power Purchase Agreement (PPA) with the Victorian Government under the VRET2 scheme.

Idemitsu Overview

Established in 1911, Idemitsu Kosan Co., Ltd has annual global revenues of A$88bn.

Diverse interests around the world across energy, resources, advanced materials, lubricants, retail fuel and agriculture.

Ambitious climate targets:

- Idemitsu is committed to reducing global carbon emissions by 7.3 million tons by 2030
- on our pathway to reaching **carbon neutrality by 2050**.

In Australia for over 40 years, primarily in thermal and metalliferous coal.

Advancing local renewable energy generation and export opportunities through *Idemitsu Renewable Developments Australia*, and critical minerals opportunities through *Idemitsu Minerals Australia*.

We are diversifying our business and leveraging our global expertise to ensure we can continue to contribute to regional communities and a more sustainable future.

Retail fuel *(Freedom Fuels)* and agricultural businesses in Australia.

Consolidated number of employees
14,000people

Petroleum

Crude oil processing capacity
945,000barrels/day

Fuel oil sales volume in Japan
36million kL/year

Number of service stations in Japan
6,100locations

Crude oil tankers
22vessels

Number of oil terminals
34locations

Overseas petroleum trading volume
22million kL/year

Functional materials

Sales volume of engineering plastic
150,000t/year

Sales volume of lubricants
1.2million kL/year

Sales volume of asphalt
410,000tons/year

Adhesive material production capacity
65,000tons/year

OLED materials production capacity
26tons/year

Power and renewable energy

Electric power generation capacity
1.9million kW

Of which, renewable energy is 0.80 million kW
(Renewable energy ratio: 43%)

Electricity sales volume
3,300million kWh

Overseas

Overseas bases
64bases

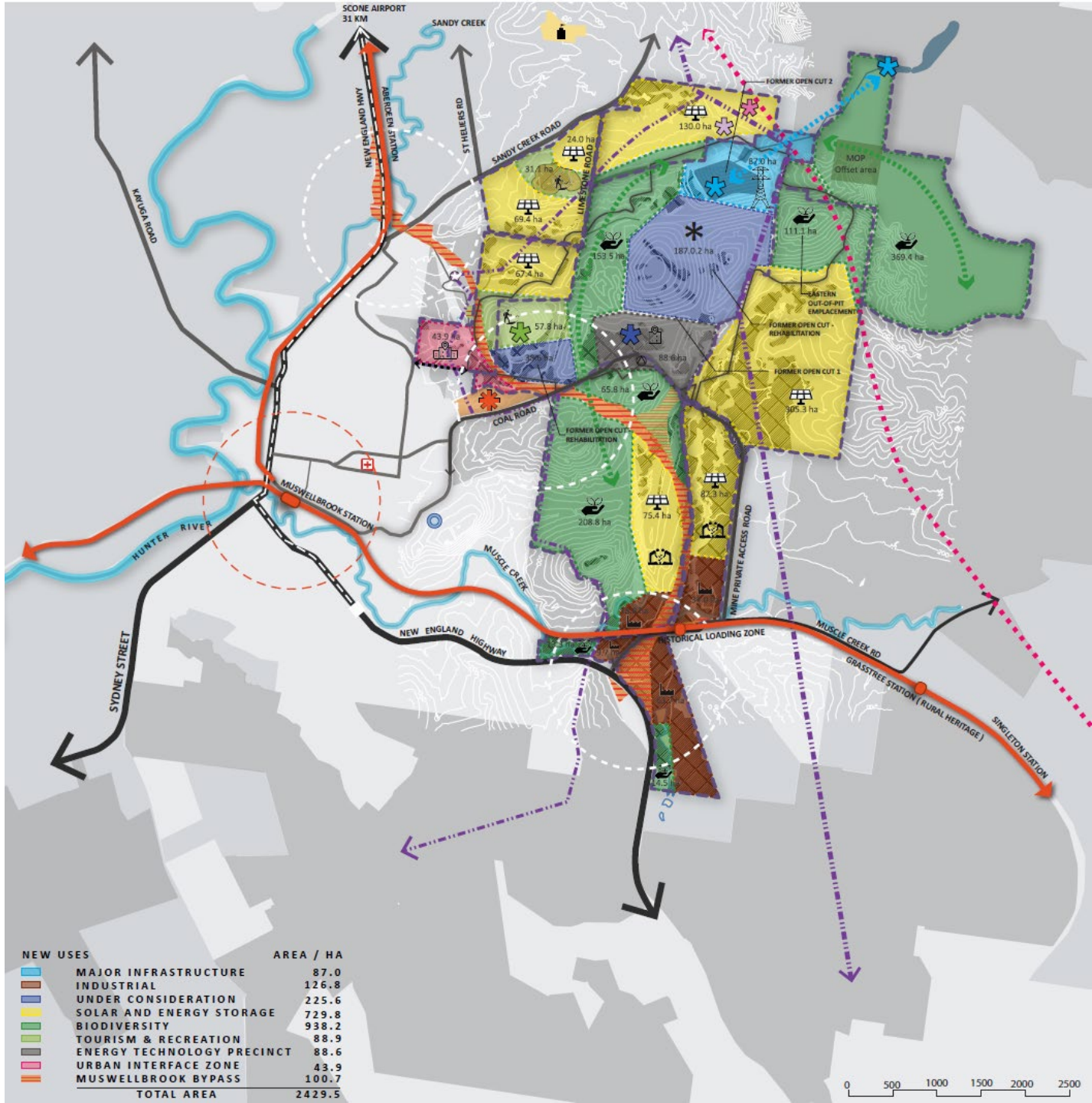
Overseas employees
3,300people

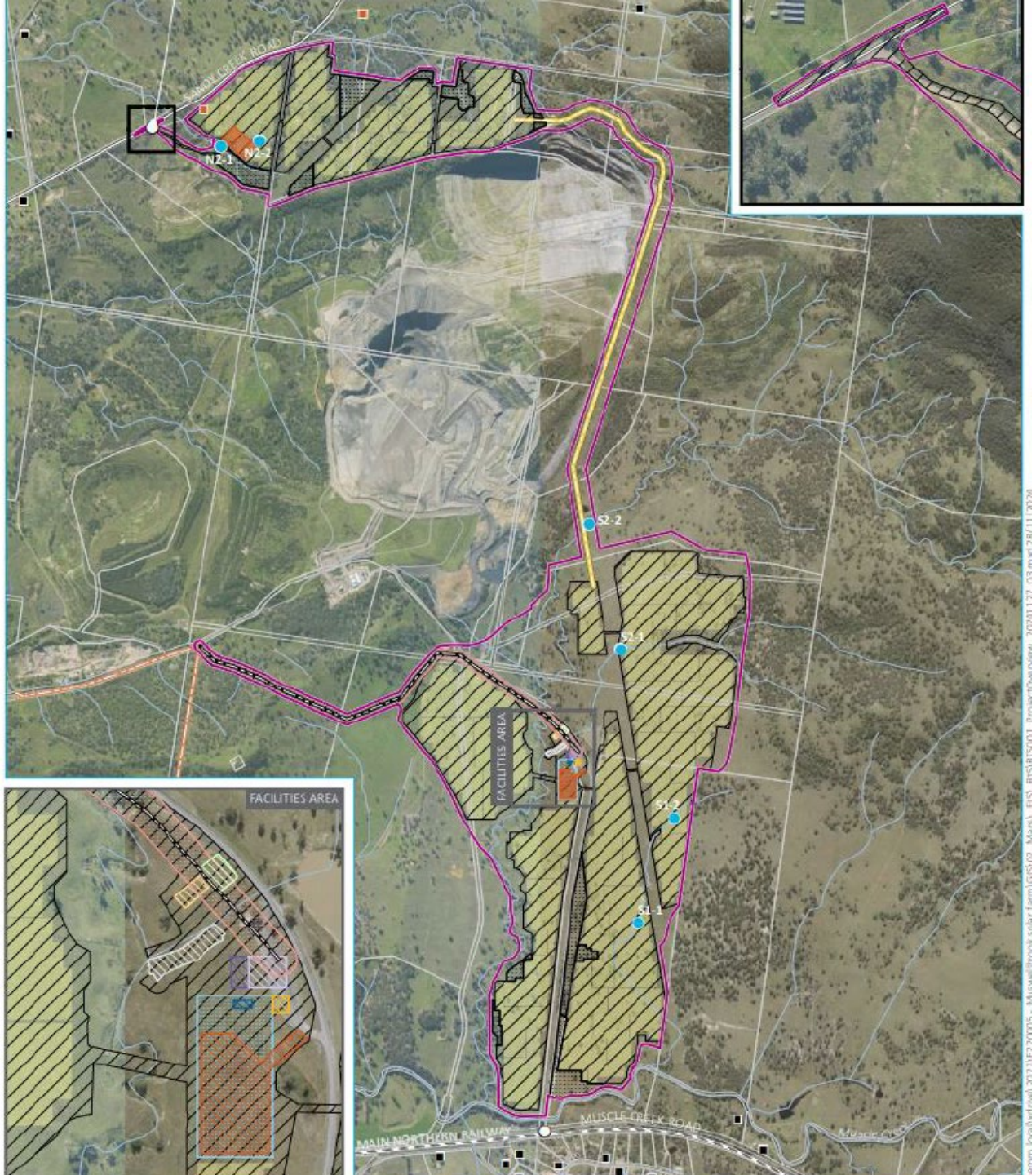
idemitsu

Muswellbrook Clean Industries Precinct

Masterplan Concept 2020

1. Major Infrastructure
   - Muswellbrook Pumped Hydro Project
   - Muswellbrook Solar Project
2. Industrial
3. Biodiversity
4. Tourism & Recreation
5. Energy technology precinct
6. Muswellbrook Highway bypass (Transport for NSW)
7. Hunter Gas Pipeline (Santos)



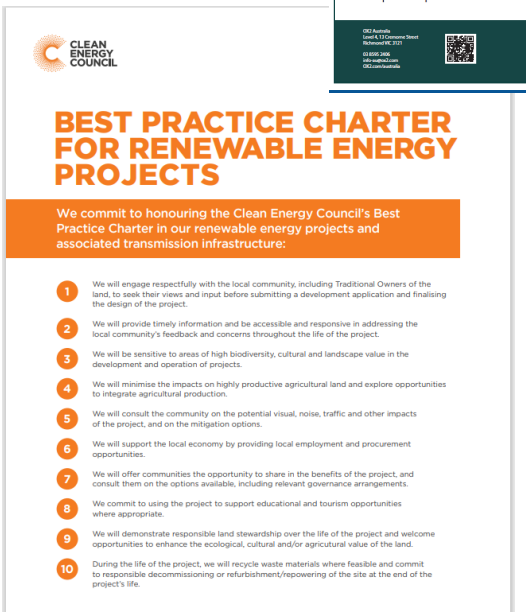


Project Details

- 135MWac solar farm and 135MWac BESS with up to 2 hours of storage
- Development footprint is 318ha and is located adjacent to the Muswellbrook Coal Mine on land primarily owned by Idemitsu.
- Up to 200 jobs during peak construction and 9 operational jobs
- Shared benefits through community benefit funding
- Located within Hunter-Central Coast Renewable Energy Zone
- Contribute to NSW and Commonwealth renewable energy targets
- Grid connection offer received from Ausgrid
- A leading example of the transition of the Upper Hunter from coal mining to innovative post-mining land uses

Community Engagement

Engagement	Date
Early Engagement (letterbox drop, information session and individual meetings)	Early 2022 onwards
Project Newsletter distributed and Media Advertisements at time of submission of EIS	September 2023
Second Community Information Session	September 2023
Response to individual requests for information	December 2023
Community Update (Feb) and Additional Information factsheet Distributed	March 2024
Ongoing engagement and individual meetings with neighbours	April 2024
Community Update (May) *Distributed via Muswellbrook Shire Council*	May 2024
Photomontage permission requests / provision of completed photomontage	June 2024 / August 2024
Community Update (August) Distributed	August 2024
Ongoing engagement and individual meetings with neighbours	September 2024
Community Update (October) Distributed	October 2024
Third Community Information Session	October 2024
Community Update with IPC information	December 2024 and January 2025



Community Benefit Sharing

- The project would generate direct and indirect benefits to the local community, including:
  - Up to 200 construction workers during the peak construction period and 9 operational workers
  - Expenditure on accommodation and business in the local economy by workers who would reside in the area
  - The procurement of goods and services

- Voluntary planning agreement with Muswellbrook Shire Council (MSC) consisting of:
  - Monetary contribution of $850 per MW paid annually
  - Annual instalments spent in the following areas:
    - 10% MSC specialist staff contribution
    - 45% Muswellbrook Shire Community Benefit Fund contribution (incorporating training and scholarships)
    - 45% neighbour benefits contribution (administered via Council)

Muswellbrook Solar Farm
Community Benefit Sharing Program
2024

Muswellbrook Solar Farm is a 135MW solar and battery project. Annually, Muswellbrook solar farm will contribute $850 per MW of installed capacity to a Community Benefit Sharing Program.

The current estimated installed capacity is 135MW which equates to a total of $114,750.00 provided each year to the program. If the project capacity decreases, the program's total funding will decrease.

The funds are divided between different aspects of the Program, agreed with Muswellbrook Shire Council under a Voluntary Planning Agreement.

The two main aspects of the Community Benefit Sharing Program to which the funds will be divided are:

- Community Benefit Fund
- Neighbour Benefit Fund

Neighbour Benefit Fund

45% of the Community Benefit Sharing Program is designated for a neighbour benefit fund.

This is to be distributed to all existing dwellings within 1.2km of the solar farm boundary via an annual Rate Rebate. Rebates will begin once the solar farm is constructed and becomes operational.

The rebate will be a reduction in the annual rates payable by those dwelling owners of approximately $550 each year for the life of the project (anticipated to be 35 years) and will increase annually in line with CPI (equates to over $20,000 in total).

Existing dwelling entitlements at the time of approval of the solar farm will also be eligible for the rebate once a dwelling is constructed on the property.

Community Benefit Fund

45% of the Community Benefit Sharing Program funding is designated for a community benefit fund.

This is to be distributed through the Muswellbrook Shire Council Grants Program, each year for the life of the project (35 years) and will increase annually in line with CPI.

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Powering the great shift

Key Matters raised by DPHI

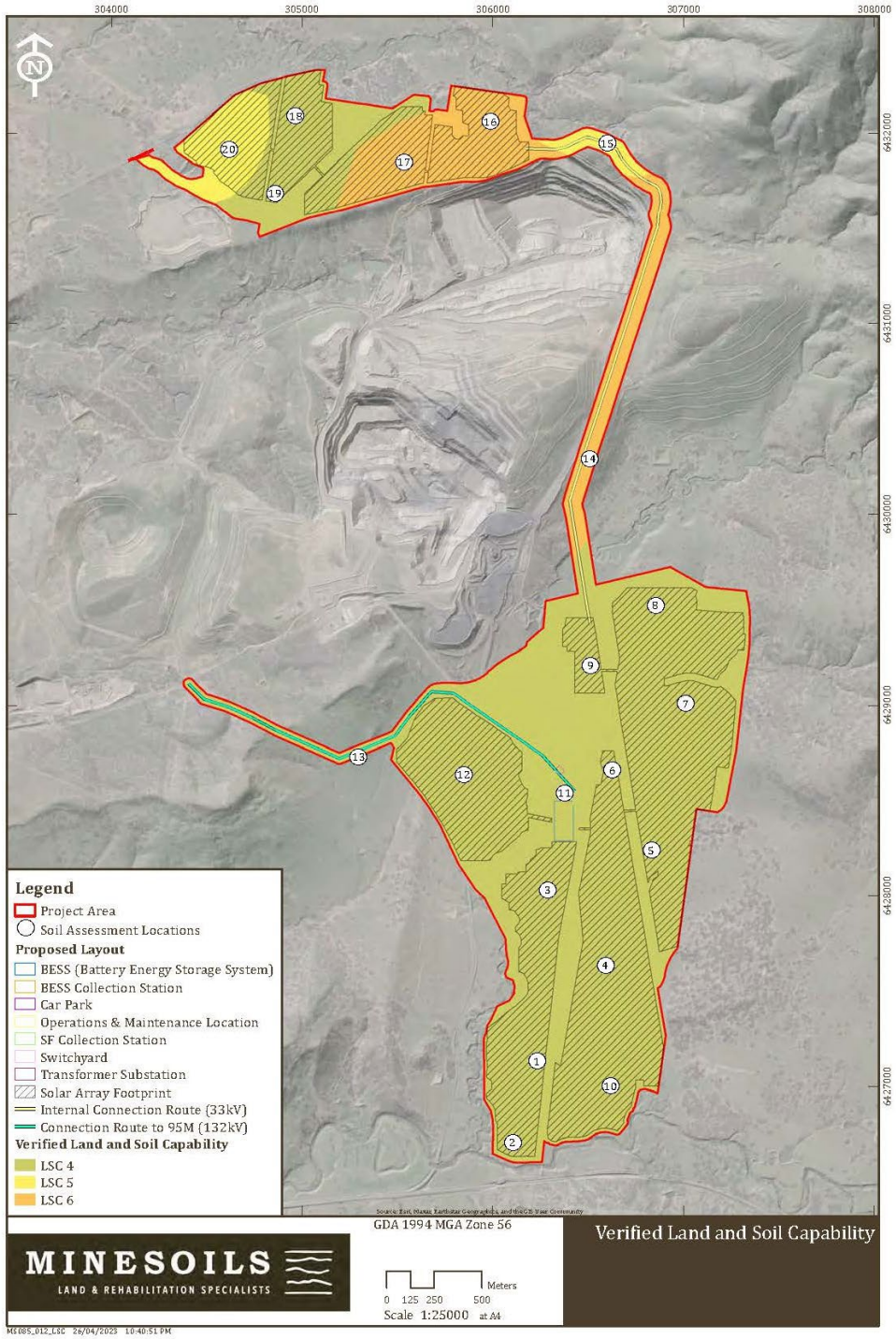
- Energy transition
- Land use compatibility
- Traffic and transport
- Biodiversity
- Visual

Energy Transition

- Solar farm with 135MWac generating capacity
- BESS with a capacity of up to 135MWac and a storage duration of 2 hours
- Consistent with NSW Climate Change Policy Framework of net zero emissions by 2050 and Commonwealth renewable energy targets
- Assists in transitioning the electricity sector from coal and gas-fired power stations
- Within the Hunter-Central Coast Renewable Energy Zone
- Proximity to existing electrical transmission infrastructure allows benefits from the project to be realised immediately, given it is not dependent on the completion of other new transmission infrastructure
- Connection offer received from Ausgrid

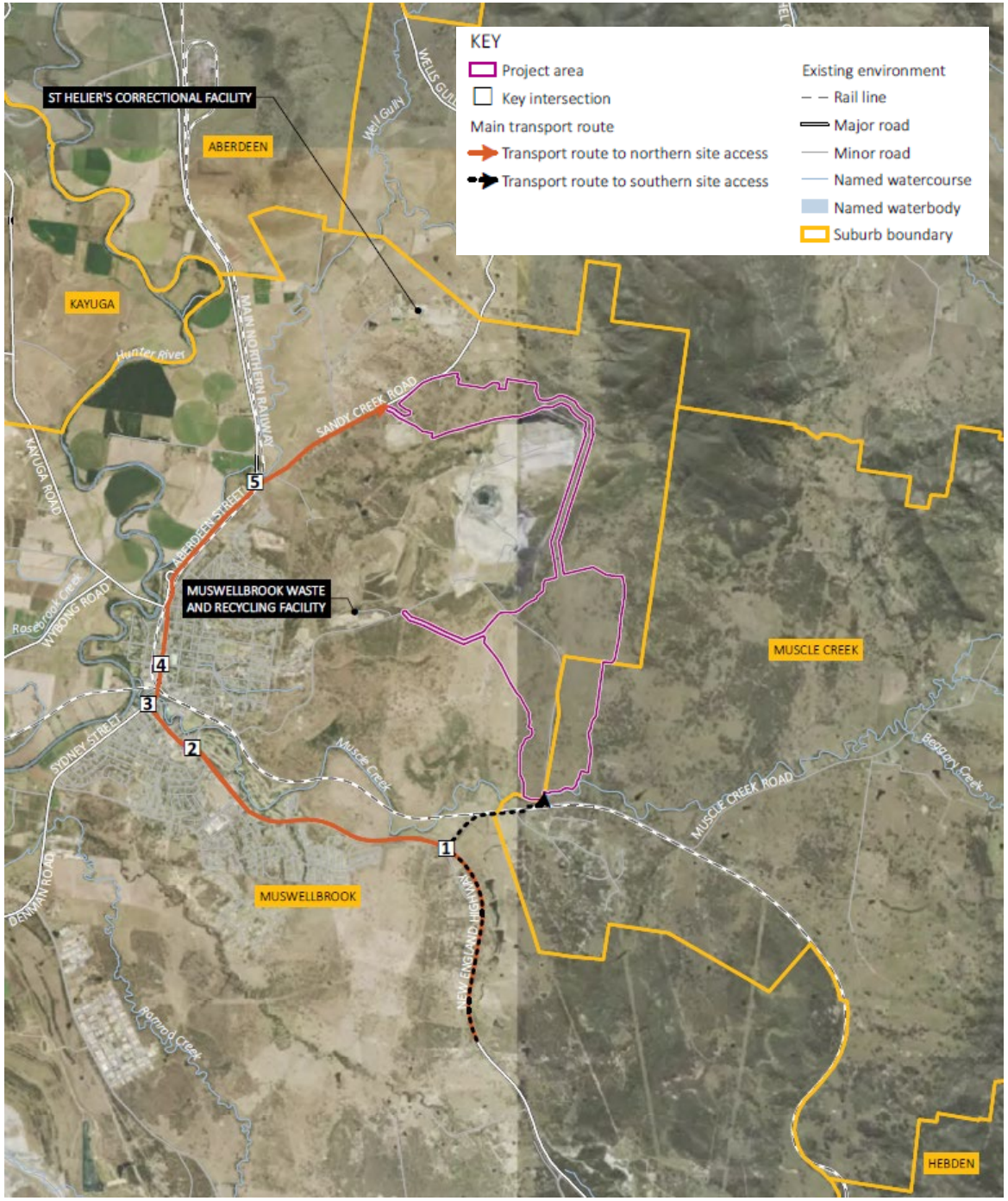
Land use compatibility

- A Land, Soils and Erosion Assessment was prepared, which included soil surveys verifying the Land and Soil Capability
- Land within development footprint has been verified as Land Soil Capability (LSC) Class 4 (moderate to high limitations), Class 5 (high limitations) and Class 6 (very high limitations)
- Does not contain any mapped Biophysical Strategic Agricultural Land (BSAL)
- Committed to maintain grazing within the development footprint, where practicable, over the life of the development



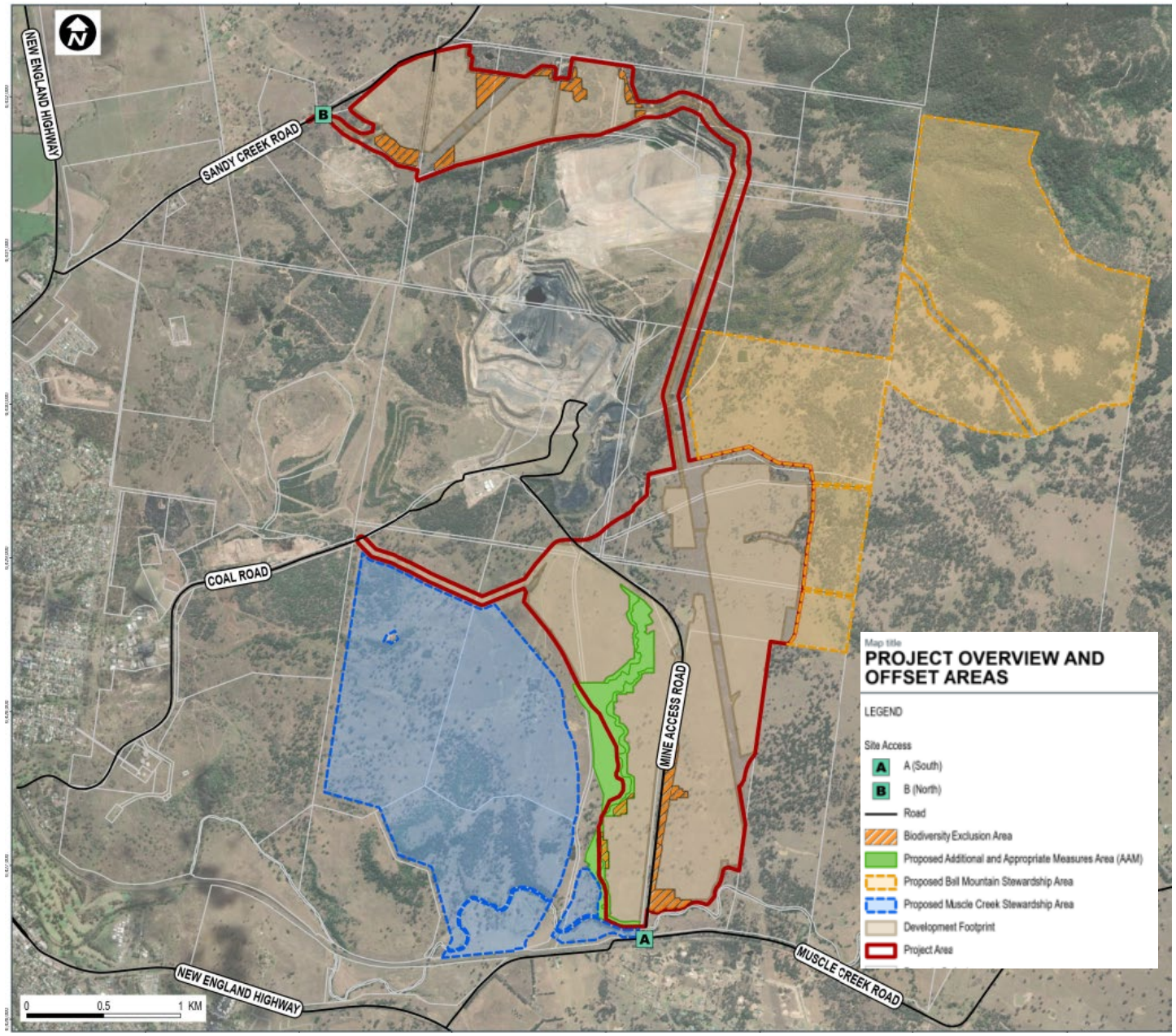
Traffic

- Access to the site would be New England Highway and either Muscle Creek Road or Sandy Creek Road
- Access to the northern section of the site would be via Sandy Creek Road. A road upgrade would consist of a basic right turn treatment
- The existing access point for the MCC mine site would be utilised for the southern access and no upgrades would be required
- Assessments have been completed for the New England Highway and Sandy Creek Road intersection. Traffic management mitigation measures would be implemented including use of shuttle buses and restrictions on vehicle movements during school bus hours



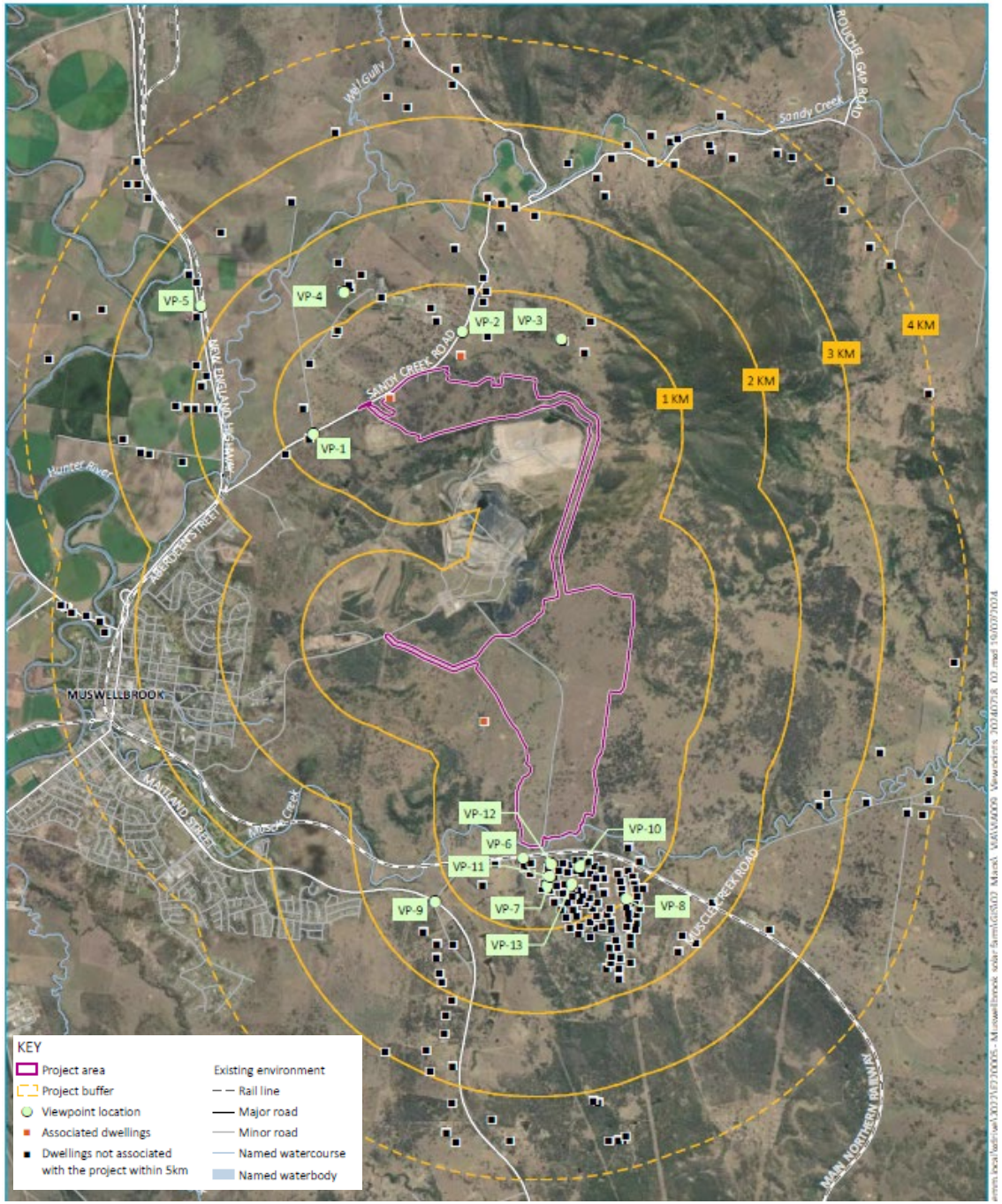
Biodiversity

- Southern area of the site is predominately comprised of degraded native grasslands and modified pastures with widely scattered paddock trees. The northern area predominately comprises regenerating even-aged regrowth Ironbark and occasionally mature trees, sparsely scattered shrubs and degraded grasslands.
- Focussed on avoidance of impacts through site selection, avoidance of higher quality native vegetation including intact woodland areas and habitat.
- Committed to delivering a biodiversity offset strategy that appropriately compensates for the unavoidable loss of ecological values as a result of the project:
  - Retirement of 2,487 species credits
  - Retirement of 1,629 ecosystem credits
  - Establishment of Additional and Appropriate Measures area



Visual

- The site is located adjacent to and within the existing MCC site and surrounds the remaining coal mine infrastructure and remaining open cut pits.
- The project layout has been developed in consideration of potential visual impacts, taking advantage of existing site topography and surrounding vegetative screening.
- 128 non-associated residences located within 2km of the development footprint, the vast majority of which are located within the Woodland Ridge estate.
- Visual impacts of the project are ‘low, very low or nil’ for all residential receivers when assessment against the 2022 Large-Scale Solar Energy Guideline’s Technical Supplement – Landscape and Visual Impact Assessment.
- Glint and glare assessment has been undertaken with solar panel backtracking limitations to be applied to mitigate impacts. This would result in light being reflected away from receivers which would eliminate glare production.



Other matters

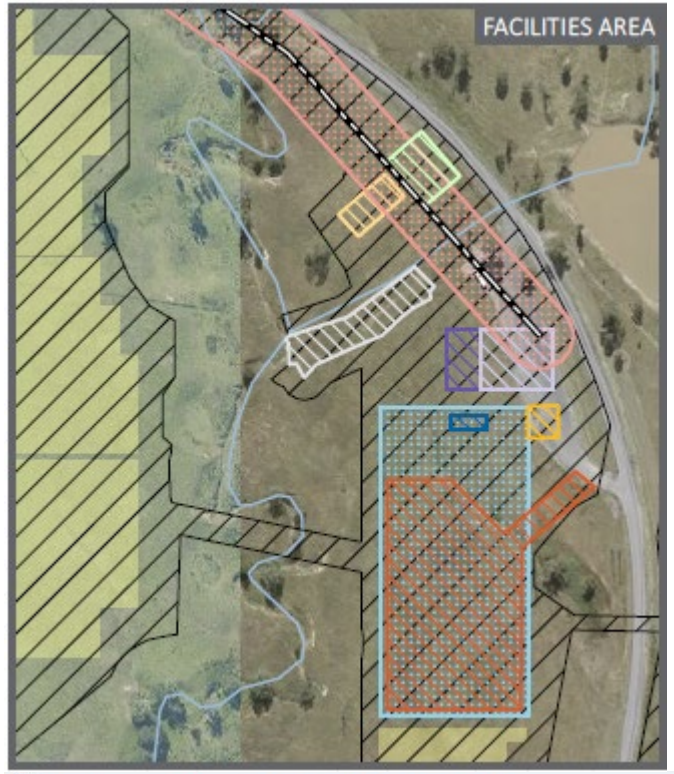
- Noise
- Flooding and erosion
- Bushfire
- Economic and community benefits
- Overall response to DPHI’s recommended conditions of consent

Noise

- Potential noise-generating infrastructure (including substation and BESS) have been positioned within the centre of the development footprint to maximise distance between this infrastructure and nearby residents.
- Operational noise would comply with the relevant noise criteria, as calculated in accordance with the NSW Noise Policy for Industry (NPfI), at all residences.
- Noise generated during construction is predicted to be well below the ‘highly noise affected’ criterion of 75dB(A) in the Environment Protection Authority’s (EPA) Interim Construction Noise Guideline (the ICNG) at all non-associated residential receivers and construction is limited to daytime hours.
- Construction noise levels are predicted to exceed the ‘noise management level’ of 45dB(A) in the ICNG during site preparation and cable installation works. These exceedances would only occur for a short amount of time (less than one month) when construction activities are nearest to the site boundary.
- A Noise Management Plan has been prepared which identifies a range of mitigation measures.

Flooding and Erosion

- Flood modelling demonstrated that the project is not predicted to have a significant impact on flood behaviour for the 1% annual exceedance probability (AEP) event, with flood levels, depths, velocities and hazards remaining largely unchanged.
- Part of the southern section of the site may be at risk of minor flooding during a 1% AEP event, however, safety hazards to workers is considered low.
- Flood modelling identified a potential flow path through the centre of the BESS area. A diversion channel is proposed to mitigate flood impacts to the BESS by diverting flood water around the BESS to the tributary of Muscle Creek on the western side.
- Erosion and sedimentation risks can be effectively managed via adoption of appropriate drainage, erosion and sediment control practices.
- A Soil and Water Management Plan will be prepared for the project.



Bushfire

- The project area is mapped as bushfire prone land.
- Bushfire risks associated with the project have been assessed in accordance with Rural Fire Service's *Planning for Bushfire Protection 2019.*
- Mitigation measures include:
  - A minimum 10m wide asset protection zone (APZ) around solar array assets, substation and permanent operations and maintenance buildings
  - Control of grass fuels, including maintenance of groundcover within the development footprint
  - A 50 to 80kL steel water tank to be strategically located in consultation with NSW RFS
  - Preparation and implementation of a Fire Safety Study and an Emergency Response Plan.
- With the application of these mitigation measures, bushfire risk will be reduced to an acceptable level and comply with the aims, objectives and specific performance criteria of *Planning for Bushfire Protection 2019*.
- The project would result in a reduction of unmanaged bushfire prone vegetation such that adjoining land would benefit from an overall reduced bushfire risk.

Response to DPHI's recommended conditions of consent

DPHI's assessment report adequately reflects and summarises the proposal.

The Applicant is satisfied with DPHI's recommended conditions of consent.