

Spicers Creek Wind Farm

Summary

This Summary provides a non-technical overview of the Project and assessment outcomes only, and should be read in conjunction with the Environmental Impact Statement (EIS).

What is the Project?

Spicers Creek Wind Farm (the Project) is a wind generation project which will provide a reliable and affordable source of electricity and help reduce greenhouse gas emissions associated with energy generation. It will also provide significant economic benefits to the Central West Orana region.

The Project is located approximately 25 km north-west of Gulgong and 35 km north-east of Wellington in NSW, within the Dubbo Regional and Warrumbungle Shire Council areas (refer to **Figure S1**). The Project is also located within the Central-West Orana Renewable Energy Zone (CWO REZ), one of five areas identified by the NSW Government to target for development of new renewable energy generation, transmission and storage projects. The NSW Government has indicated REZs will play a vital role in delivering affordable energy generation following the retirement of coal power stations over the coming decades.

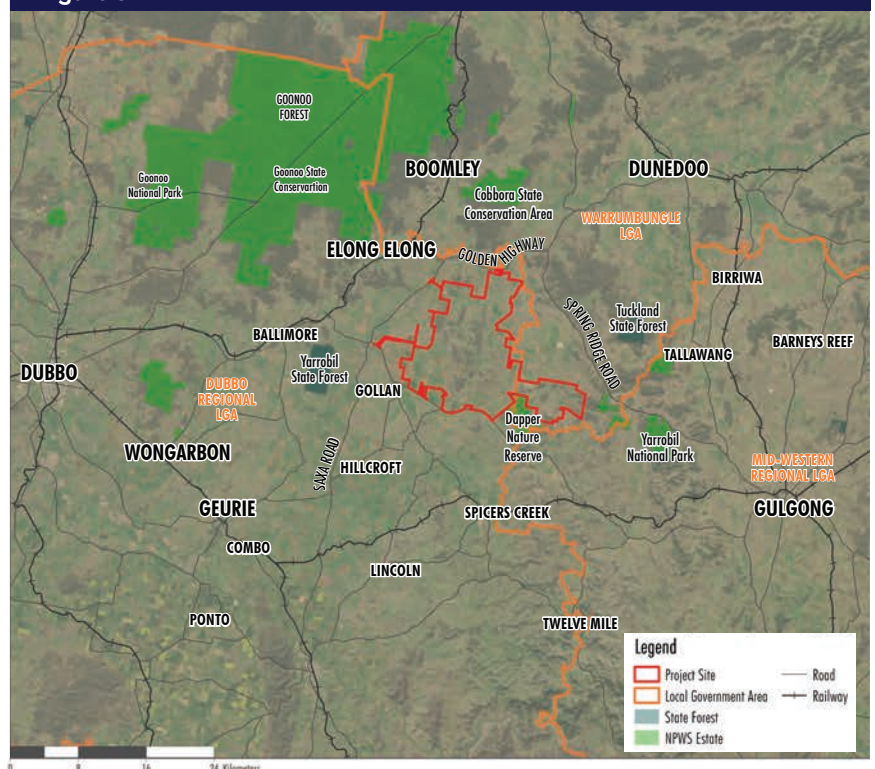
The Project has gone through a comprehensive design process that considered community and stakeholder feedback, as well as the findings of environmental and social studies. This process aims to maximise positive social, economic and environmental outcomes while minimising any negative impacts.

The Project will have a capacity of 700 megawatts (MW) of renewable energy, and will be able to power around 397,000 NSW homes.





The Project includes the installation, operation and decommissioning of the wind farm.


Figure S1





In summary, the Project includes:


- 


Up to 117 wind turbines
- 

Battery storage
- 

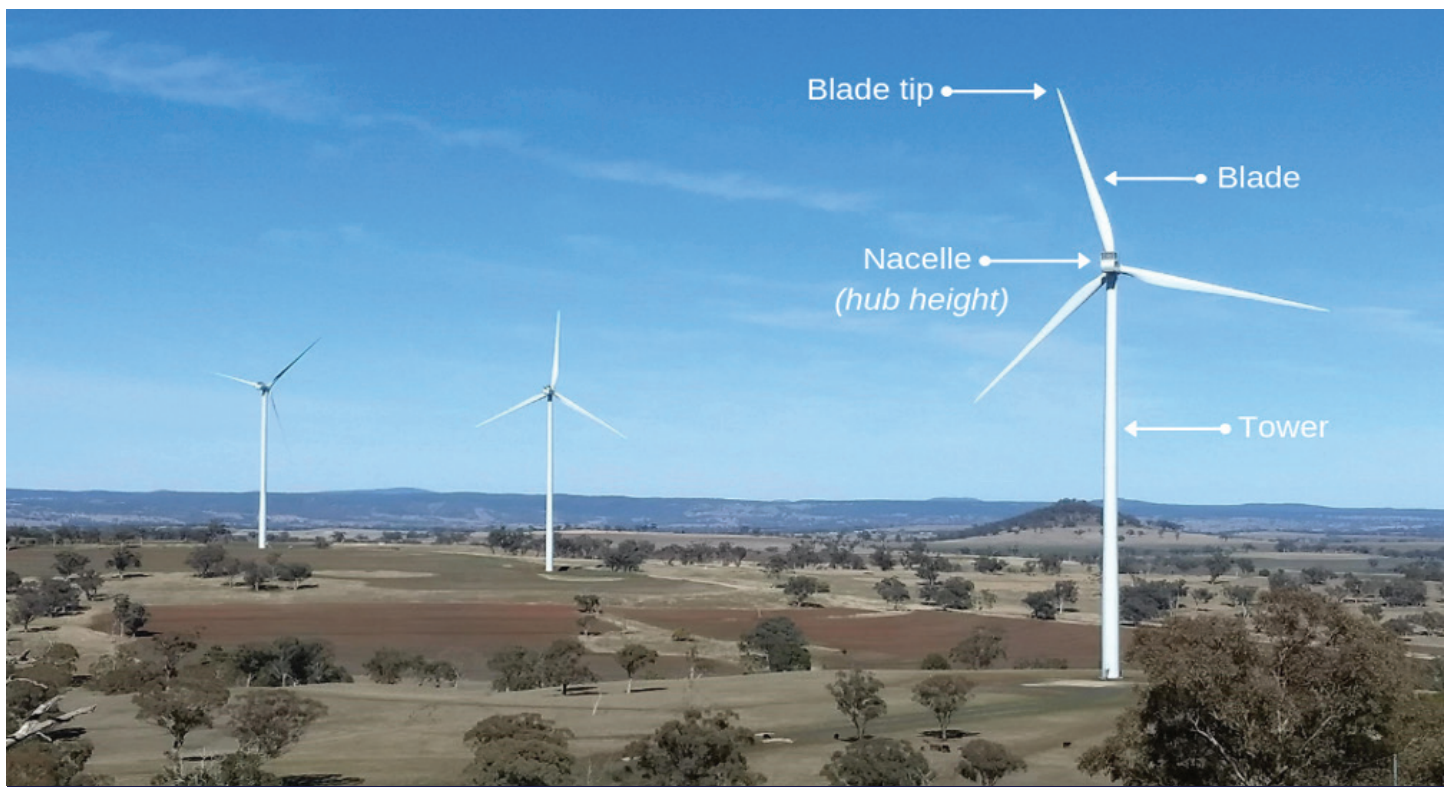
Roads and tracks
- 

Local road network upgrades
- 

Buildings used to operate the wind farm
- 

Electrical infrastructure to connect the Project to the electricity grid, including underground cables and overhead powerlines, substations and transmission lines
- 

Temporary construction facilities, including on-site concrete batching plants during the construction phase



Parts of wind turbine (photo: Sapphire Wind Farm)

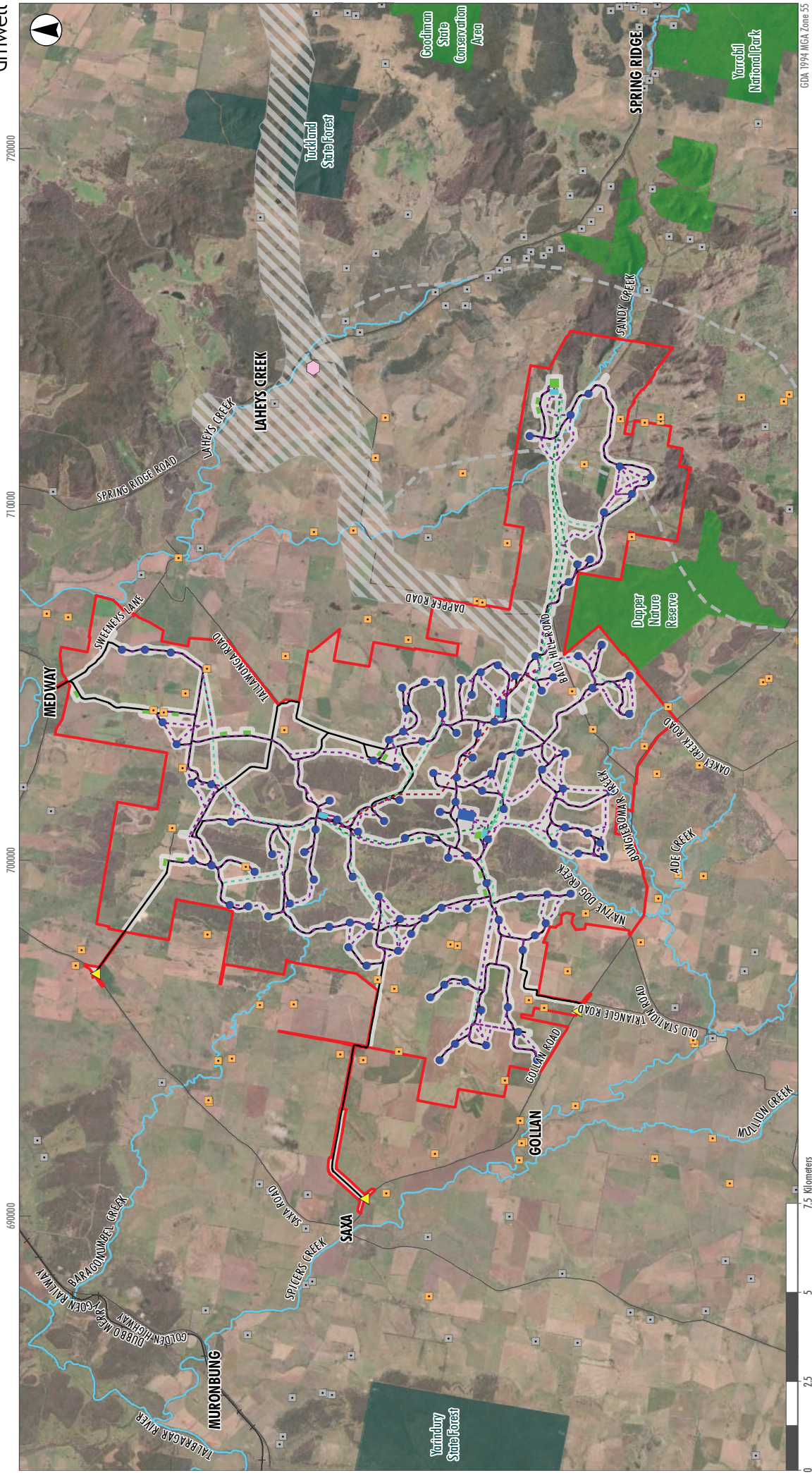
The proposed Project layout is shown in **Figure S2**.

The Development Footprint of the Project, where the work will take place, is about 1,520 ha. This sits within a broader Project Site of around 17,731 ha. The Development Footprint is the area in which the Project will be constructed and includes areas which will only be used temporarily during construction.

This Development Footprint was designed in consideration of environmental, social and engineering constraints, including feedback from landowners and the surrounding community.

A buffer area of 100 m has also been included around the Development Footprint. This is called the Development Corridor (as shown in **Figure S2**). The Development Corridor provides flexibility for locating wind turbines and site infrastructure during the detailed design and construction process.





GDA 1994 MGA Zone 55

0 2.5 5 7.5 Kilometers

- Legend**
- Project Site
 - Wind Turbine Generator
 - Associated - House
 - Non Associated - House
 - Development Corridor
 - ▲ Site Access Point
 - Proposed Underground Powerline
 - Proposed Overhead Powerline (HV or MV)
 - Proposed Overhead Powerline (MV)
 - Proposed Overhead Powerline (HV)
 - Access Track
 - Substation
 - Site Compound
 - Electrical Plant Compound
 - EnergyCo Elong Energy Hub
 - EnergyCo Indicative REZ Transmission Corridor
 - EnergyCo Potential Southern Extension
 - State Forest
 - NPWS Estate
 - Road
 - Railway
 - Waterway

Figure S2
Spicers Creek Wind Farm

Image Source: ESRI BaseMap Data source: NSW DPST (2021), CWP Renewables (2022)

Why is the Project needed?

Both the Commonwealth and NSW Governments have made commitments to increase renewable energy generation and reduce carbon emissions. The Spicers Creek Wind Farm will help provide cleaner, cheaper and reliable electricity while also reducing greenhouse gas emissions and the impacts of climate change.

As a renewable energy project within the CWO REZ, the Project is located in an area which will be coordinated with other projects and connections to the transmission network. This coordinated approach will contribute significant capital investment and generate jobs during the construction and operational phases, and provide indirect benefits to local businesses throughout the life of the wind farm.

The long-term, strategic benefits of the Project to NSW include:



Providing regional investment in the NSW renewable energy sector



Making a positive contribution towards achieving the target of at least 3 GW of renewable energy generation from the CWO REZ

The regional benefits of the Project include:

- Creation of 320 direct jobs (plus 520 indirect jobs) during the construction phase and 12 jobs (plus 35 indirect jobs) during the 30-year operational life of the Project
- Local spend at regional businesses throughout construction and operations, such as transport, trades and services, accommodation, catering, and retail services
- Additional income to landowners connected to the Project, such as host and neighbour landowners
- Local community investment through a community benefit sharing program and planning agreements with local Councils
- Consideration of initiatives such as a co-investment program or telecommunication improvements which provide direct and targeted local benefits
- Around \$375 million of the infrastructure investment of \$2 billion expected to be spent within the region
- Payment of network infrastructure access fees to the Energy Corporation of NSW (EnergyCo) for the CWO REZ which will include a component to fund community benefit and employment programs
- Potential extra regional economic development benefits through initiatives such as education, employment and training initiatives, First Nations land management opportunities and partnership agreements, and facilitation of supply chain participation for regionally based small to medium enterprises



What other alternatives were investigated?

During the planning and design phase, SQE looked at alternatives, with changes made to the Project based on community feedback and to minimise environmental, cultural and social impacts while maximising the potential for electricity generation.

SQE looked at a 'do nothing option' (not developing the Project), alternative locations and different project layouts.

The 'do nothing option' would not deliver the identified benefits and was not the preferred option.

The Project location has:



A reliable wind resource suitable for the development of a commercial scale wind farm



A low density of surrounding rural residential dwellings

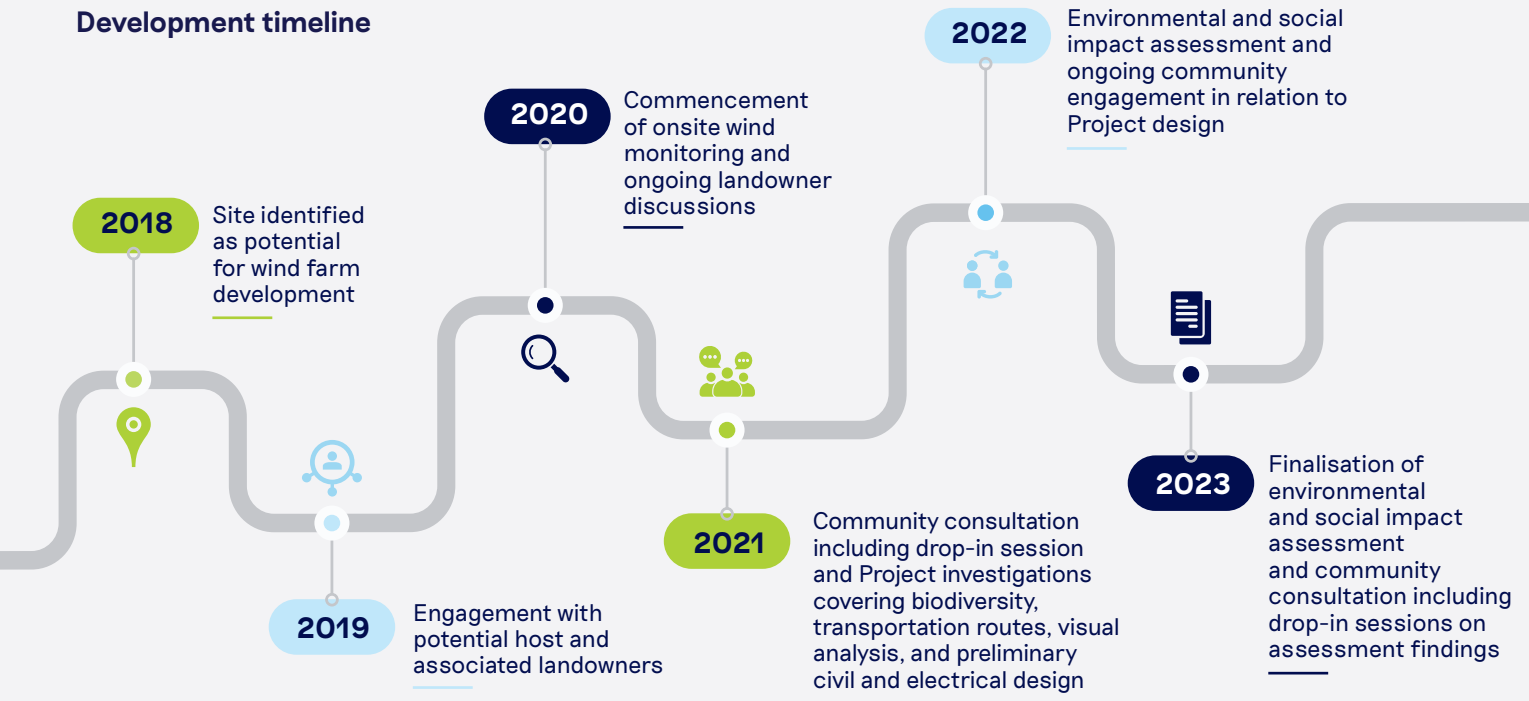


Proximity to the proposed transmission infrastructure and existing road network



Mostly cleared landscape

Development timeline



Throughout the development period SQE revised and updated the Project Site and layout to address feedback received. Where a landowner chose not to be involved in the Project, SQE removed these areas from the Project Site and applied a buffer area.

To address potential impacts, SQE followed an avoid-minimise-mitigate-offset approach. Firstly, all efforts were made to avoid potential environmental, cultural and social impacts and environmental offsets were only considered after efforts to avoid, minimise and mitigate impacts.

Key design process principles included:

- Minimise vegetation clearing – areas of high conservation value and/or native woodland vegetation were avoided from the start, where practicable. Regional vegetation mapping was integrated into SQE’s model for wind turbine placement to focus on avoiding high and medium value vegetation, woodland areas and areas of threatened ecological communities.
- As work progressed and a more detailed understanding of the biodiversity values of the Project Site became available, further updates were made to the design to minimise impact. Whilst not all impacts have been avoided, the scale of impact has been minimised through this process.
- Minimise land disturbance – areas for infrastructure were limited to the minimum area required.
- Protect functional riparian zones (streams and creeks, their banks and immediately adjacent land). Riparian zones were excluded from the developable area (noting that some stream crossings for access are required).
- Use previously disturbed land – as much as possible the Project has been placed on land previously cleared or modified by agricultural development, in consultation with the landowners.
- Protect cultural heritage values – cultural heritage values have been identified and evaluated and impacts avoided where practicable.
- Protect agricultural values – landowner feedback on agricultural values and land use have been fed into the design.
- Minimise direct and indirect impacts – in consultation with landowners, infrastructure has been located away from nearby residences and adjoining properties where practicable.
- Adopt a flexible approach to design – SQE’s design process has been iterative and has progressively responded to identified environmental, cultural and social impacts and constraints. This process will continue through the detailed design process for the Project.
- As a result of this iterative design process and after detailed consultation with landowners, the proposed number of turbines for the Project was reduced from 138 to 117.

What is the planning and approval process?

Spicers Creek Wind Farm requires approval under both NSW and Commonwealth environmental and planning legislation.

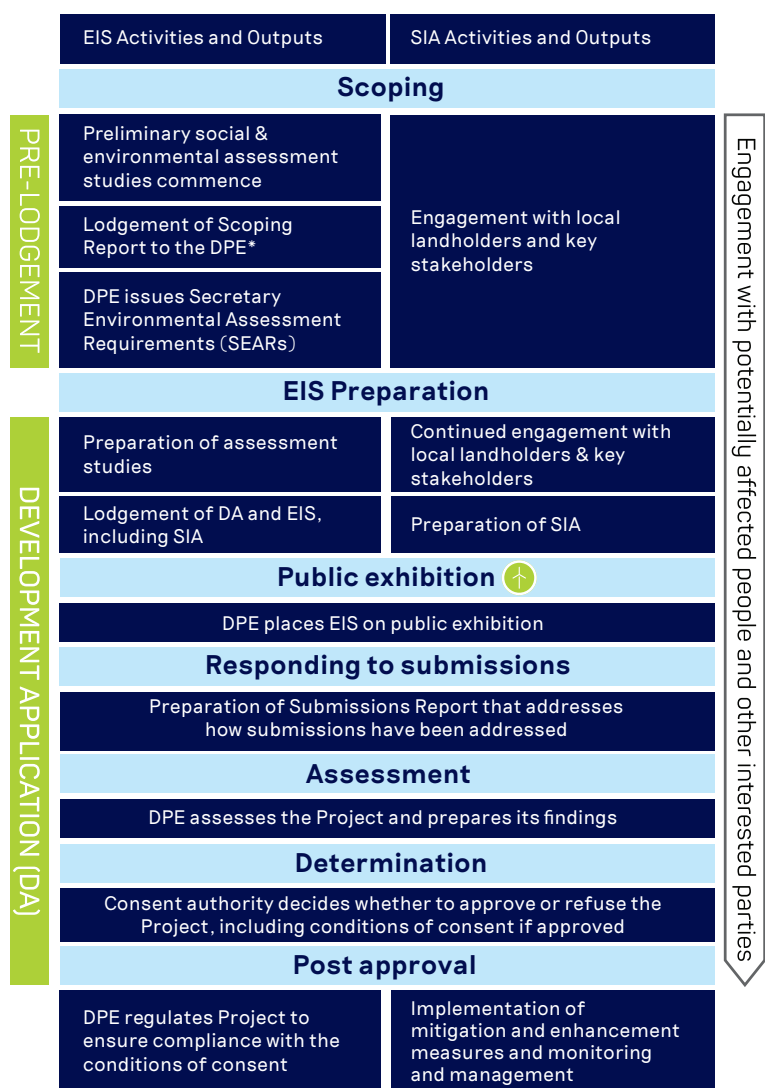
Under NSW planning legislation, the Project is a State Significant Development (SSD) and it requires approval under Part 4 of the NSW *Environmental Planning and Assessment Act 1979* (EP&A Act).


The Project also requires assessment and approval under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) due to potential impacts on Commonwealth listed threatened species and communities and Commonwealth listed migratory species.

An EIS has been prepared to outline the Project, its impacts (positive and negative), how these impacts are proposed to be mitigated, managed and offset, as well as its benefits.

The NSW Minister for Planning and Public Spaces (delegated to the Department of Planning and Environment) or the Independent Planning Commission (IPC) will decide if the Project gets approval to proceed. The IPC decides if public objections to the Project exceed 50, any reportable political donations are made by SQE or if the local Councils object to the Project.

Environmental and social impact assessment process:



 We are here

*DPE - Department of Planning and Environment

How has SQE engaged with stakeholders?

SQE has been consulting with local stakeholders since 2019, building a presence in the region through meetings with local landowners, neighbouring property owners, councils, local service providers and relevant Government agencies.

The outcomes of this community engagement during the early planning phases informed the Project design and the EIS.

The feedback gained has been complemented by a targeted consultation program for the social impact assessment (SIA).

In recognition of the impacts of the Project, and as a key part of the mitigation strategy, SQE has negotiated agreements with many of the landowners surrounding the Project Site. The agreements provide annual payments to landowners likely to be impacted by the Project. Consultation with these landowners is ongoing.



Environmental, Social and Economic Assessments

Detailed environmental and social assessments were carried out for key issues relevant to the Project. These were based on:

- Legislative and policy requirements
- Stakeholder feedback
- The environmental and social context of the area

The EIS identified two categories of nearby private residences/ dwellings: associated and non-associated.



Associated dwellings
- where SQE has an agreement in place with the landowner regarding Project impacts.



Non-associated dwellings - those with no agreement in place.

The consideration of impacts on non-associated dwellings are a key part of the assessments.



Figure S3 – Photomontage of predicted view from location VPO6

Landscape and Visual

Potential reduction in visual amenity was identified by stakeholders as a key potential impact of the Project during the consultation process. This is because wind turbines can be very visible across the natural environment.

The Landscape and Visual Assessment (LVIA) considered the potential visual impacts on local residences, public locations, Dapper Nature Reserve and cumulative impacts resulting from other existing and proposed developments in the area. These assessments were carried out in accordance with the guidelines of the *Wind Energy: Visual Assessment Bulletin for State significant wind energy development* (the Bulletin) (DPE, 2016). The LVIA also looked at potential impacts associated with night lighting and the potential for blade glint and shadow flicker.

The Visual Bulletin identifies zones to examine the visual impacts of a wind farm on dwellings or key public viewpoints. These are based on proposed wind turbine height, so the taller the turbine, the wider the zone of consideration.

As the turbines proposed for the Project have a maximum tip height of 256 m, the two assessment zones were 3,400 m (black line or Zone 1) and 5,000 m (blue line or Zone 2) from each turbine.

Within Zone 1 (0 to 3,400 m) there are three non-associated dwellings, and within Zone 2 (3,400 to 5,000 m) there are 22 non-associated dwellings. The LVIA assessed the potential visual impacts of the Project on each of these dwellings.

Visual impact assessment of non-associated dwellings

Potential level of impact	Zone 1	Zone 2
Nil/negligible	0	5
Low	1	10
Moderate	2	4

Mitigation measures (including screen planting) have been recommended for the non-associated dwellings with a potential moderate visual impact rating. These measures are expected to significantly reduce the level of visual impact once established. Further site assessments and consultation with the owners of these dwellings regarding mitigation measures will be carried out as part of implementing the Project.

Visual impact assessment of public viewpoints

16 public viewpoint locations were assessed surrounding the Project. At 15 locations the impact was rated as 'low' visual significance. At one public viewpoint (VPO6, Gollan Road at Gollan) the impact was assessed as 'moderate' visual significance as the Project would be dominant in the landscape from this viewpoint (VPO6).

Assessments of night lighting and blade glint/shadow flicker found impacts would be minimal based on the proposed design and mitigation measures.

Overall, the assessment found it is inevitable that the placement of large scale wind turbines in a rural landscape will alter the existing landscape character of the area to some degree. The Project would become a feature of the visual landscape, however, it is likely the character of areas valued for their high landscape quality and used for recreation and tourism will remain intact.

Regionally, significant landscape features would remain dominant features of the landscape and it is unlikely the Project would degrade the scenic value of these landscape features.

It is important to keep in mind the overall visual impact of the Project will vary greatly depending on someone's sensitivity to, and acceptance of, change. This sensitivity varies depending on the individual's connection with the landscape.

For example, visitors to the area may perceive the wind farm as an interesting feature of the landscape, while a resident who passes the wind farm daily may have a more critical opinion.

The changes made to the Project during the design process in consultation with nearby landowners, combined with the proposed mitigation measures, will minimise the extent of visual impacts associated with the Project.

Noise and Vibration



Noise and vibration concerns did not come up frequently during community engagement. This is potentially due to the distance between turbines and non-associated dwellings, as well as the extensive discussions and agreements SQE reached with landowners. Noise is, however, recognised as a common issue for wind farms and therefore a detailed assessment was completed.

Noise and vibration were assessed separately for the construction and operational phases of the Project as the nature of noise will be different in these phases.



Construction phase findings

- The majority of construction activities will be located some distance from non-associated dwellings and are unlikely to result in significant noise impacts.
- Some impacts will be experienced from construction activities that occur closer to non-associated dwellings such as road upgrade work. The construction noise assessment found noise from these road works would go over the noise affected level of 45 dB(A) at up to three non-associated dwellings but will be well below the highly noise affected level of 75 dB(A) and for a short period of time.
- In accordance with the Construction Noise Guideline, SQE will implement noise management measures to minimise noise during these construction activities, including consultation with the affected residents.
- The traffic noise assessment found there is the potential for a minor exceedance of road traffic noise criteria during the construction phase at one non-associated dwelling on the Golden Highway, although the increase will be barely perceptible to the average person and therefore would not cause any adverse impacts on the amenity at this location. Construction traffic noise management measures will be implemented to minimise impacts.



Operational phase findings

- Noise level predictions from the turbines show that operational noise levels will meet the noise criteria at all non-associated dwellings, noting that noise may be audible at some of the dwellings.
- Results for noise from ancillary infrastructure (substations, battery storage) during operations were predicted to easily achieve the relevant criteria at all non-associated dwellings.
- The assessment of impacts on recreational activity in Dapper Nature Reserve determined that relevant noise criteria will be achieved at the closest walking trails to the Project.

Biodiversity

SQE has worked to avoid and minimise biodiversity impacts as part of the Project design and located Project infrastructure in already cleared areas where practicable.

The previously cleared nature of the majority of the Project Site was one of the reasons SQE chose this location. The need to install turbines, substations, access roads and electrical lines means there will be some impact on native vegetation.

The assessment included detailed biodiversity field surveys with the progressive results of the surveys used to refine the design to minimise impacts on biodiversity. Bird and bat surveys were also carried out to identify species that could potentially be impacted by turbines. This included looking at species present at the Project Site and also those that use the airspace surrounding the turbines.

During the construction of the Project, clearing work will impact native vegetation and threatened species habitats within the Development Footprint. This includes impacts to key threatened ecological communities and threatened species including:



Threatened ecological communities

- 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 Critically Endangered Ecological Community
- Inland Grey Box Woodland in the Riverina, NSW South Western Slopes, Cobar Penplain, Nandewar and Brigalow Belt South Bioregions Endangered Ecological Community



Threatened species

- Barking owl (*Ninox connivens*)
- Superb parrot (*Polytelis swainsonii*)
- Glossy black-cockatoo (*Calyptorhynchus lathami*)

SQE will deliver a comprehensive biodiversity management plan to minimise the impacts of the Project. This includes:



The salvage of biodiversity features including habitat resources like hollow logs, tree hollows, fallen timber and rocks or boulders



Traffic control, water management, weed management, fencing and access control, bushfire management, erosion and sediment control



Pre-clearance and tree-felling procedures and non-inhibiting fauna fencing



Workforce education and training



A plan to address the impacts on birds and bats linked to turbine strike including a framework for monitoring impacts

Where impacts to biodiversity can't be avoided, the NSW biodiversity assessment process requires use of the NSW Government online calculator to generate biodiversity credits. These credits are generated from the results of the survey and impact areas.

All credits then need to be offset prior to the impact occurring, with the system designed to result in net gain in biodiversity value for NSW. SQE has developed an offset strategy for the Project and has a number of options to secure the biodiversity credits needed.

Aboriginal Cultural Heritage

The Project Site is on the land of the Wiradjuri people within the Dubbo Local Aboriginal Land Council (LALC) area. An Aboriginal cultural heritage assessment was carried out to look at the potential impact of the Project on Aboriginal cultural heritage in consultation with Aboriginal communities. This included a desktop review, field investigations and test excavations by archaeologists with help from the LALC and the other Registered Aboriginal Parties (RAPs).

There are no Commonwealth or World listed heritage places, nor State listed or locally listed heritage places or items within or close to the Project Site.

During field work and consultation, there were no specific cultural values raised by the RAP representatives. During field assessments, a total of 61 stone artefact locales (an area where stone artefacts are visible on the surface), two grinding groove sites and one potential stone artefact procurement area (being an area where Aboriginal people sourced rock for creating stone tools) were recorded.

The majority of the Development Corridor was found to be of very low archaeological potential, however, certain areas such as slopes and flats next to waterways were found to be of higher archaeological potential, as these areas were considered to be suitable for camp sites and similar activities.

The assessment found most Aboriginal artefact locales were of low significance within a local context. There are 12 sites that were assessed as being of low/moderate, moderate or high significance. For these sites, a combination of avoidance and/or salvage is proposed. In addition, SQE will develop a heritage management plan with the RAPs and Heritage NSW to guide the management of heritage values. This will include training for site workers.

Historic Heritage

An historic heritage assessment looked at the non-Aboriginal heritage values of the Project Site and any potential impacts. It included a desktop review and field investigations.

The assessment found the Project Site is an agricultural/grazing landscape with items recorded in the Development Corridor reflecting rural and farming life. None of the items have State or local heritage significance.

Where historic heritage items occur within the Development Corridor, impacts will be avoided wherever practicable. Where impacts can't be avoided, SQE will develop a historic heritage management plan which will include measures like archival recording of the heritage items.



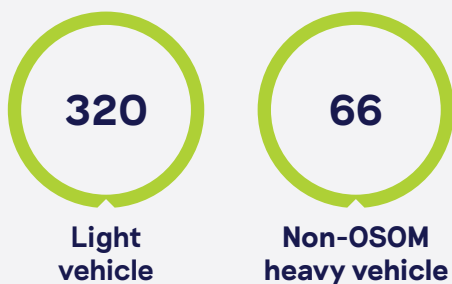
Transport

The Project includes two primary site access points to be located on Sweeneys Lane (accessed from the Golden Highway) and Tallawonga Road (accessed from the Golden Highway and Saxa Road). These access points would be used for all over-size, over-mass (OSOM) deliveries to the Project Site as well as for standard heavy and light vehicles. Two secondary site accesses for standard heavy and light vehicles are also proposed from Gollan Road at Binginbar Road and Ben Hoden Road.

Most Project traffic will be during the construction phase when materials and construction workers coming to the site will generate higher traffic volumes. During the operational phase there will be minimal traffic. OSOM traffic movements will be overnight or in non-peak times. Current traffic volumes near the Project Site are not high and all roads have significant additional capacity. Local road users will notice increased traffic during the construction phase.

For most of the construction period, maximum daily traffic generation would be 320 light vehicle trips (one way movements) and up to 66 non-OSOM heavy vehicle trips per day. During peak activities, the maximum daily traffic generation would increase to a maximum of 590 light vehicle trips and up to 106 heavy vehicle trips per day inclusive of 10 OSOM vehicle trips. Even during peak construction activities, all affected public roads would maintain satisfactory levels of service and adequately absorb construction-generated traffic.

Construction period



Peak construction activities



During Project construction, the increased traffic and in particular, the higher turning movements at the Golden Highway-Sweeneys Lane and Saxa Road-Tallawonga Road intersections mean upgrades to these intersections are proposed. In addition, there are plans to upgrade the Gollan Road junctions.



Traffic generation during operations would be minimal, resulting in a general maximum of up to around 40 trips per day. Consequently, traffic impacts would be negligible during the operational phase.



Traffic generation during decommissioning would be minimal with only marginal changes from existing conditions.

SQE will prepare a traffic management plan before both the construction and decommissioning phases to manage vehicle movements, and to make sure road safety and road network operations are maintained. A specialist licensed transport contractor would be used for all OSOM trips.

The Project Site is located within the CWO REZ and there are other existing and proposed renewable energy projects within the region. Cumulative traffic impacts during the construction phase are a key issue for the development of the REZ.

Key transport routes in the region such as the Golden Highway, will be used by multiple projects, leading to increased traffic.

Near the Project Site, the assessment found that there is ample spare capacity on the local road network for the Project, however, some upgrades to the local network are needed. These upgrades are planned as part of the Project, with some upgrades also to be carried out by the NSW Government on State roads.

The local community identified the completion of road upgrades as a key benefit of the Project. With these upgrades and the proposed construction traffic management measures, the assessment found the local road network will operate at a good level of service, even with increased local traffic volumes during the construction phase.

Water and Soils



The Project Site is located within the Macquarie-Bogan River system and extends across the catchments of a number of tributary channels of the Talbragar River.



A water resources assessment looked at the impacts of the Project in relation to flooding, surface water quality, stream stability, water supply and groundwater.

Key findings included:

- There is a low risk of flooding under both the existing and climate change scenario conditions modelled, with minimal risk to changes in internal or external waterway flows. The Project Site is outside major flood hazard areas and the Project won't have any impact on local or broader catchment flood regimes.
- Surface water quality impacts are most likely during the construction and decommissioning stages of the Project, when soils may be disturbed during vegetation removal, excavation works or stockpiling of materials. The use of erosion and sediment controls, and materials storage and handling requirements means potential water quality impacts are expected to be minor. Water quality impacts during the operational stage are expected to be negligible as the day-to-day activities would be limited to routine maintenance and monitoring.
- The Project design generally avoids work close to or within waterways, but some waterway crossings will be needed. These will be designed to minimise impacts on stream stability and fish passage, using relevant guidelines and policies and in consultation with DPI Fisheries.
- A water sourcing strategy will be developed, considering relevant legislation and aiming to ensure water used during the construction phase does not result in a loss of supply to adjacent landowners or other water users.
- As the Project is not predicted to interact with groundwater, there are no impacts predicted to groundwater resources, including groundwater dependent ecosystems and bore water users.

Land

The selection of the site and design of the Project has included looking at potential impacts of the development on the existing land uses on the site and adjacent land. This includes detailed consultation with host landowners regarding placement of wind turbines, access roads and other wind farm infrastructure in relation to agricultural operations. It has also involved looking at how the development fits with the existing land uses during construction, operation and after decommissioning.

SQE proposed this site as it has the ideal combination of:



Land within the CWO REZ suitable for a viable commercial-scale wind farm project, with a low density of housing and in close proximity to the associated proposed high voltage transmission network



High quality wind resource



Overall positive sentiment within the local community regarding renewable energy, including interest from landowners in being involved in the wind farm



Access to major transport networks, including the Golden Highway, to the north of the Project Site



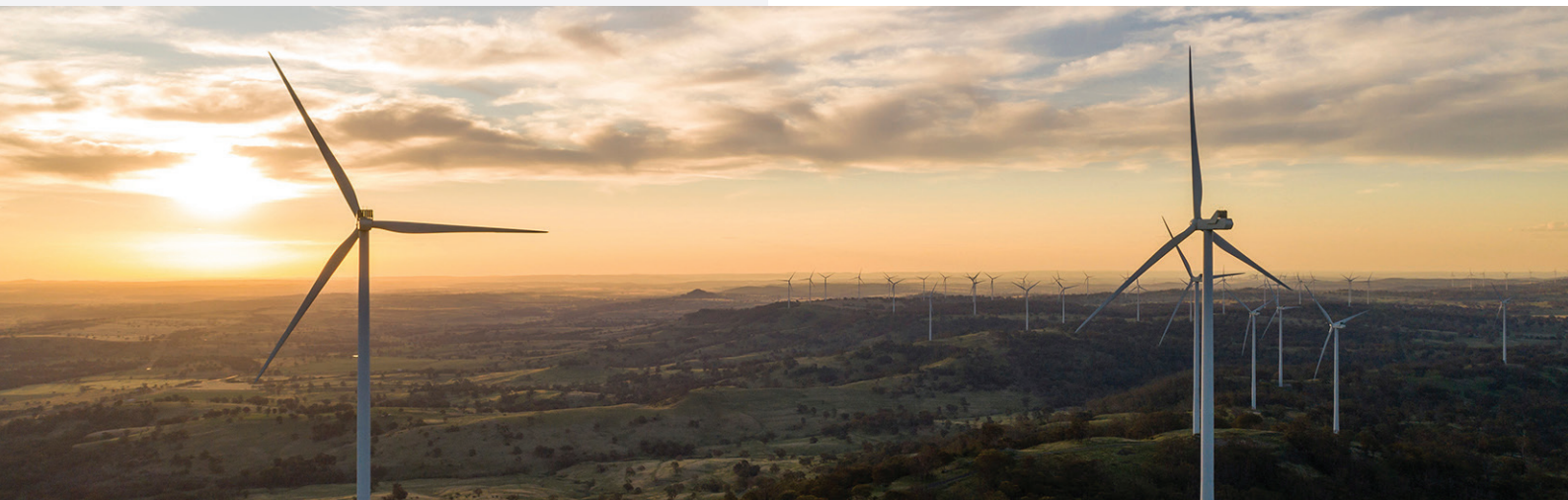
Compatible land use zoning



Environmental constraints that can be managed with appropriate mitigation and management



Landscape suitable for minimising the risk of substantial soil erosion during earthworks



The Project Site has land suitable for agriculture and agricultural activities can continue with the Project. Due to the agricultural history, the Project Site has a lot of areas which have previously been disturbed and/or historically cleared. This previous clearing reduces the extent of impact on biodiversity.

SQE has agreements with relevant owners allowing SQE to lease the land for the Project. These agreements compensate the owners for the areas of land that will be occupied by the Project, noting the vast majority of each property will be available for ongoing farming or agricultural activities. SQE has also entered into neighbour agreements with some landholders to address various amenity impacts from the Project specific to their dwellings.

SQE has consulted with each host landowner and designed the Project in consideration of their farming operations to minimise impacts. Following decommissioning at the end of the operational life of the Project, these areas of land will be rehabilitated.

While the Project will remove a relatively small area of land from farming use, it will provide a significant benefit to the

landholders through income diversification. This provides consistent income, including in drought or other periods of low agricultural production. This will support the ongoing sustainability of farming activities within the site.

Small sections of the south-east part of the Project Site are identified in regional scale mapping as biophysical strategic agricultural land (BSAL). The Project has been designed to avoid impact to the potential BSAL areas as far as practicable. A minor area of mapped BSAL of around 4.5 ha is within the Development Corridor for the Project as it is close to proposed overhead powerlines. SQE has committed to avoiding all mapped BSAL within the Project Site as part of detailed design.

An assessment of potential impacts and conflicts relating to existing land uses both on the site and on adjacent land areas was carried out and included the assessment of agricultural land, Dapper Nature Reserve, travelling stock routes, Crown Lands and two mineral exploration titles. With the effective implementation of mitigation measures, the assessment found potential conflicts on the surrounding land use and land users would be manageable and minor.

Case study - Sapphire Wind Farm

Wind farm and agriculture coexist at Squadron Energy's Sapphire Wind Farm



Sapphire Wind Farm is the largest operational wind farm in NSW. It is located 18km west of Glen Innes in the New England region and has been operational since 2018.

The 270MW wind farm includes 75 wind turbines and is hosted by 12 landowners on agricultural land. The majority of the land is used for grazing cattle and sheep, with a small amount used for cropping.

The wind farm generates enough electricity to power 148,000 homes and avoid 511,000 tonnes of carbon emissions each year.

Hazards and Risks

The EIS has addressed the potential hazards and risks associated with the Project through a range of specialist assessments. These include aviation safety, telecommunications, health, bushfire, battery storage, blade throw and risks associated with pipelines.

Key assessment findings



Aviation

- The Project Site won't impact on aviation operations at nearby Dubbo and Mudgee airports as it's far enough away from these airports.
- Obstacle lighting isn't needed for wind turbines and meteorological masts.
- The site is partially within a designated military flying zone and the Department of Defence has been consulted to determine any specific restrictions.
- The assessment also looked at agricultural aerial application and aerial firefighting operations to make sure measures are in place to address potential interactions with these activities nearby to the wind farm.



Blade safety

- Compliance with international standards, implementation of high-quality maintenance programs, and continual improvements in wind turbine design and materials mean that blade failure is relatively rare for modern turbines and does not typically result in the detachment of blades or blade fragments. The assessment found the level of risk presented by the Project for a blade throw event is very low and well below acceptable risk limits.



Battery storage

- An assessment of the risks associated with battery storage found that no off-site impacts with the potential to cause injury or fatality are predicted. This is because the potential locations of the battery storage facility are well removed from public locations. This includes being over 1.5km from the Project Site boundary, more than 3km from the nearest associated dwelling and more than 5km from the nearest non-associated dwelling.



Bushfire

- NSW Rural Fire Service has identified the Project Site as bushfire prone land. The assessment found the potential bushfire risk associated with the Project can be appropriately managed through a Bushfire Emergency Management Plan. The Plan will include Asset Protection Zones and the provision of adequate access, water supply and fire suppression equipment, as well as specific construction management practices. New all-weather roads will improve access for ground-based fire fighting in the area in the event of any future fires.



Gas infrastructure

- A high-pressure natural gas transmission pipeline traverses the Project Site and is located close to planned road upgrade works. Preliminary consultation with the pipeline owner indicates that works can be managed. Protection measures will be developed in consultation with the service provider.



Human health

- Potential impacts on human health associated with electric and magnetic fields were assessed. It found the Project will comply with the safe limits for general public exposure for electric and magnetic fields.



Telecommunication

- Telecommunication services are unlikely to be materially affected by the Project. This includes television and radio broadcasts, mobile phone services, point to point microwave radio communication services and radar operations.
- Consultation with service providers will be ongoing throughout the detailed design phase.

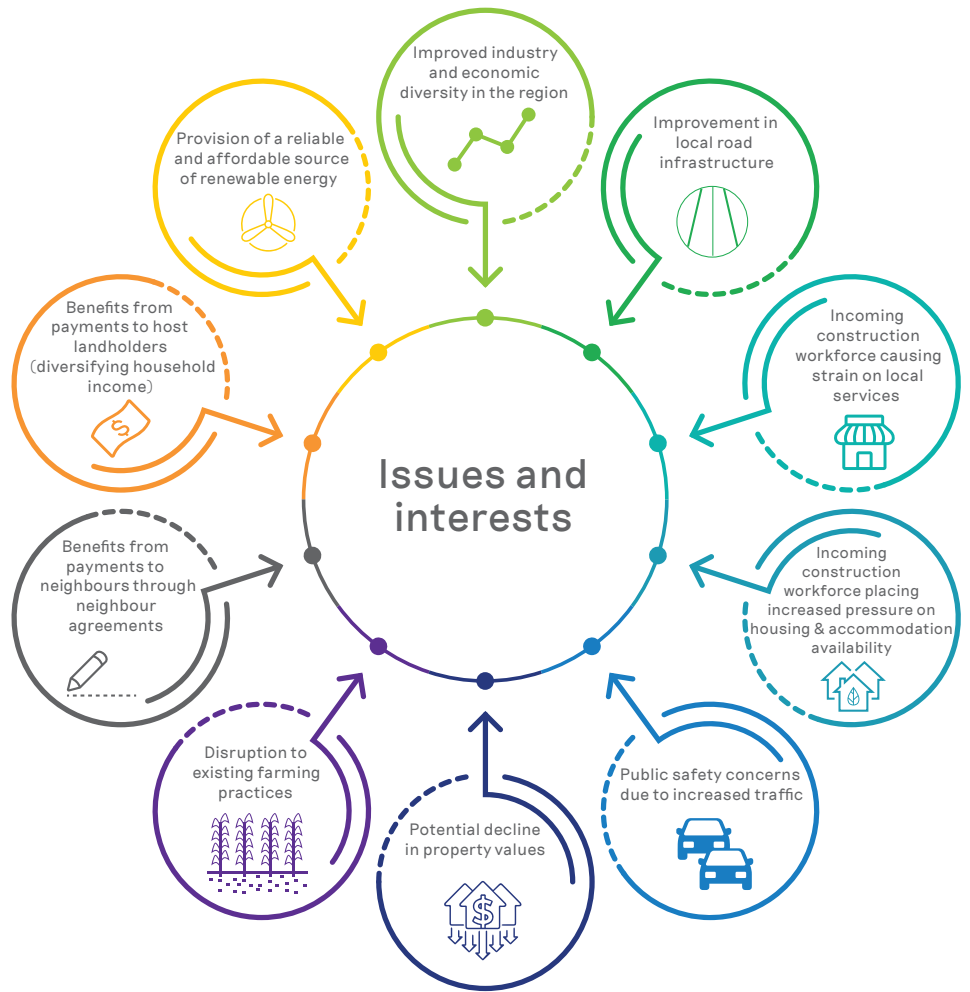
Social

SQE recognise that as for any large project, the potential impacts on the community need to be considered and measures identified to minimise any negative impacts and maximise positive benefits. To assist in this process a Social Impact Assessment (SIA) was completed as part of the EIS.

Engagement is a key part of an SIA program. It provides opportunities to identify, integrate and address social impacts during the detailed Project planning, design, and assessment phases. SQE has been consulting with local landowners and stakeholders since 2019.

Concerns and feedback relating to the Project have been considered by SQE and the Project team. This information has been used to refine the Project design and develop the EIS, including proposed management and mitigation measures.

Given the Project's location in the CWO REZ, the cumulative impact of concurrent renewable energy and other development projects has been considered in the SIA. The SIA identified that the negative social impacts of the Project can be mitigated or managed to reduce their significance, with positive impacts enhanced if appropriate measures are in place.



Social impacts that are considered significant include:

- Concerns about the incoming construction workforce causing strain on local services and changes to the composition of the community
- Concerns about public safety due to increased traffic
- Visual amenity concerns related to Project infrastructure and how this affects people's sense of place.

The benefits of the Project raised by the community include:

- Payments to landholders
- Improvements in local road infrastructure
- Providing a reliable and affordable source of renewable energy.

SQE has proposed several mitigation and enhancement approaches to address social impacts through the implementation of a benefit sharing program, including:

- Neighbour Agreements – targeted at delivering benefits to proximal neighbours of the Project and those most directly impacted by Project activities
- Community Sponsorship Program – focused on delivering economic support for local organisations and community events
- Planning agreements with local Councils.

SQE is also investigating further initiatives, including:

- Co-investment program – that would allow members of the local community to invest in the Project and potentially benefit from financial returns on their investment through the operation of the Project
- Telecommunications upgrades – investigating options to assist with improvements in internet and phone connectivity to benefit the Project and the local and regional community.

Planning Agreements

SQE is committed to entering into planning agreements for the Project with Dubbo Regional and Warrumbungle Shire Councils. SQE has been working with the Councils on the proposed terms of the planning agreements. The total value of the planning agreement will be 1.5% of the Capital Investment Value (CIV) of the Project as approved and committed to for construction by SQE. Division of the funds will be between Dubbo Regional and Warrumbungle Shire Councils based on an agreed proportion, for example the number of turbines within each local government area. Dubbo Regional Council has agreed to the key terms of the proposed planning agreement. SQE is continuing to consult with Warrumbungle Shire Council on a planning agreement.

Due to the large number of potential and proposed renewable energy projects within the region as a result of the CWO REZ, cumulative impacts on the availability of labour, accommodation and community services will be experienced. SQE has made a number of commitments to manage its contribution to these cumulative impacts, including development of a Community Benefit Sharing Program and an Employment and Accommodation Strategy to address these issues.

SQE is committed to being part of the solution for cumulative social impacts and in addition to implementing its own measures, has indicated its desire to continue to collaborate with local Councils, the NSW Government and other proponents and stakeholders to minimise negative cumulative impacts and maximise positive impacts.

Economics

Spicers Creek Wind Farm will involve around \$2 billion in investment and have the capacity to supply sufficient clean energy to power around 397,000 homes per annum, which represents around 12% of all NSW homes.

The Project would contribute to:

- 840 full time equivalent (FTE) construction jobs and 47 FTE operational jobs (includes direct and indirect jobs).
- New participation opportunities for businesses and workers located in the Dubbo, Warrumbungle and Mid-Western Regional LGAs, which have a good match of skills and resources.
- Around \$46.9 million in new spending into the regional economy over the construction phase, due to construction workers relocating to the region. This includes around 235 FTE jobs (direct and indirect) in the service sector in the three LGAs relevant to the Project over this time.
- Net economic stimulus estimated at around \$410 million (over 30 years of operation, consumer price index adjusted) relating to operational wage stimulus, host landowner and neighbour agreement payments, planning agreements with Dubbo Regional and Warrumbungle Shire Councils and net land tax revenue to Council.



Construction jobs



Operational jobs



New spending into regional economy



Net economic stimulus



Waste

Waste management during construction and operations

Waste management on the Project will be carried out in accordance with relevant legislation and guidelines and based on the principles of the waste hierarchy:

- Prioritising the avoidance of unnecessary resource consumption
- Implementing resource recovery where possible
- Considering responsible disposal as a final option.

A Waste Management Plan will be implemented on site to manage, reuse, recycle and safely dispose of waste.

Managing waste during decommissioning

A Decommissioning and Rehabilitation Plan will also be developed for the Project before it ceases operations at the end of its life, which will include a detailed review of the associated waste streams and recycling/disposal options available at the time.

At the end of the operational life of the Project, all above ground infrastructure will be dismantled and removed from site and the land will be returned to near prior condition.



Most of the materials will be reclaimed or recycled, given the significant value of the steel, copper, aluminium and other materials. The recycling of wind turbines is an evolving space with research and experimentation occurring across the world to find ways to recycle turbine components at the end of their life. SQE has committed to the adoption of best practice to reuse, recycle and dispose of turbine components at the time of decommissioning.

Air Quality

The Project will generally contribute to positive air quality outcomes through reductions in greenhouse gas emissions in comparison to other sources of electricity generation used in NSW, including traditional coal-fired power stations.

Air emissions from the Project Site would mostly be associated with the proposed construction activities and would include dust generated through ground disturbance, civil construction activities and plant/vehicle exhaust emissions.

These emissions would be temporary, for the duration of construction (around 40 months).

This would be managed through:



Minimising exposed areas



Using water and/or dust suppressants as required



Speed limits for unsealed access tracks



Limiting construction during windy weather



Dust controls on concrete batching plants and crushing/screening plant and equipment

Similar measures would also be enforced to manage dust generation during operations as required.



Conclusion

Spicers Creek Wind Farm has been developed with a view to avoiding and minimising environmental and social impacts where possible, consistent with the principles of ecologically sustainable development.

This approach has resulted in changes to the Project and significant environmental improvements and outcomes as described in the EIS and its supporting technical studies.

Information about the Project has been extensively shared with local communities in a variety of ways. Issues raised during the community consultation process have been addressed through the evolution of the Project design and are identified throughout the EIS. The conceptual layout of the Project has been subject to ongoing refinement with the aim of minimising associated environmental and social impacts and addressing feedback from landholders, neighbours and other stakeholders. SQE will continue to consult and engage with stakeholders as the Project progresses through the assessment phase, and throughout the life of the Project, should it be approved.

The Project will:



Contribute significant capital investment within the CWO region



Generate jobs during the construction and operational phases



Provide benefits to local services throughout the life of the Project



Deliver additional income to host and other associated landowners



Provide benefits to the local community through the implementation of the proposed Community Benefit Sharing Program and planning agreements with local Councils



Include payment of network infrastructure access fees to EnergyCo for the CWO REZ which will include a component to fund community benefit and employment programs

The assessment findings outlined in the EIS show that while there will be environmental and social impacts associated with the Project, the extent of impact has been minimised through the design process. Where impacts are predicted, SQE has committed to management, mitigation and offset measures to address these impacts.

Through the implementation of best practice management, the potential environmental and social impacts associated with the Project can be appropriately managed, which will also address the community concerns and associated social impacts identified during the stakeholder engagement process.

Given the net benefit and commitment from SQE to appropriately manage the potential environmental impacts associated with the Project, it is considered Spicer's Creek Wind Farm would result in a net benefit to the region and broader NSW community.