

Project Summary Fact Sheet



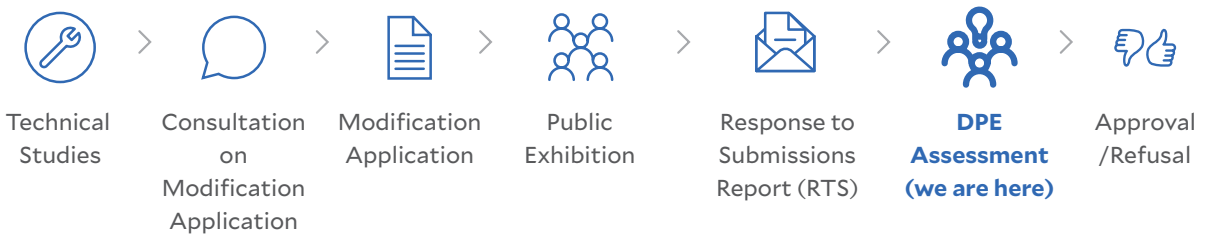
In September 2022 a modification application was submitted to the Department of Planning and Environment (DPE) for the Liverpool Range Wind Farm (Mod-1 Project). In response to submissions received during the public exhibition period we have made a number of changes to the Project. These changes are reflected in the Response to Submissions (RTS) Report and the Amendment Report. The reports will be assessed by DPE who will then make a determination on the application. These reports contain information about how the RTS Project is different from the Approved Project, and how these changes would affect the environment and how they can be managed.

This factsheet summarises the proposed changes to the Approved Project. The changes are required to take advantage of recent improvements in wind energy technology, which enable significantly more renewable energy to be produced from fewer, larger wind turbines. The proposed modifications also reflect the changes we have made in response to submissions received during the public exhibition period held in September 2022.

We have completed substantial design optimisation work and constructability assessments to progress the Project towards construction. We are aiming to commence construction in 2024 and be fully operational by 2028, to help meet the State's energy supply needs as more coal-fired power stations are scheduled to be decommissioned over the coming years.

Modification Application Process

Below is an outline of the process that the Modification Application assessment and determination process:



If you would like to read more about changes to the Project, see the Amendment Report.

The RTS Project – what changes have we made?

In response to agency and community submissions received during the public exhibition period, we have made a number of key changes to the design and layout proposed by the Mod-1 Project. The key changes proposed by the RTS Project are:

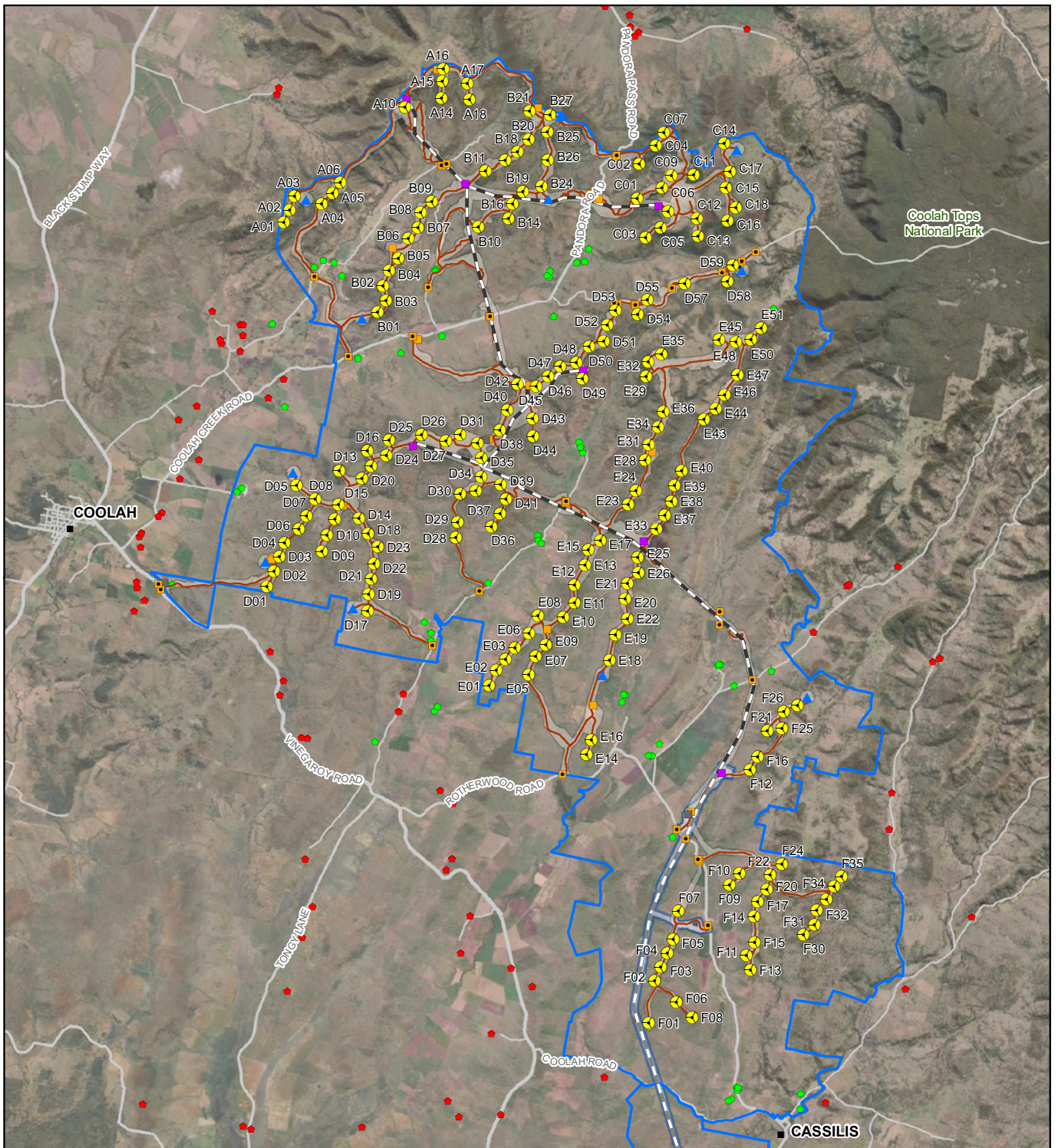
- Further reduction in the number of proposed wind turbines from 220 to 185
- Reduction in the maximum blade tip height from 250 m to 215 m above ground level (AGL).
- We have now selected the Vestas V172 7.2 MW turbine, which has a blade length of 85 m. This equates to a rotor diameter of 172 m. We had previously assumed a rotor diameter of approximately 210 m.
- Removed five turbines that were proposed by the Mod-1 Project in the north east of the site near Coolah Tops National Park, to minimise visibility from Pinnacle Lookout and reduce potential noise impacts within the National Park.
- Amendment to the External Transmission Line alignment to completely avoid a portion of Durrigere State Conservation Area, near Turill.
- Shifted three turbines (D40, D43 and E31) to avoid impacts to a communications link proposed by the NSW Telecommunications Authority (NSW Telco)
- Removed optional locations for various infrastructure, such as duplicate access track site entrances and associated access track alignments, and substation locations.

The NSW Energy Corporation (EnergyCo) is coordinating the delivery of the CWO REZ, and are developing the CWO REZ Transmission Line project which includes a 330 kV transmission line between Merotherie Energy Hub and the Liverpool Range Wind Farm project. EnergyCo and its delivery partners are responsible for all required approvals and for the construction and operation of the CWO REZ Transmission Line. At present EnergyCo expects that the Environmental Impact Statement for the CWO REZ Transmission Line (and other transmission infrastructure) will be submitted in late 2023.

In the event that the Liverpool Range Wind Farm project connects into the CWO REZ Transmission Line, the external transmission line connection down to Ulan proposed by the RTS Project would no longer be required and all associated impacts would no longer apply. Despite this, all potential impacts associated with the entire length of the transmission line down to Ulan have been addressed in RTS Project documentation. This is to ensure that the Project has approval for a transmission line (which connects the Project to the national electricity grid) in the unlikely event that the delivery timeframes for the CWO REZ Transmission Line project do not align.



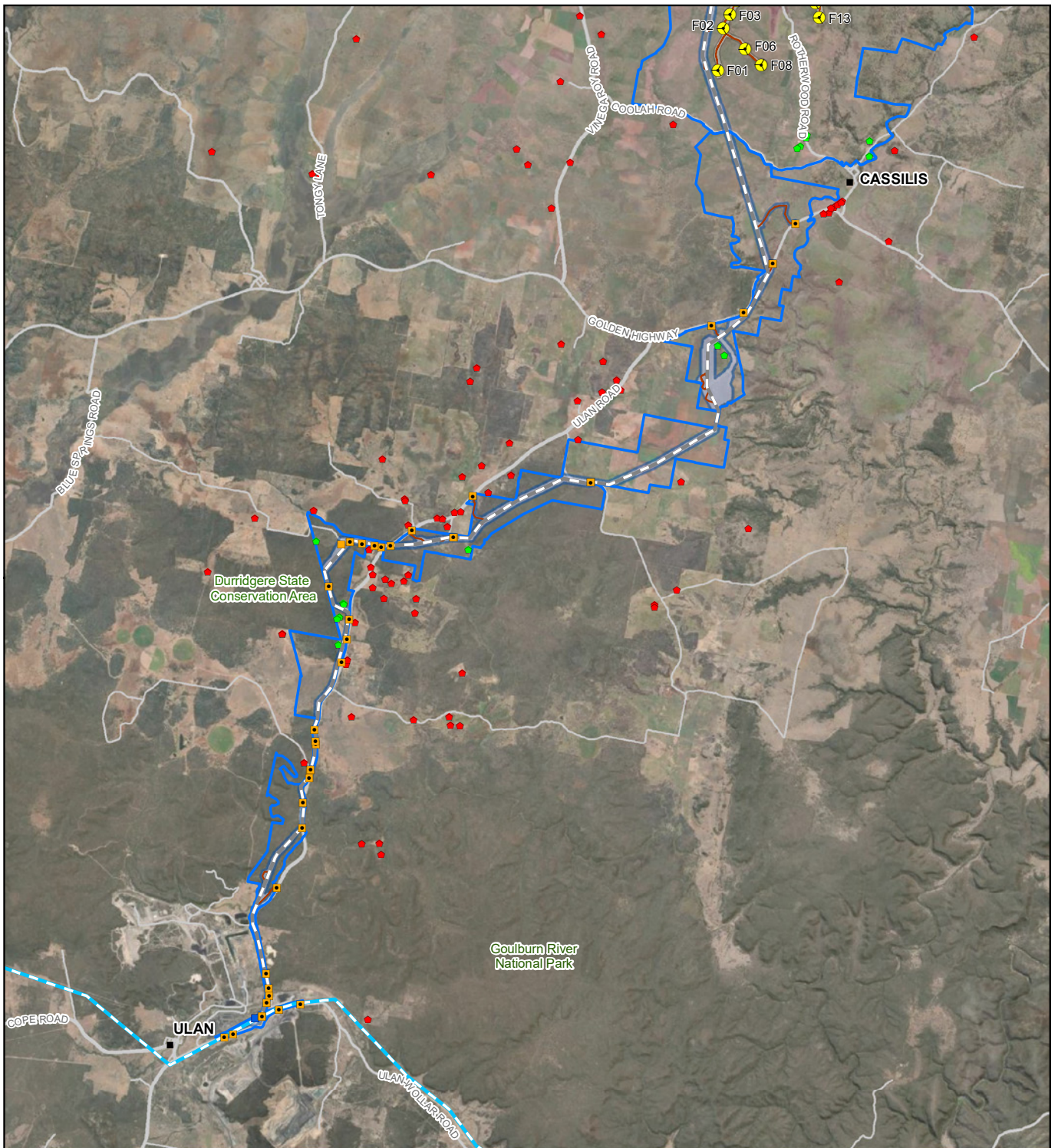
Figure 1: RTS Project Turbine Layout - Comparison with Mod-1 Project



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Legend <ul style="list-style-type: none"> RTS Site Boundary RTS Development Corridor RTS Development Corridor - External Transmission Line ● Indicative Turbine Layout ▲ Potential Permanent Met Mast Location ■ Site Access Points ■ Potential Construction Compound / Laydown Area / Batch Plant ■ Potential O&M Facility ■ Potential Substation — Access Track Internal Transmission Line (Indicative 330kV) External Transmission Line (Indicative 330kV) 		<div style="text-align: center;"> <p>Date: 15/06/2023 Version: B</p> </div> <div style="text-align: center;"> <p>Kilometers</p> </div>	
Dwellings <ul style="list-style-type: none"> ● Associated Dwellings ● Non-Associated Dwellings 			

Figure 2: External Transmission Line (RTS Project)



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<p>Legend</p> <ul style="list-style-type: none"> RTS Site Boundary RTS Development Corridor RTS Development Corridor - External Transmission Line ⚡ Indicative Turbine Layout ■ Site Access Points ■ Potential Switchyard Location ■ Potential Construction Compound / Laydown Area / Batch Plant ■ Potential O&M Facility ■ Potential Substation — Access Track Internal Transmission Line (Indicative 330kV) External Transmission Line (Indicative 330kV) Transgrid Transmission Line (330 kV) ● Associated Dwellings ● Non-Associated Dwellings 		<p>Date: 30/05/2023 Version: A</p> <p style="text-align: center;">0 1 2 3 4 5 Kilometers</p> <p style="text-align: center;">GDA 1994 MGA Zone 55 1:180,000</p>	
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What are the key changes?

The key changes to the Approved Project proposed by the RTS Project are outlined in the table below. The changes previously proposed by the Mod-1 Project that was submitted in 2022 are outlined in the table below for comparison purposes.

Project component	Approved Project (2018)	Mod-1 Project (2022)	RTS Project (2023)	Change: Approved Project vs RTS Project
Max. number of turbines	267	220	185	-82 (-31%)
Max. turbine height	165 m	Up to 250 m	215 m	+50 m (+30%)
Operations and maintenance buildings	Up to 1	Up to 3	No change from Mod-1 Project	+2
Collector substations	Up to 4	Up to 7	Up to 6	+2
Connection substations	1	1	1	No change
Over-size/over-mass Haulage	Preferred route identified	Minor change to the use of State roads. Inclusion of specific Local roads within Muswellbrook LGA	Edderton Road bypass route option near Denman Bridge has been removed	Avoid built-up areas in Maitland and low height clearance bridge at Denman
Internal Transmission Line Length	28.2 km	43.9 km	41.7km	+13.5 km
Concrete Batch Plants	Up to 4	Up to 10 – 9 within Wind Farm and 1 along External Transmission Line near Turill	No change from Mod-1 Project	+6
Construction Compounds and Laydown Areas	6	Up to 10 – 9 within Wind Farm and 1 along External Transmission Line near Turill	No change from Mod-1 Project	+4
Permanent Met Masts	Up to 10 at hub height	Up to 14 at hub height	Up to 11 at hub height	+1

What are the benefits for the environment?

The RTS Project would generate more renewable energy and lower greenhouse gas emissions by 2.5 million tonnes every year, the same as taking more than 800,000 cars off the road.

Project component	Approved Project (2018)	Mod-1 Project (2022)	RTS Project (2023)	Change: Approved Project vs RTS Project
Generation capacity MW	Approx. 962 MW	Approx. 1,320 MW	Approx. 1,332 MW	38% increase
Households powered per year	Approx. 477,000 households	Approx. 662,000 households	Approx. 570,000 households	185,000 more households
Greenhouse gas reduction per year	Approx. 2.1 million tonnes of CO ₂	Approx. 2.9 million tonnes of CO ₂	Approx 2.5 million tonnes of CO ₂	400,000 tonnes of additional reductions in CO ₂ emissions
Equivalent number of cars	Approx. 672,000 cars off the road	Approx. 933,000 cars off the road	Approx. 814,000 cars off the road	142,000 more cars off the road

What assessments were updated for the RTS Project?

The table below outlines the assessments undertaken for the RTS Project and the key changes to impacts and mitigation. Note, this table also refers to two types of residences:

- **Associated residences:** host landholders, landholders providing access during construction or operation and other landowners with a financial or in-kind agreement with the Project
- **Non-associated residences:** owners or occupiers who do not have a financial or in-kind agreement with the Project

To find out more about these assessments, see the Amendment Report that has been prepared for the RTS Project.

Specialist Assessment Type	Change in impact RTS Project vs Approved Project	Changed mitigation	Changes to development consent
Aboriginal Cultural Heritage	Additional Aboriginal cultural heritage values identified but similar level of impact as the Approved Project.	No	Yes
Aviation	Two Aircraft Landing Areas (unregulated/uncertified landing areas) will possibly be affected by the RTS Project, however the Aviation Impact Assessment confirms that these ALAs can remain operational.	Yes	No
Biodiversity (Bird and Bat)	Increased number of bird and bat species at risk of blade strike but overall impact of blade strike and barotrauma would be consistent with the Approved Project.	No	No
Biodiversity (Vegetation)	Increased impact to native vegetation and species habitat. Requires increase to clearance limit specified in Development Consent granted for the Approved Project in 2018. Some of the increase is due to the inclusion of impacts associated with public road upgrades which were not assessed for the Approved Project.	No	Yes
Electromagnetic Interference	Potential for interference with Bureau of Meteorology's (BOM) Namoi weather radar and one nearby land mobile licence. We will continue to consult with the BOM and the affected land owner.	Yes	No
Historic Heritage	No impact on historic heritage expected, consistent with the Approved Project.	No	No
Noise	Minor increase in operational noise levels is expected at Non-associated residences but would be within applicable noise limits. Potential for six Non-associated residences to be considered as 'noise affected' during out-of-hours operation of the concrete batch plant proposed along the external transmission line near Cliffdale Road, Turill. However, in the event the Project connects into the CWO REZ Transmission Line, the RTS Project external transmission line would no longer be required and all associated impacts (including construction noise) would no longer apply.	No	Yes
Public Road Upgrades	A series of public road treatments have been agreed with the relevant councils. Coolah Road near Cassilis is no longer proposed to be used during construction. We are investigating ways to reduce the impact of construction on the community as much as practicable. This could include undertaking concurrent road and wind farm construction works, which could shorten the overall construction timeframe.	Yes	Yes
Shadow Flicker and Blade Glint	No shadow flicker impacts at Non-associated residences and no impact of blade glint.	No	No
Traffic and Transport	Minor increase in construction vehicle traffic during the peak construction period. All additional site access points from public roads meet the relevant safe sight distance criteria. Minor changes to indicative turbine haulage route from the Port of Newcastle.	Yes	Yes
Visual Impact	No change in the magnitude of visual impact. Three of the four Non-associated residences within 2,850 m of a turbine have had their visual impact ratings reduced due to intervening vegetation and structures which reduce visibility of turbines. No change in impact rating is recommended for the fourth Non-associated residence. Increased blade tip height would trigger mitigation measures to be offered to all non-associated dwellings within 4,250 m of a turbine.	Yes	Yes

What else needs to be updated?

The proposed changes can be managed. However, minor updates are required to the Development Consent to address the following potential impacts associated with the RTS Project:



ABORIGINAL CULTURAL HERITAGE: Inclusion of any additional cultural heritage items that must be avoided, impacts minimised, or salvaged/translocated.



BIODIVERSITY: Update the native vegetation clearance limits to account for the RTS Project layout (including the external transmission line to Ulan) and public road upgrades.



NOISE: Consistent with recent wind farm approvals, it is anticipated that DPE will update the Development Consent to require compliance with the relevant noise guidelines, to remove existing references to specific noise limits at relevant non-associated residences, and require the preparation of a Noise Management Plan.



TRAFFIC AND TRANSPORT:

- Include the ability to deliver the public road upgrades in stages to enable on-site wind farm construction works to progress concurrently.
- Update the road upgrade standards agreed in consultation with the relevant Councils.
- Update the site access points and public roads proposed to be used for construction and operation of the RTS Project.
- Removal of the condition that allows Site Access Point 9 from Vinegaroy Road to be used, as that site access point is no longer required by the RTS Project.



VISUAL IMPACT: Increase in the distance out to which visual impact mitigation measures are available to Non-associated residences from 4 km to 4.25 km (increase of 250 m) from the nearest proposed turbine.



We aim to be the leading developer, owner and manager of renewable energy generation assets in Australia.

We tilt with the wind, and towards the sun to rebalance the electricity generation mix towards a lower carbon outcome.

We tilt for good. We tilt for the future.

Next steps:

We are aiming to lodge the Response to Submissions (RTS) report, Amendment Report, and all updated environmental impact assessments with DPE in June 2023. These reports will detail the consultation completed to-date, how submissions received during public exhibition have been addressed, and will clearly show the changes to the design and layout of the Project. DPE will review the documentation and make a determination on the Modification Application.

We are also seeking Commonwealth approval under a separate approvals process under the *Environment Protection and Biodiversity Conservation Act 1999*. The project will be assessed by way of Public Environment Report (PER) which will be subject to a public exhibition process managed by the Commonwealth Department of Climate Change, Energy, the Environment and Water (DCCEEW). Further details on the timing of this will be provided via our website and newsletters.

STAY UP TO DATE

To view the Project online and to subscribe to the newsletter, visit:
www.liverpoolrangewindfarm.com.au



To stay up to date on progress of the Project visit:

Modification Application:

www.planningportal.nsw.gov.au/major-projects/projects/mod-1-turbine-and-infrastructure-changes

EPBC Approval:

epbcpportal.awe.gov.au/all-referrals/project-referral-summary/?id=dc3fd301-9a6b-ed11-81ac-00224818aa21

For more information, please visit the website below

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