

RWE

Proposed Theodore Wind Farm

**Community Drop-in Sessions
25 & 26 August, 2023**

Information booklet

Contents

At a glance	03
RWE – A global energy leader	04
Project benefits	05
Our commitment to community	06
Benefit sharing	07
Developing a wind farm in Queensland	08
The lifecycle of a wind farm	09
Connecting to the grid	10
Wind farms and farming	11
Studies	12-13
Noise	14
Aviation	15
Biodiversity	16
Firefighting and prevention	17
Notes	18-19

At a glance



TURBINES
About 160



BATTERY STORAGE
Yes



HEIGHT
Up to 260m



LOCATION
About 30 kilometres north-east of Theodore and 40 kilometres south-west of Biloela



SIZE
Investigation area of about 46,000 hectares, with a smaller project area to be refined



INSTALLED CAPACITY
About 1100 megawatts (MW)



HOMES POWERED
More than 410,000 - the equivalent of powering all private dwellings in the Banana Shire about 57 times, or the city of Rockhampton close to 15 times



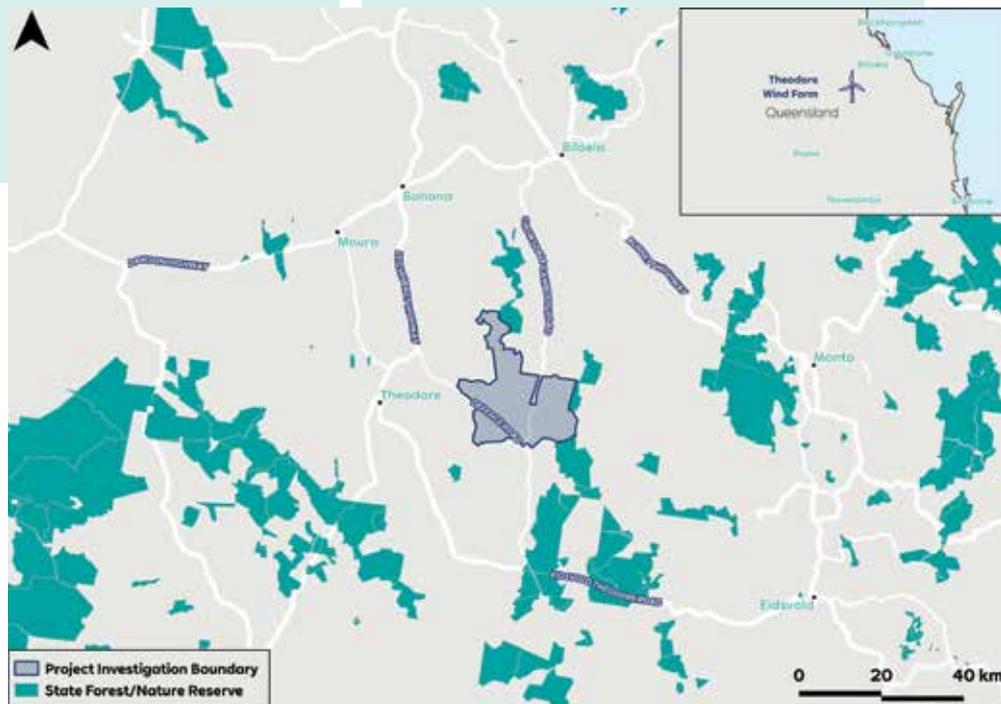
PROJECT STATUS
Development - undertaking studies, preparing potential layouts, seeking community opinion



PROPOSED CONNECTION
Working with Powerlink to determine best connection point



OPERATION
Targeting 2027 for initial operations



RWE – A global energy leader

RWE is one of the largest global players in renewables.

Founded and headquartered in Essen, Germany, in 1898, RWE has embraced the energy transition and is helping shape the sustainable future of the world's power supply.

We have more than 19,000 employees throughout Europe, North America and the Asia Pacific region. We are setting new standards in renewables – driving forward the global energy transition – and take pride in being sustainable, diverse and international.

RWE entered the Australian market in 2018 with the construction of the 249MW Limondale Solar Farm in New South Wales. We are currently developing a portfolio of wind, solar and battery storage projects across Australia. Our Australian headquarters are located in Melbourne and our growing team of more than 45 people are based across the eastern seaboard.



Globally, we have an extensive investment and growth strategy and are investing the equivalent of about \$85 billion AUD this decade to expand our global green generation capacity to 50 gigawatts by 2030.

We also have a clear operational target of reaching net zero by 2040.

Our business model is to develop, own and operate renewable energy projects and we look forward to working with your community as we work on developing the Theodore Wind Farm.



Australian market

2018



Limondale Solar Farm

249MW



Project benefits



Employment

- Up to 50 ongoing jobs for the 35-year operations of the wind farm
- Up to 500 jobs at peak construction periods
- Support local supply chains through increased demand for goods and services, including hospitality, trades and other suppliers



Economic

- Ongoing economic stimulus in the region, across the project's 35 years of operation
- Community Benefit Fund of at least \$500,000 per year – \$17.5 million over the operational life of the wind farm
- Rates payments to the Banana Shire Council



Community

- A Community Benefit Fund will be in place for the operational life of the wind farm
- Sponsorship fund during project development
- Support for infrastructure projects



Environmental

- Proposed to generate enough electricity to power 410,000 homes – the equivalent of powering all private dwellings in the Banana Shire about 57 times, or the city of Rockhampton close to 15 times
- Provide a significant contribution to the Queensland Government's Renewable Energy Targets of 70% by 2032 and 80% by 2035
- Will help provide electricity security for Queenslanders



Our commitment to community

RWE has a proactive approach to community development, engagement and support.

We understand the importance of respecting and working with the communities where our projects are based and take the responsibility of being part of our project communities very seriously. We have a dedicated Australian team responsible for working with our project communities and stakeholders and remain committed to delivering engagement of the highest standard.

We will be developing benefit sharing programs for the communities surrounding the proposed Theodore Wind Farm and will provide more information on this in the coming months.

We also support the Australian Clean Energy Council's Best Practice Charter for Renewable Energy Developments which commits that:

- 1.** We will engage respectfully with the local community, including Traditional Owners of the land, to seek their views and input before submitting a development application and finalising the design of the project.
- 2.** We will provide timely information and be accessible and responsive in addressing the local community's feedback and concerns throughout the life of the project.
- 3.** We will be sensitive to areas of high biodiversity, cultural and landscape value in the design and operation of projects.



- 4.** We will minimise the impacts on highly productive agricultural land and explore opportunities to integrate agricultural production.
- 5.** We will consult the community on the potential visual, noise, traffic and other impacts of the project, and on the mitigation options.
- 6.** We will support the local economy by providing local employment and procurement opportunities.
- 7.** We will offer communities the opportunity to share in the benefits of the project, and consult them on the options available, including the relevant governance arrangements.
- 8.** We commit to using the project to support educational and tourism opportunities where appropriate.
- 9.** We will demonstrate responsible land stewardship over the life of the project and welcome opportunities to enhance the ecological, cultural and/or agricultural value of the land.
- 10.** During the life of the project, we will recycle waste materials where feasible and commit to responsible decommissioning or refurbishment/repowering of the site at the end of the project's life.

Benefit sharing

RWE is committed to sharing the benefits of the proposed Theodore Wind Farm with the community.

In line with our development approach, community philosophy and industry best practice, RWE will establish a Community Benefit Fund of at least \$500,000 per year – equating to about \$17.5 million across the operational life of the wind farm – once the project moves into the construction phase.

This fund will be administered by a local community committee, who will be responsible for deciding how the money is spent. In other communities funds have supported initiatives including new uniforms for sporting clubs, through to medical equipment for rural hospitals.

The fund could also be used for initiatives such as:

- Scholarships
- Upskilling of local residents
- Education funds
- Infrastructure.

We currently have a sponsorship fund to support community groups and events in the area.

If you have an event or organisation that could benefit from sponsorship, please be in touch via the contact details on the back of this booklet.



Developing a wind farm in Queensland

Wind farm developments in Queensland are assessed by the Queensland Government's State Assessment and Referral Agency (SARA) and assessed against State Code 23: Wind farm development.

The code has been developed from expert technical advice, national and international best practice and incorporates technical material from a variety of assessment frameworks and standards for wind farms to ensure projects are developed appropriately.

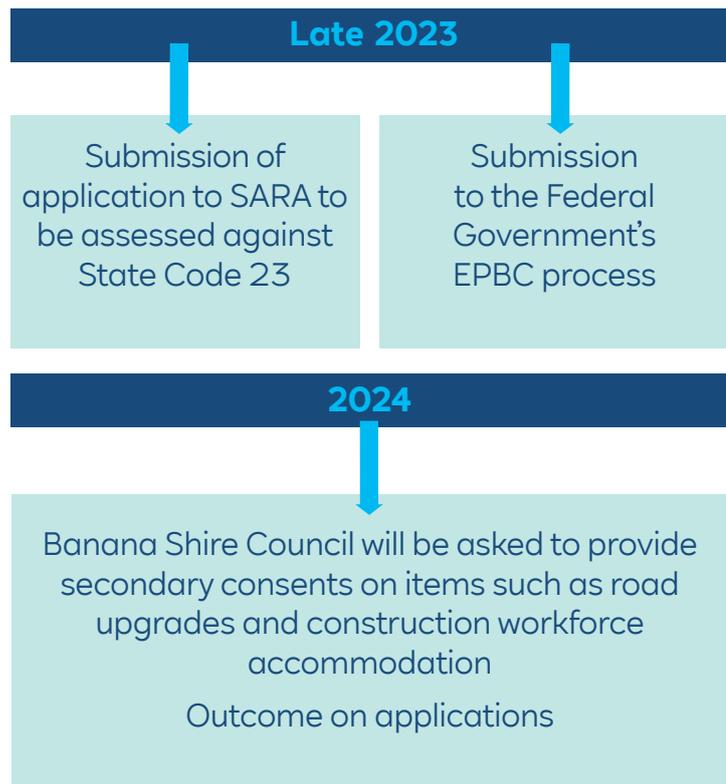
Our planning application will incorporate detailed assessments on:

- Aviation
- Cultural and historic heritage
- Electromagnetic interference and shadow flicker
- Flora and fauna
- Traffic and access
- Stormwater management
- Character, scenic amenity and landscape values
- Separation distances from sensitive land users
- Acoustic amenity
- Construction process including workforce accommodation
- Native vegetation clearing

The Theodore Wind Farm will also be submitted for assessment under the Federal Government's Environment Protection and Biodiversity Conservation (EPBC) Act 1999. This Act is designed to protect Australia's listed threatened species and biodiversity.

The project will be submitted to the EPBC process to ensure any impact on the environment is appropriately managed.

State Code 23 is currently being reviewed and is open to public feedback until 4 September, 2023.



The lifecycle of a wind farm

Developing a wind farm in Australia is an intensive process that usually involves many years of studies, assessment and stakeholder engagement prior to submitting a planning application. While the exact method varies between states, it is a thorough process that involves extensive planning and consideration of the community, natural and built environment. In Queensland wind farm developments are assessed under State Code 23: Wind farm development.



Connecting to the grid

Energy projects need access to the transmission network so the power they generate can be transported via the electricity grid and delivered to customers.

In Queensland the transmission network service provider is Powerlink. Powerlink operates more than 15,000 kilometres of transmission lines and 147 substations between Cairns and the New South Wales border.

The proposed Theodore Wind Farm would require construction of a 275kV transmission line. RWE is currently working with Powerlink and the Australian Electricity Market Operator (AEMO) to determine the best connection point and will provide further information on this later this year.

We are committed to working with the community, Powerlink and the Queensland Government in the development of our transmission connection.



Wind farms and farming

Wind farms have a relatively small footprint and are highly compatible with agriculture.

For instance, while the investigation area of the proposed project is close to 46,000 hectares, the current proposed layout means less than 3 per cent would be used by wind farm infrastructure.

The properties expected to host turbines as part of the proposed project are all cattle properties. Grazing of cattle and other livestock is able to continue uninterrupted when a wind farm is operational. You will often see livestock follow the shade of a turbine tower as the shadow moves through the day.

All weather access roads and hardstands are able to be used by landowners throughout the life of the project. While the battery, substation, maintenance and operation buildings are enclosed, access roads and hardstands are not fenced. These roads can help landowners access areas of their property that have previously been inaccessible at certain times of year.

Hardstand areas can also be used to store machinery, feed bins and other farming equipment if they are not needed for wind farm operations.

During construction there will be some disruption to the farming operations of properties hosting infrastructure. Due to the potential size of the site and the minimal footprint of the project, this will involve temporarily relocating cattle away from a small area of the property when heavy crane and earthmoving machinery are in the area. We will work with landowners prior to and during construction to minimise impacts on their farming operations.



Studies

Developing a wind farm involves the completion of detailed studies on a variety of topics by independent subject matter experts. The outcomes of these studies are included in the development application which is submitted to the Queensland Government's State Assessment and Referral Agency (SARA) and assessed against State Code 23: Wind farm development, and the Federal Government's Environment Protection and Biodiversity Conservation Act (EPBC).

Studies for the proposed Theodore Wind Farm include:

Aviation

Work is underway on an Aviation Impact Assessment, which explores any potential impact on the aviation practices of the area. It considers the location and size of proposed wind farm infrastructure, aviation movements at and near the site and the management of any potential impacts. You can read more on the noise information sheet in this booklet.

Cultural heritage

RWE is committed to preserving heritage at the project site. We have been in contact with the Traditional Owners of the area and will continue to engage with them throughout the lifecycle of the project. Comprehensive collaborative studies will be undertaken with Traditional Owners to identify any areas of cultural heritage significance at the site. We will continue to liaise with Traditional Owners and other interested parties to preserve and protect any cultural heritage attributes.



Flora and fauna

Environmental studies at the proposed site have been underway since 2022. We have completed the required four rounds of flora and fauna studies (such as birds and bats), in line with the State Code 23 and EPBC Act requirements. RWE is engaging with our environmental consultants to ensure that we meet best practice environmental standards, including ongoing studies and surveys. You can read more on the noise information sheet in this booklet.

Geotechnical

A desktop study on the area's geology and soils is currently underway. This study explores the geological attributes and sub-surface conditions of the proposed site area to ensure foundation designs are correct. Our technical experts will be commencing detailed on-site studies next year.

Hydrology

Hydrology studies are underway to understand the flood risks, potential for impact on nearby watercourses and how water moves through the area under heavy rain and flood events. These results will be used to ensure that design of the proposed wind farm incorporates measures to enable continued wind farm operation and ensure minimal erosion and impact on watercourses in the region.

Landscape and visual

Photo montages are a key part of landscape and visual studies. They are used to create a visual image of what the proposed wind farm would look like in the landscape once constructed. Panorama photos have been taken from different locations and distances from the proposed wind farm to indicate what the project could look like. These visualisations are preliminary and will be updated if the proposed layout is changed.

Noise

Noise modelling is being undertaken to ensure that the proposed wind farm is compliant with the guidelines set out in State Code 23. The proposed turbine layout has a minimum distance of at least double the Queensland Government's minimum distance of 1.5 kilometres between turbines and non-host dwellings. You can read more on the noise information sheet in this booklet.

Traffic and transport

Work is underway on a transport route study which will investigate and identify appropriate routes to site for wind farm components. Oversize vehicles will be required for blades, towers and transformers. In parallel, a traffic impact assessment is also underway to ascertain traffic flows during construction and the impact this will have on the road network. RWE would like to work with the community to manage traffic impacts and gain local knowledge on existing road usage, including – for example – school bus routes.



Noise

Wind farm developments, just like many other built and natural environments, generate noise. Wind farms generally create two types of noise:

- Aerodynamic noise: the sound of the turbine blades moving through the air; and
- Mechanical noise: sound generated from the turbine mechanics, substation and battery storage facility.

Wind farms in Queensland must comply with the noise guidelines established in State Code 23: Wind farm development. The noise guidelines in the code have been established from national and international best practice, including detailed review of those in place throughout Australia, New Zealand and internationally.

State Code 23: Wind farm development provides two acoustic assessment criterias; one for host landholders, and a second for dwellings not involved in the project. Each is in line with the World Health Organisation's (1999) Guidelines for Community Noise.

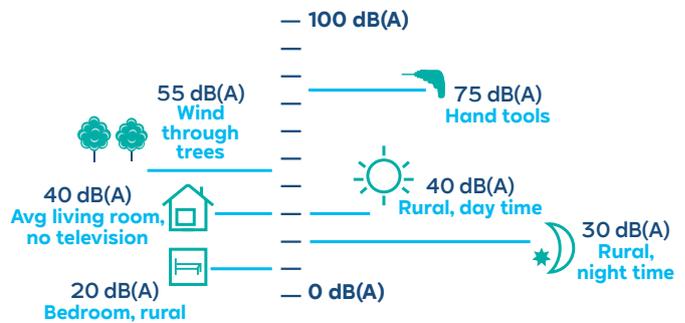
Host landholders:

- 45 dB(A) OR the background noise (LA90) by more than 5 dB(A) - whichever is greater - between the hours of 10pm and 6am.

All other dwellings:

- 35 dB(A) OR the background noise (LA90) by more than 5 dB(A) - whichever is greater - between the hours of 10pm and 6am.
- 37 dB(A) OR the background noise (LA90) by more than 5 dB(A) - whichever is greater - between the hours of 6am and 10pm.

Comparable levels of sound can be found in the table below:



RWE, as part of best practice, is undertaking background noise monitoring in the project area even though we are not required to do so due to the distance to dwellings. The project must have a 1.5 kilometre buffer to dwellings, and all neighbouring dwellings are currently well in excess of this.

Background noise monitoring is undertaken prior to development of a project to determine the existing noise levels. You will often hear these noise levels referred to as being part of the 'ambient environment'.

Background noise monitoring will soon commence at Theodore and will be undertaken by independent third-party specialist consultants with extensive experience in the field.

This process involves monitoring of sound over a six-week period via a sound level meter that operates 24 hours a day. This means the level of noise during the night is considered, as well as noise levels during the day.

Background noise monitoring will occur at dwellings within the proposed project boundary, as well as select dwellings near to but outside the project boundary.

Aviation

Aviation is an important consideration when developing a wind farm. RWE is aware of the existing aviation in the Theodore area, including aerial mustering.

Initial studies have shown the proposed wind farm will have minimal impact on aviation in the area. The current indicative turbine layout also satisfies the aviation planning provisions of Banana Shire Council.

The proposed project is more than 20 kilometres from the Theodore Airport and initial studies have indicated the proposed wind farm will not compromise the safety of existing airports and associated navigation and communication facilities.

The aviation assessment currently being undertaken has identified that slight increases may be required to Theodore Airport's 10 nautical mile and 25 nautical mile minimum safe altitudes. Small increases may also be required to the instrument approach and holding altitudes and the grid lowest safe altitude. There are no current indicated impacts on Thangool Airport.



Obstacle lighting for aviation is not expected to be required by authorities for turbines, however, the three temporary meteorological monitoring masts that will soon be installed on the site will include lighting.

These masts will be 160m tall with aviation markings and lighting and will be used to measure wind speed and direction. The proposed mast locations have been submitted to Airservices Australia and the Civil Aviation Safety Authority (CASA) for their consideration, as well as to the involved landowners and their mustering pilots for awareness.

If the wind farm is constructed, we will work with the project's landowners to plan when turbines will need to be turned off for aerial mustering.

RWE will share met mast locations with local pilots and aviation businesses on request, as well as turbine locations as the project progresses.



Biodiversity

There are two legislative requirements RWE has adhered to when undertaking environmental studies for the proposed Theodore Wind Farm; the Queensland Government's methodology for assessing matters of state environmental significance (as defined under the State Planning Policy and Environmental Offsets Regulation 2014) and the Federal Government's Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act).

Queensland's State Planning Policy biodiversity guideline describes biodiversity attributes of environmental importance at a state level as 'matters of state environmental significance'.

The proposed Theodore Wind Farm is also likely to be considered under the Federal Government's EPBC Act, which is designed to protect threatened and vulnerable flora, fauna, habitats and places.

The four rounds of ecological field studies undertaken at the site so far have identified the presence of the following listed threatened species:

- Greater glider (observed from spotlight surveys)
- Squatter pigeon (one observation about 10 kilometres from the nearest proposed turbine)
- Satin flycatcher (migratory species).



To avoid and minimise impacts on these species RWE will:

- Avoid areas of environmental significance wherever possible. Turbines have been sited to avoid Queensland Government identified matters of state environmental significance
- Undertake pre-clearance surveys and microsite infrastructure
- Commit to post-construction rehabilitation of disturbed areas not required for ongoing project operation
- Commit to ongoing monitoring and management of bird and bat impacts, including management resources that are able to adapt as required.

There are also several threatened and migratory species identified as possibly occurring at the site, but have not been directly observed despite targeted field studies of more than 4 weeks in total.

The species that were not observed are:

- Ornamental snake
- Large-eared pied-bat
- Koala
- Yellow-bellied glider.

Firefighting and prevention

RWE has liaised with fire services in the proposed project area and other emergency services stakeholders as part of the development process of the proposed Theodore Wind Farm.

Wind farms are developed with extensive fire mitigation measures and are required to have plans in place to deal with fire and other emergencies, including a bushfire management plan that specifies how we will mitigate bushfire risk for the proposed project. Fire breaks are required around all proposed turbines, substations, battery and other infrastructure. The exact fire break size that would be applicable at the proposed Theodore Wind Farm will be determined later this year.

The national council for fire and emergency services in Australia and New Zealand, the Australasian Fire and Emergency Service Authorities Council (AFAC) states that 'wind farms are not expected to adversely affect fire behaviour, nor create major ignitions risks'.¹

In the event of bushfire the extensive internal access tracks required as part of any wind farm development can act as fire breaks that help manage the progression of the bushfire and provide access tracks for farmers, support staff and firefighting services.

RWE will also switch off the turbines, which can be done remotely and quickly.



Wind turbines have automatic shutdown and isolation systems that are activated in the event of a malfunction or when the temperature reaches a set level. While there is a possibility that a fire can start in the turbine, this is 'generally considered a low risk given appropriate protection measures'.²

Turbines and meteorological masts have lightning protection systems that provide a path for lightning to strike the ground below. There are 'no recorded instances of lightning strikes to wind turbines or monitoring masts causing a bushfire in Australia'.³

RWE understands that farmers in the region often burn parts of their properties to manage the fuel load and promote fresh regrowth. Due to the fire breaks around critical infrastructure at wind farms, it is unlikely that burning off activities will be significantly impacted. RWE is committed to safety and will work with project landowners to ensure that burning off is done in a safe manner for the landowners and the wind farm.

If you have further queries please be in touch via the contact details on the back of this booklet and we will send you a copy of the AFAC guideline and other fire service documents.

1 Australasian Fire and Emergency Service Authorities Council, Wind Farms and Bushfire Operations, 2018.
2 Australasian Fire and Emergency Service Authorities Council, Wind Farms and Bushfire Operations, 2018.
3 Clean Energy Council, There's power in wind fact sheet, 2011.

For further information please contact:

1800 879 435

Email: theodorewindfarm@rwe.com

au.rwe.com

Printed on 100% recycled, carbon neutral stock