

Cattle Creek
Wind Farm

RWE



Proposed Cattle Creek Wind Farm

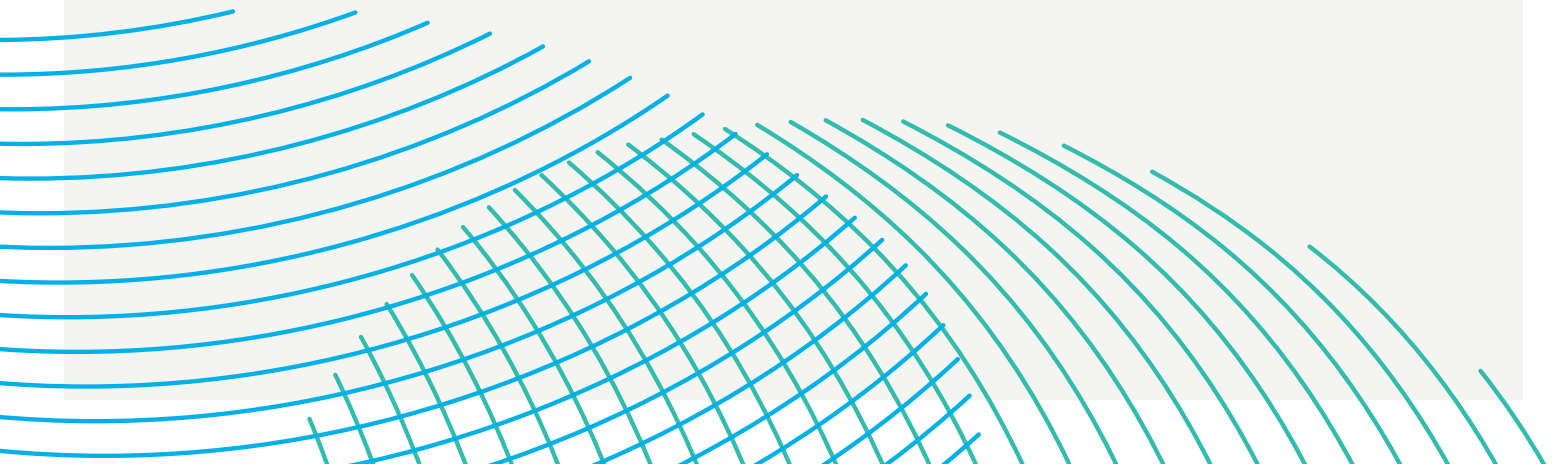
**Community Drop-in Sessions
6 & 7 June, 2024**

Information booklet



Contents

At a glance	03
Project benefits	04
About RWE	05
The approvals process	06
A wind farm's lifecycle	07
Wind monitoring	08
Noise	09
Fire management	10
Aviation	11
Biodiversity	12
Flora and fauna	13
Cultural heritage	14
Transport	15
Accommodation options for construction workers	16
Decommissioning	17
Supporting your community	18
Sponsorship fund	19
Neighbour benefit program	20
Notes	21-23



At a glance



More than
525,000
homes powered

The equivalent of powering all private dwellings in the Toowoomba Regional Council and Western Downs Regional Council about five times over



About
1000 MW
installed capacity



About
140
wind turbines



Connection
330 kV
to existing
transmission
line



About
250 MW
battery energy
storage



About
20,000 ha
investigation area

with a smaller project area to be refined



Height up to
270 metres



**Targeting
2028**
initial operations



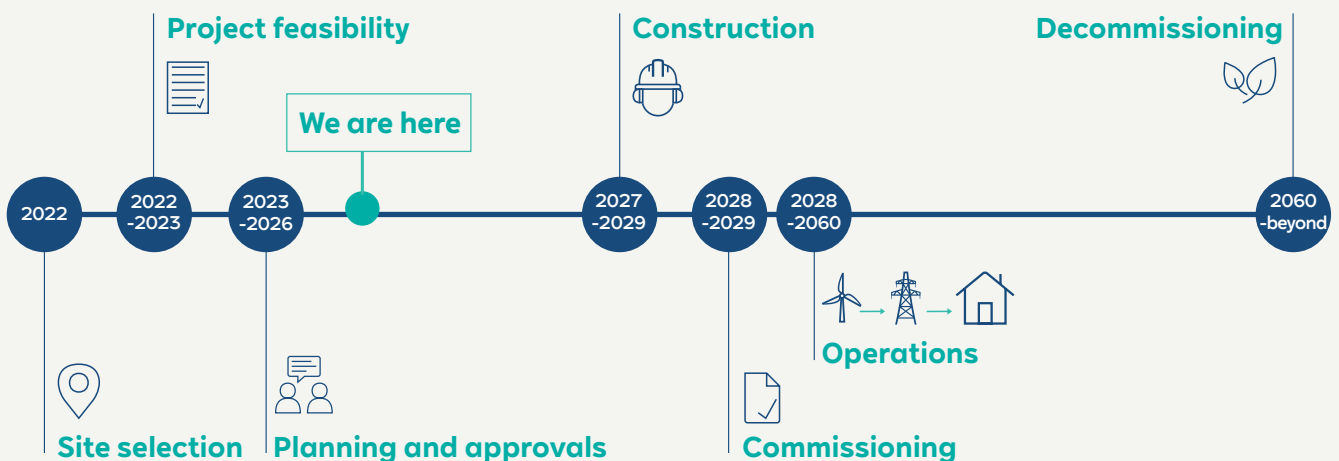
Located about
110 KM
west of Toowoomba and
50 kilometres north-
west of Millmerran



Local Government Area
LGA

Toowoomba Regional
Council and Western Downs
Regional Council

Estimated project timeline



Project benefits



Employment

- Up to 50 ongoing jobs for the 35-year operation 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



Community

- Community Benefit Fund will be in place for the operational life of the wind farm
- Sponsorship Fund during project development



Economic

- Ongoing economic stimulus in the region, across the project's 35 years of operation
- Community Benefit Fund to be delivered over the operational life of the wind farm
- Rates payments to the Toowoomba Regional Council and Western Downs Regional Council
- Sponsorship fund during the development of the project



Environmental

- Proposed to generate enough electricity to power 525,000 homes – the equivalent of powering all private dwellings in the Toowoomba Regional Council and Western Downs Regional Council five times over
- Provide a significant contribution to the Queensland Government's Renewable Energy Targets of 70% by 2032 and 80% by 2035
- Help provide electricity security for Queenslanders

About RWE

RWE is one of the world's leading producers of renewable energy and operates a global portfolio of about 17 gigawatts (GW) of renewable wind, solar and battery storage projects.

In addition, there are more than 100 renewable energy projects under construction in multiple countries throughout the world, totalling about 8 GW.

The RWE Group has been present in Australia since 2013. In 2018 it began construction of one of the country's largest solar farms – the 249 megawatt (MW) Limondale Solar Farm in New South Wales (NSW) and has been operating it ever since.

RWE is now developing an exciting portfolio of wind, solar and battery storage projects across Australia. Our growing team of about 70 people – largely based in Victoria and Queensland – is backed by the experience of RWE Renewables' 5,300 strong team across the European, North American, and Asia Pacific regions.

We have a planned gross investment in Australia of \$6 billion by 2030, to develop up to 3 GW of onshore wind, solar and battery projects across multiple states.

Our Limondale project is one of the country's largest solar farms. We have built a strong relationship with the Balranald community over the past five years and were recently chosen to deliver and operate Australia's first eight-hour battery within the existing project site through New South Wales' first Long-Term Energy Service Agreements tender process.

Global portfolio
of about

17GW



100

Global renewable
energy projects
under construction

We have a strong focus on working with and making positive contributions to the communities where our projects are based, as well as being a key driver of Australia's energy transition.

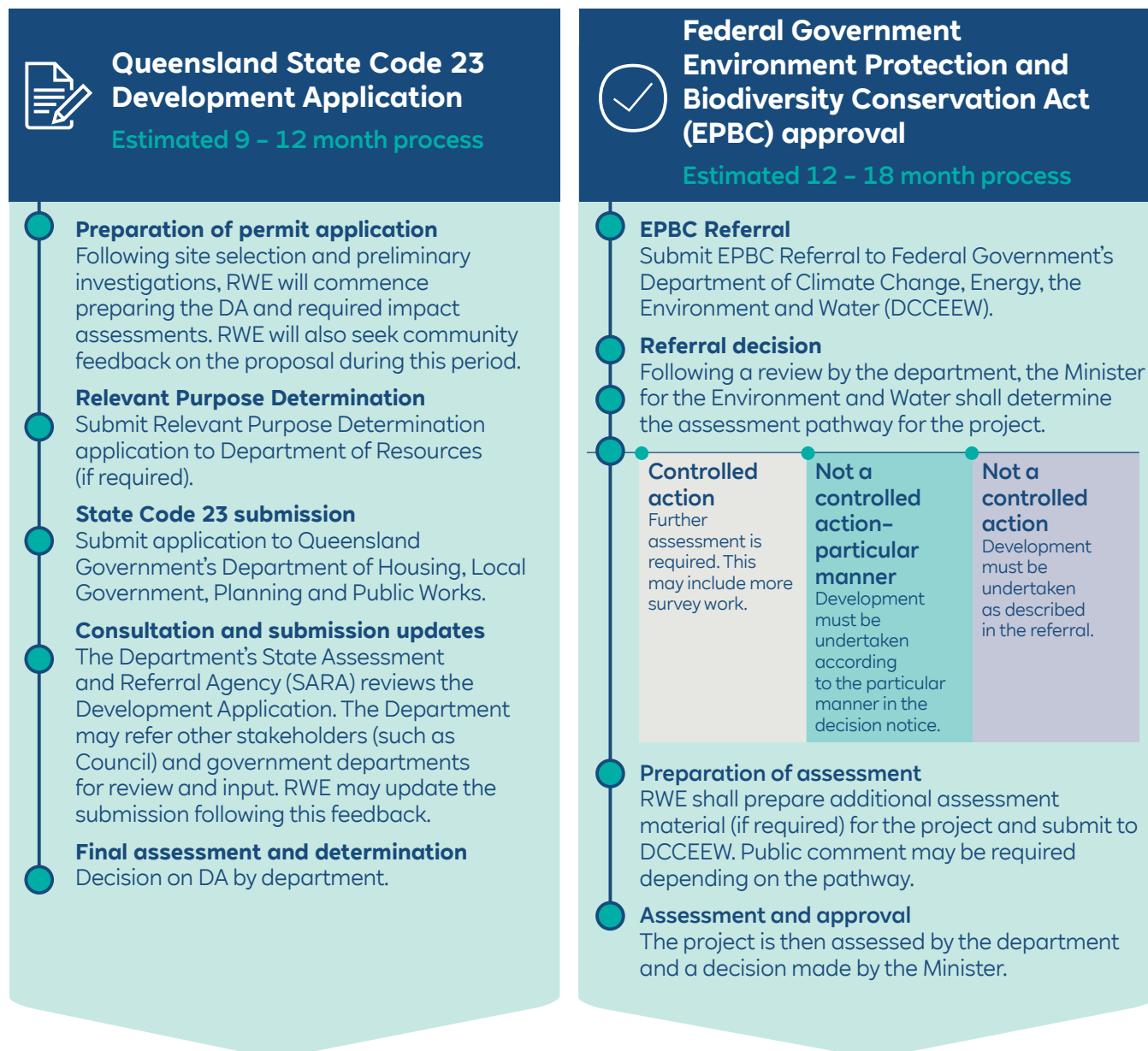
RWE is committed to fostering transparent and lasting relationships with stakeholders, with particular consideration for local communities and landowners. Our business model is to develop, own and operate renewable energy projects and we look forward to working with your community as we work on developing the Cattle Creek Wind Farm.

Find out more about our
Australian projects at
au.rwe.com

The approvals process

RWE expects to submit the Development Application (DA) for the proposed Cattle Creek Wind Farm in the coming months. This will include all impact assessments required under the Queensland Government's State Code 23: Wind farm development.

We will also be submitting a referral under the Federal Government's Environment Protection and Biodiversity Conservation (EPBC) Act, expected to be at a similar time.





A wind farm's lifecycle

Developing a wind farm in Australia requires extensive studies, assessments and engagement with stakeholders before submitting a planning application, which is tailored to the relevant state's planning process. This infographic outlines the stages of a wind farm, from site selection to decommissioning.

1 Site selection

- **Generally 6-18 months**
- Factors that need to be considered when selecting a site include:
 - Wind resource
 - Grid connection (distance and connection point)
 - Population density

2 Project feasibility

- **Generally 6-18 months**
- This incorporates:
 - Wind monitoring to determine strength and the site's viability
 - Consideration of social and environmental factors
 - Developer meetings with potential host landowners to inform and sign land use contracts
 - Initial studies
- The project generally becomes public knowledge during this stage or the next

6 Decommissioning

Several months to years, depending on the project size

Options at the end of a wind farm's life include:

- Remove infrastructure and return land to prior state or a state desired by the landowner (this is RWE's responsibility)
- Extend the operating lifespan through the relevant planning pathway
- Incorporate modern wind farm technology

3 Planning and approvals

Can be up to several years

Extensive studies, reports, and community and stakeholder feedback help shape the project that is submitted to the required planning authorities. If approvals are received, RWE will seek goods and services providers, and create job opportunities.

5 Commissioning and operations

A wind farm can operate between 25 and 35 years

Commissioning begins when the first turbines are built and continues until all turbines are operational – delivering clean, green power. A community benefit fund, administered by a community committee, and a permanent workforce are implemented during operations.

4 Construction

Dependent on the project size, but usually 18 months to 3 years

Construction of larger wind farms (more than 60 turbines) may be built in stages. Turbines are often operational once constructed, even if construction of the overall project is ongoing. Community updates continue in this stage and benefit sharing programs are finalised or sometimes become operational.





Wind monitoring

Wind monitoring is undertaken to accurately measure the wind characteristics of a certain area. The data collected from wind monitoring forms the basis of feasibility assessments for a project proposal, and informs siting of turbines across the project area.



LIDARS

- Measure wind speed and direction to about 300m using light waves
- Self-contained and powered by solar panels
- Mounted on a small trailer
- Typically in place for 6-24 months per measurement location



SODARS

- Measure wind speed and direction to about 200m using sound waves
- Self-contained and powered by solar panels
- Mounted on a small trailer
- Typically in place for 6-24 months per measurement location



Monitoring Masts

- Measure wind speed, direction and turbulence
- Permanent structure fixed to the ground by multiple support cables
- Typically ranges from 100-160m height
- Uses anemometers and wind vane sensors mounted to the mast at regular height intervals
- Data collection typically for long-term periods, often years

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.

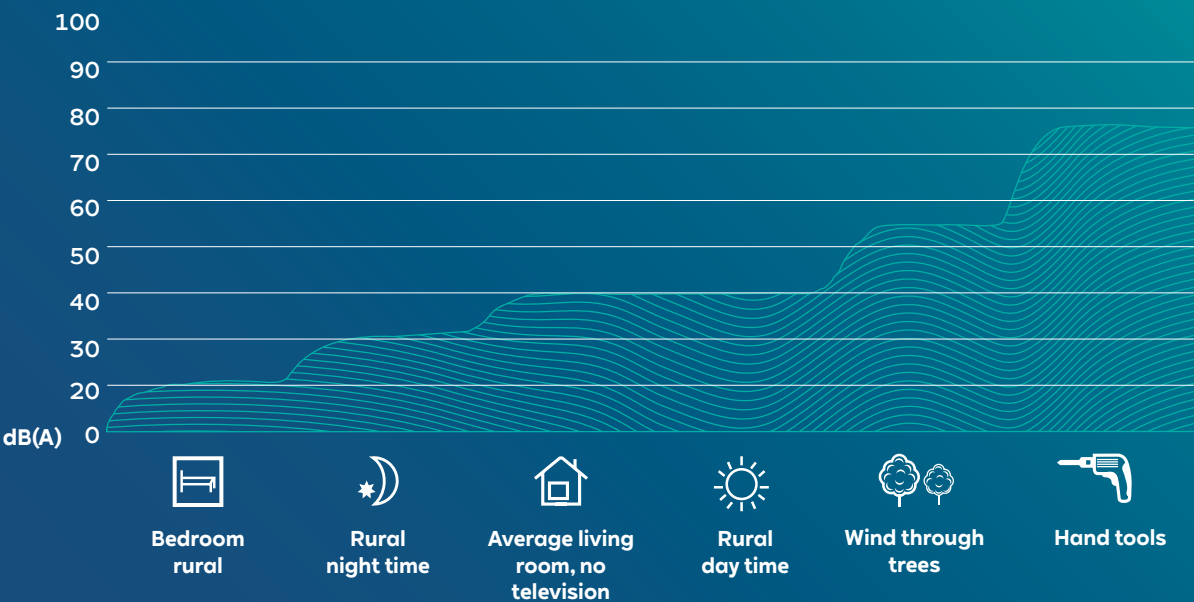
Wind farms in Queensland must comply with the noise guidelines established in State Code 23: Wind farm development. The noise guidelines in the code have been established from national and international best practice, including detailed review of those in place throughout Australia, New Zealand and internationally.

State Code 23: Wind farm development provides two acoustic assessment criteria; 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. They are:

	Host landowners	45 dB(A)	OR		the background noise (LA90) by more than 5 dB(A)	
whichever is greater						
	All other dwellings	35 dB(A)	OR		the background noise (LA90) by more than 5 dB(A)	between the hours of 10pm and 6am
		37 dB(A)	OR		the background noise (LA90) by more than 5 dB(A)	between the hours of 6am and 10pm

RWE will undertake noise monitoring within and around the project boundary during the course of the project investigations. 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 has been considered, as well as noise levels during the day.

Comparable levels of sound



“ Wind farms are not expected to adversely affect fire behaviour, nor create major ignition risks. ”

The Australasian Fire and Emergency Service Authorities Council (national council for fire and emergency services in Australia and New Zealand)

Fire management

Wind farms are developed with extensive fire mitigation measures. Project developers are required to create plans that deal with fire and other emergencies, including a bushfire management plan that specifies how bushfire risk will be mitigated.

RWE will liaise with fire services in the project area as part of the development process of the proposed Cattle Creek Wind Farm.

Fire breaks are required around all proposed turbines, substations, battery and other infrastructure. These fire break dimensions will be determined shortly but are generally at least 1.5 times the height of adjacent vegetation.

In August 2023, the Queensland Government released a proposed update to Queensland planning guideline State Code 23, which included the recommendation that a Natural Hazard Risk Assessment should be part of wind farm developments in Queensland.

The Natural Hazard Risk Assessment for the Cattle Creek Wind Farm will involve mapping of regional ecosystems, vegetation hazards, topography, and fuel loads, analysis of aerial imagery and modelling of fuel risk and measuring of potential bushfire impact through specialist software.

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 also have automatic shutdown and isolation systems that are activated in the event of a malfunction or when the temperature reaches a set level. Turbines may also have fire suppression systems that are automatically activated in the highly unlikely event a fire starts within the turbine.

While there is a possibility that a fire can start in the turbine, this is ‘generally considered a low risk given appropriate protection measures’.¹

Turbines and meteorological masts also 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’.²

RWE will work with landowners wanting to undertake burning off operations on properties hosting project infrastructure.

¹ Australasian Fire and Emergency Service Authorities Council, Wind Farms and Bushfire Operations, 2018

² Clean Energy Council, There's power in wind fact sheet, 2011



Aviation

Aviation is an important consideration when developing a wind farm. RWE is aware of the existing aviation in the Cattle Creek area and is considering these needs when working on the development of the proposed project.

An independent Aviation Impact Assessment (AIA) has shown the proposed wind farm will have minimal impact on aviation in the area. The proposed turbine layout also satisfies the aviation planning provisions of the Western Downs and Toowoomba Regional Councils.

The report states the proposed project, which is more than 56 kilometres from any certified airports, will not compromise the safety of existing airports and associated navigation and communication facilities.

The project area is located within Class G airspace and outside all controlled airspace and prohibited areas. Department of Defence will be consulted regarding their potential use of the area.

Obstacle lighting for aviation is not expected to be required by authorities for turbines, however, the proposed two temporary meteorological monitoring masts at the site will include nighttime lighting.

These masts are 160 metres tall with aviation markings and lighting and will be used to measure wind speed and direction. The mast co-ordinates will be shared with Airservices Australia and the Civil Aviation Safety Authority (CASA), prior to construction.

If the wind farm is constructed, RWE will work with the project's landowners and near neighbours to plan for turning off turbines if required for aerial agricultural activities such as crop spraying or mustering.

RWE will share met mast and turbine locations with local pilots and aviation businesses on request, and full details of potential impacts will be available for viewing.



Biodiversity

RWE utilises four key principles when considering biodiversity in project design: avoid, minimise, rehabilitate/manage and offset. These ensure the responsible placement of infrastructure to avoid impacts on biodiversity values, including matters of state and national environmental significance.

Avoid

- Where possible site infrastructure within cleared areas
- Avoid habitat areas for threatened or protected species
- Avoid higher biodiversity regions

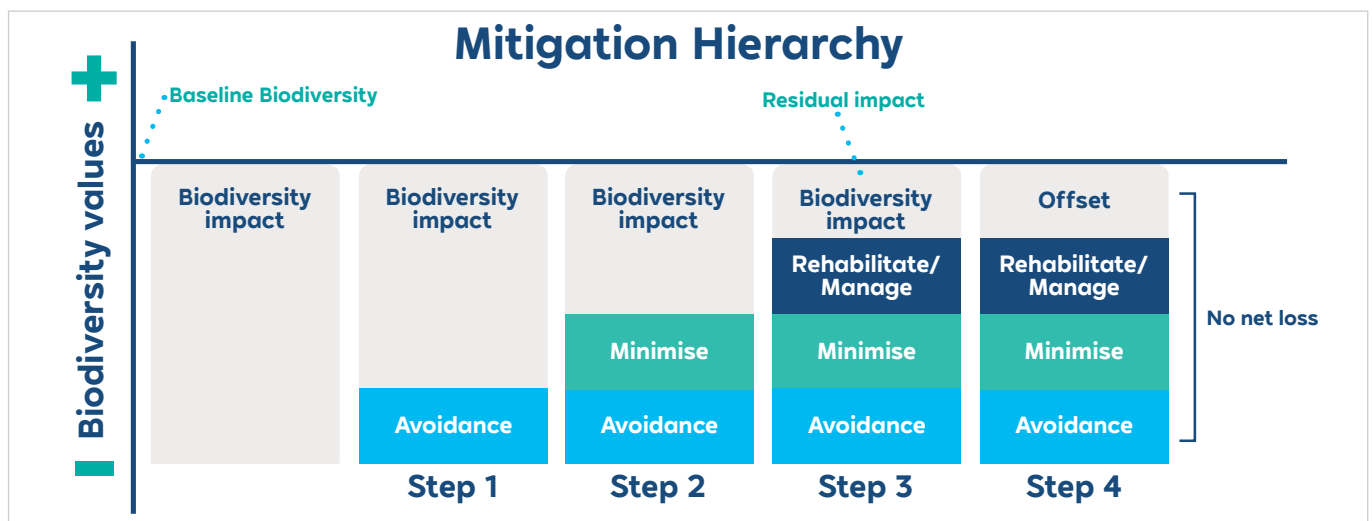
It may not be possible to avoid impacts due to engineering, economic, resource, cultural heritage, hydrology or other reasons.

Minimise

Where it is not possible to avoid impacting biodiversity values, the project should aim to minimise this impact as much as possible.

Examples of minimising impacts can include:

- Minimising the number and width of watercourse crossings
- Aligning roads outside high value biodiversity attributes where practical
- Siting of larger infrastructure (substation, laydown areas) within cleared areas



Rehabilitate/Manage

Any temporary areas used during the project's construction period may be rehabilitated (taking into consideration relevant firebreaks and other operational considerations).

Further management measures might include:

- Bird and bat surveys during operations
- Species management plans
- Rehabilitation and land management programs

Offset

As a condition of the project, where it is not possible to avoid impacts to higher value biodiversity areas an offset will be required to ensure no residual impact on biodiversity.

Offsets typically involve:

- Improving and managing the biodiversity of a nearby area
- Ongoing surveys and management measures (audits)



Flora and fauna

Extensive ecological studies are undertaken as part of any wind farm development.

At the proposed Cattle Creek Wind Farm site, the ecological research has incorporated three field investigations, undertaken across December 2023, February 2024 and May 2024.

These field studies, as well as a desktop assessment of publicly available databases, mapping and aerial imagery, have informed the ecology baseline assessment. The assessment has identified that the proposed site incorporates nine broad habitat types:

- Agricultural and cleared land
- Dry Eucalypt woodlands
- Ironbark woodland
- Woodlands dominated by narrow leaved ironbark
- Poplar Box woodlands
- Gum-Top Boxed woodlands
- Waterbodies and drainage features
- Brigalow woodlands
- Bulloke woodlands

From the studies completed to date, two Environment Protection and Biodiversity (EPBC) Act listed threatened fauna species were identified as known to occur at the site:

- Diamond Firetail
- Koala

Two additional species were considered likely to occur:

- White-throated needletail (migratory species)
- Glossy black Cockatoo

The ecological studies have been undertaken across all the properties that will host project infrastructure, incorporating flora and fauna outside the proposed construction footprint of the wind farm. Further ecology surveys will be conducted as the project progresses.





Cultural heritage

RWE is committed to preserving heritage and working with Traditional Owners in the development, operation and decommissioning of our projects.

During the development of a project such as the proposed Cattle Creek Wind Farm, RWE will consult with the Traditional Owners to help identify and understand any cultural heritage across the project area. We engage with Aboriginal parties, along with heritage specialists and archaeologists, to deepen our understanding of the project site and its cultural significance. RWE will seek to avoid and minimise any impacts to cultural heritage through the design of the project, in collaboration with the Traditional Owners.

RWE Renewables Australia respectfully acknowledges the Bigambul people, the Traditional Owners of the lands where the Cattle Creek Wind Farm is proposed, and pay our respect to their Elders, past, present and emerging.

Transport

An initial study into transport routes assessed the options of each of the primary southern Queensland ports.

The Port of Brisbane was assessed as the most suitable for transport of wind farm components during construction, with the potential routes offering the best roads and most direct paths to the project site.

The primary consideration in determining the proposed routes was the transportation of the longest and tallest components (wind turbine blades and base tower sections respectively). A more detailed transport assessment will be undertaken during the approvals process of the wind farm. A traffic impact assessment is also underway to understand 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.

Potential routes

Potential routes currently being evaluated include:



Port of Brisbane via:

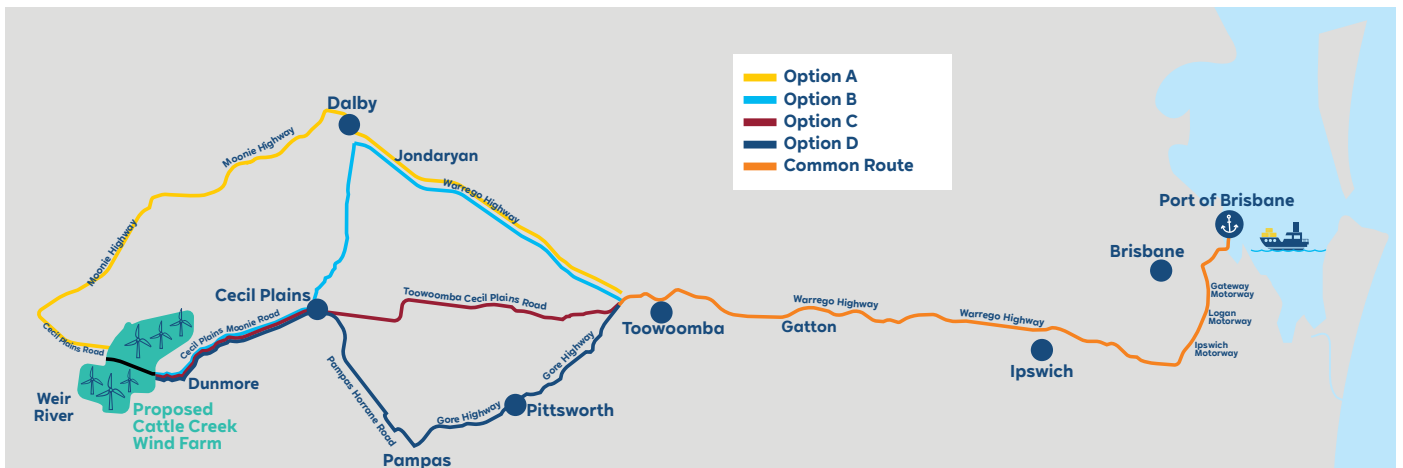
Option A: Toowoomba, Dalby, Dalby-Kogan Road, Kumbarilla, Weir River to project site;

Option B: Toowoomba, Dalby, Cecil Plains, Dunmore to project site;

Option C: Toowoomba, Cecil Plains, Dunmore to project site;

Option D: Toowoomba, Pampas, Cecil Plains, Dunmore to project site.

For more information please speak to one of our team members here today.





Accommodation options for construction workers

The proposed Cattle Creek Wind Farm will require up to 500 workers during peak construction periods. While we will endeavour to employ locally when we can, some of these workers will come from outside the region.

Listening closely to feedback from stakeholders, we have started the process of identifying housing options for a construction workforce.

RWE is currently considering the following options for workforce accommodation during construction:

On-site workforce accommodation: construction and operation of an on-site accommodation facility within the Cattle Creek Wind Farm project area, to cater for most workers expected to be employed during construction.

Short-term accommodation: use of motels, hotels, caravan parks, cabins and existing accommodation camps within the Western Downs and Toowoomba Regional Councils. The intent will be to use the short-term accommodation for contractors not associated with the main construction workforce, visiting RWE employees, or for workforce overflow during peak construction periods.

Long-term accommodation: as a last resort, consider renting existing housing within Dalby, Cecil Plains, Millmerran or Toowoomba. This option should only be considered where short-term accommodation options cannot be procured or are not preferred. RWE would also look at strategies to ensure appropriate supply of long-term accommodation if this option was sought.

The report considered the number of workers to be employed for construction, the limited number of short and long-term accommodation options available in the area and potential impacts on nearby communities.

Prior to implementing these priorities, RWE will continue to engage with key stakeholders and other organisations with existing accommodation in the area.

For more information please speak to one of our team members here today. We will have copies of the Accommodation Options Report available for viewing on our website or future drop in sessions once it has been finalised.



Decommissioning

At the end of a project's life, RWE is responsible for restoring the project land to a standard agreed between us (as the project owner and operator) and the relevant landowner to allow agricultural operations to continue.

Decommissioning can take various forms, including infrastructure removal or repowering. The latter mainly consists of partially or totally replacing the old turbines with new models using the latest technology.

RWE will also implement a security commitment, or a bond, for the project. This security is for the landowners and will be enough to cover decommissioning of infrastructure for each property.

The decommissioning process and agreement with landowners will be finalised prior to construction and will be included in the landowner lease.



RWE tests world's first recyclable wind turbine blades

At the end of a project's life, many wind turbine components (such as the tower and nacelle components) are recycled.

However, we are paving the way for full recyclability of wind turbines through our pilot of Siemens Gamesa's recyclable blades at a wind farm off the coast of Germany.

Until now, the composite materials used in wind turbine blades have been more challenging to recycle because a resin system binds all components together.

In its recyclable blade, Siemens Gamesa is using a new resin type with a chemical structure that makes it possible to efficiently separate the resin from other components.



Supporting your community

What are the needs of your community?

In line with our development approach, community philosophy and industry best practice, RWE will establish a **Community Benefit Fund**.

This fund will be administered by a local community committee, that 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.

How do you think the fund should be spent?

- Education support?
- Community group funding?
- Infrastructure upgrades?
- Other?

We want your opinion on how the benefit fund would best benefit your community!



Have your say

Scan the QR code to fill out our survey online or fill out one of the hard copies here today.



Sponsorship fund

RWE has established a Sponsorship Fund to support the delivery of community projects and initiatives during the planning, approvals and potential construction phase of the proposed Cattle Creek Wind Farm.

RWE will contribute \$100,000 per year to the sponsorship fund and any unused funds will be carried over to the following year or redirected to the Cattle Creek Community Benefit Fund, which will be available when the project (if approved) begins construction.

Anyone can apply for sponsorship; however, preference will be given to initiatives in the following townships:



Cattle Creek, Dunmore, Weir River, Cecil Plains, and surrounds



Moonie, and surrounds

Submissions for funding may be received from:

- Not-for-profit clubs (such as sporting and recreational)
- Charities
- Community volunteer associations and groups, such as parent groups, playgroups, Landcare Australia, aged and/or disability support and Men's Shed
- Community committees, such as event organising committees, community-led development committees and business chambers.

For more information please speak to one of our team members here today or visit our website.





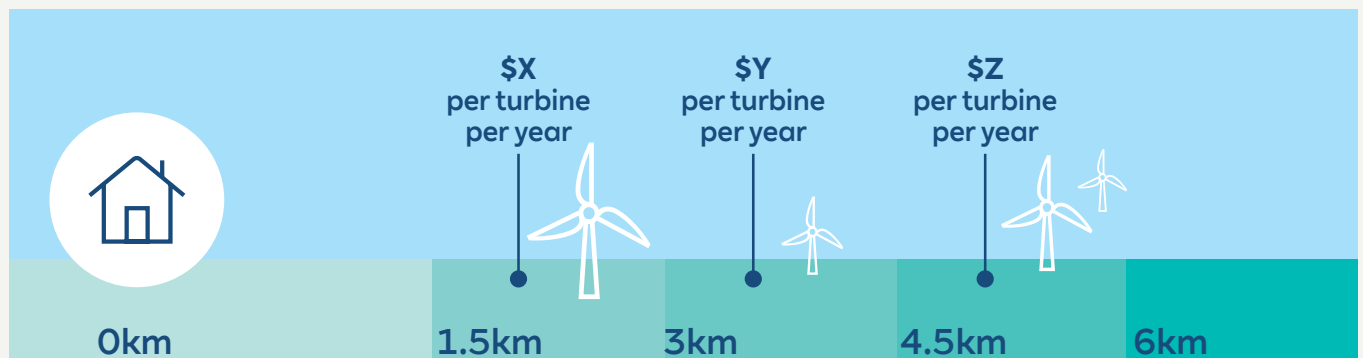
Neighbour benefit program

RWE acknowledges that wind farms generate change for people living nearby. In line with our commitment to community, we will be offering a neighbour benefit program as part of the proposed Cattle Creek Wind Farm, (if it proceeds to construction) and would like your feedback on how it should be structured.

There are a variety of benefit sharing models that can be implemented. They are usually available to neighbouring properties with habitable dwellings only (not farmland) and are not payable to properties hosting project infrastructure.

A typical approach to neighbour payment programs involves the payment of annual amounts based on the residential dwelling's distance to turbines. The payment per turbine usually decreases as the distance from the dwelling increases and is set to a pre-determined distance band.

An example could be:



Other initiatives can include:

- One-off construction payments
- Energy offsets

Have feedback or other ideas?

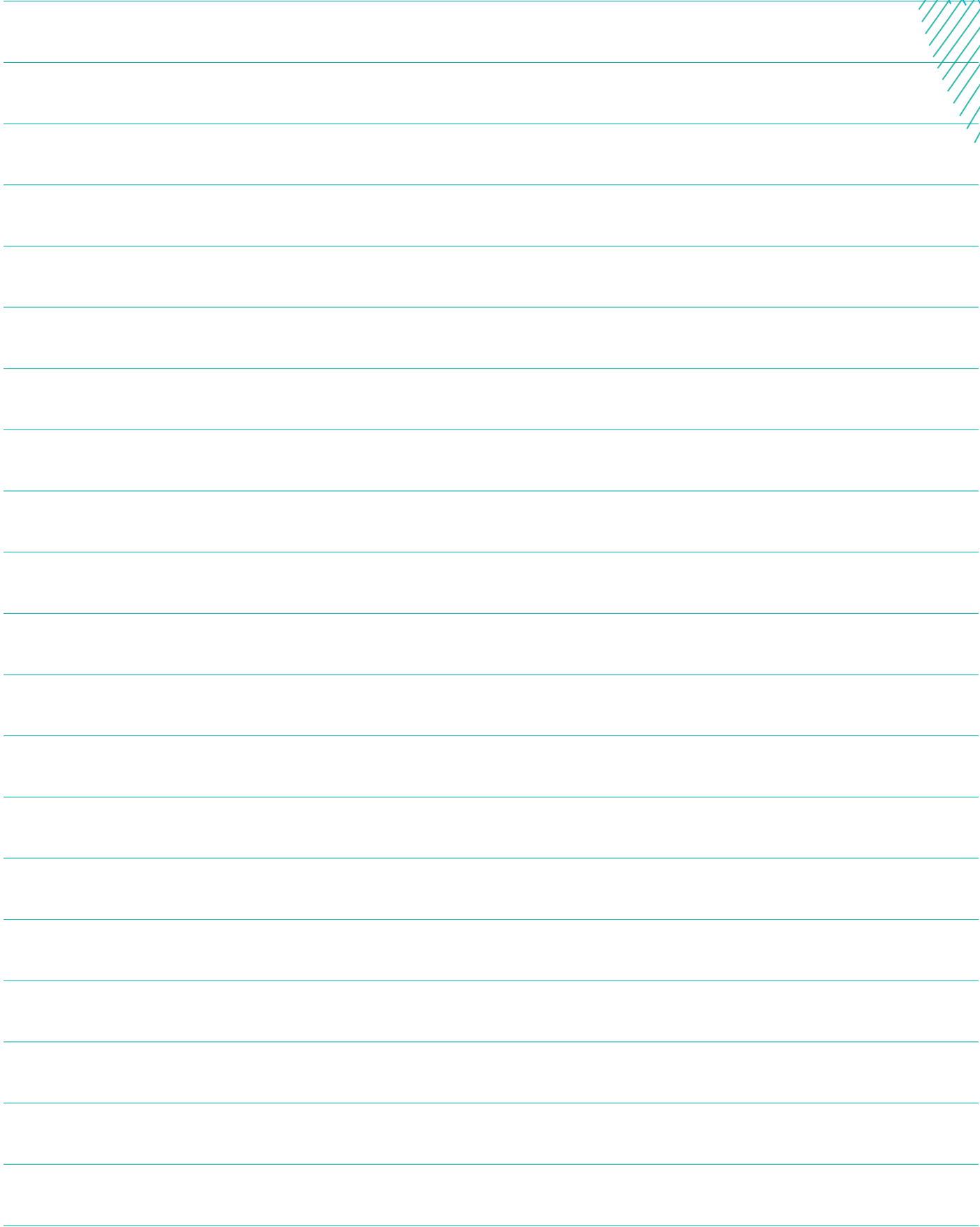
Please talk to one of our staff members today or provide feedback via the opinion survey.



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Notes

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For further information please contact us at:

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**Cattle Creek
Wind Farm**

RWE