

Community Profile

Windorah



Windorah Solar Farm and Battery Project - Community Profile

About Windorah's new solar farm and battery project

Ergon is now investing in a new solar farm to better meet the electricity needs of the Windorah community.

Except for the original Windorah Solar Farm trial, little has changed in how electricity is supplied to Windorah, with the town still reliant on diesel generation. While it has served the energy needs of the community well, diesel generation is challenging financially and environmentally, so we're building a new solar farm and battery energy storage system (BESS) for the community.

With funding from the Queensland Government, Ergon is building a new, integrated solar farm and BESS facility at the same site as the decommissioned solar concentrators at Windorah. The project will use the latest technology to help to reduce our reliance on diesel generation, and to help to transition the town's energy supply to cleaner, greener renewable energy.

The first stage of the solar farm will see an 850kW solar farm built – enough to power around 50% of Windorah's total energy needs. To complement the solar farm, 1,000kWh of energy storage will be installed at the power station to store excess energy for use after the sun goes down.

This initial phase of the Windorah Solar Farm and Battery project will significantly reduce diesel emissions and is anticipated to save around 150,000 litres of diesel and \$300,000 each year.

And while it's not planned for some time yet, we're aiming in the next stage of decarbonising Windorah's isolated network, to supply 100% of the town's electricity needs with renewable energy.

About the Windorah community

Windorah, is a small outback town, located in the heart of the channel country some 1,200km north-west of Brisbane, in the central-western Queensland Shire of Barcoo.

For thousands of years, the area was first home to the indigenous Kulumali people, who spoke the Birria (Pirriya) language, before the township was established during colonialism in around 1849.

During this time, Windorah was known by the settling colonials as Stony Point. Windorah in the local indigenous language however, means 'place of large fish', a reference to the fishing that could be found in the local watering holes of nearby Cooper Creek.

Today, Windorah has a population of just over 100. Around 60% of the population lives in town, with the remainder living and working on the surrounding cattle and sheep stations. Approximately 20% of the population are First Nations people.

Although Windorah has a small population, the town is a tourism and industry gateway to the outback, drawing passing tourists and transport carriers through the area. This small outback community has been likened to its indigenous name, 'big fish' because of the role the small community plays in this remote regional area.

Tourism remains one of the major industries for the area and sees the small population swell substantially during peak holiday season.

Considered a top inland fishing spot, Windorah's Cooper Creek is one of the main tourist drawcards. An oasis of waterholes during the dry season, the area is ideal for birdwatching and enjoying water sports. East of town are the famous Red Sand Dunes, rivalling the dunes of the Simpson desert some 500km inland, making Windorah a hit with tourists exploring outback Queensland.

Windorah's economy is not just about tourism, however. For some time, sheep and cattle grazing have been the primary industries for the area. As well, like in many small regional communities, the Shire Council is a major employer.

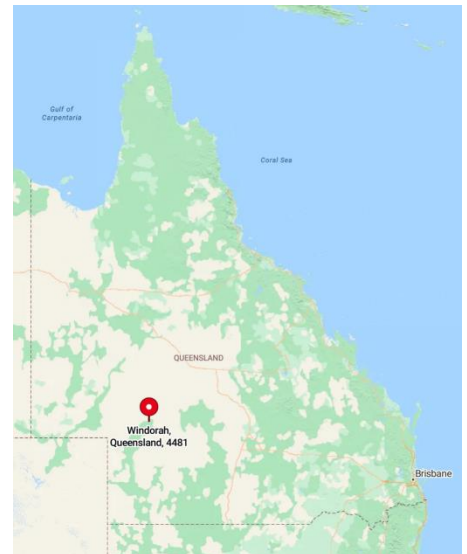
As well, maintenance of the uniquely Australian, Dingo Barrier Fence - that stretches some 5,614 kilometres from western Queensland down to the South Australian coastline - provides locals with employment.

With temperatures ranging from summer maximums up around 50°C, and winter minimums that are below 0°C, it's not surprising that electricity is a lifeblood of this remote outback township. Extreme temperatures and seasonal peaks driven by tourism and the cattle and sheep industry, drive high electricity demand and increased loads on the small, isolated electricity network.

The electricity network at Windorah

The town's electricity has historically, and is currently, supplied via an isolated microgrid, powered by diesel generation at the local power station located on the outskirts of town.

The nearest Ergon depot is located at Longreach, over 300kms away from Windorah.



In 2008, in a Queensland first, Ergon commissioned the state's very first solar farm at Windorah in a move to revolutionise how power was produced in remote communities not connected to the national electricity grid. The solar farm was officially opened by Queensland Premier Anna Bligh in 2009.

The Windorah Solar Farm comprised five iconic concentrated solar tracking dishes. Standing at almost 15 metres tall, with 112 mirrors on each dish pointing to a high-capacity solar cell capable of generating 26kW, the 130kW farm was designed to provide enough power for about twenty-five households for a total of 300,000kWh per year, and reduce diesel consumption by 100,000 litres annually.

The concentrators were considered high-tech at the time. They were designed to follow the sun's path, to maximise the solar energy generated by the dishes – just like giant sunflowers. It was Ergon's first use of technology to integrate solar power with a diesel power station.

Facing tough environmental conditions in outback Queensland – from things like temperature extremes, dust, and wildlife – the farm had some reliability issues. The facility was able to generate electricity, but eventually was not operating at full capacity. The iconic solar farm was no longer meeting Windorah's electricity needs, and once again, Windorah's electricity was generated using diesel.

But technology has come a long way since the original solar farm was installed. As a trial, Ergon learned a lot from the original Windorah Solar Farm pilot and take those lessons into its isolated network and renewables projects.

The solar trackers have recently been decommissioned – and the materials recycled in Emerald – to make way for a new Solar Farm and Battery at Windorah.

How we are caring for Country, and decarbonising Windorah's isolated electricity network

The new Windorah Solar and Battery Farm project will significantly reduce diesel emissions and is anticipated to save around 150,000 litres of diesel and \$300,000 each year.

Using the diesel generator less often, will result in a quieter environment for the community and reduce the amount of diesel we need to transport long distances each year, providing a positive, step-change for the environment.

And the New Windorah Solar and Battery Farm will contribute towards the Queensland Government's 70% renewable energy target by 2032, and the state's journey to net zero emissions by 2050.

Ultimately, in each of our isolated communities, we're focussed on caring for both the community and country, by supporting positive community outcomes, with environmentally and financially sustainable energy solutions.

Get in touch with us

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