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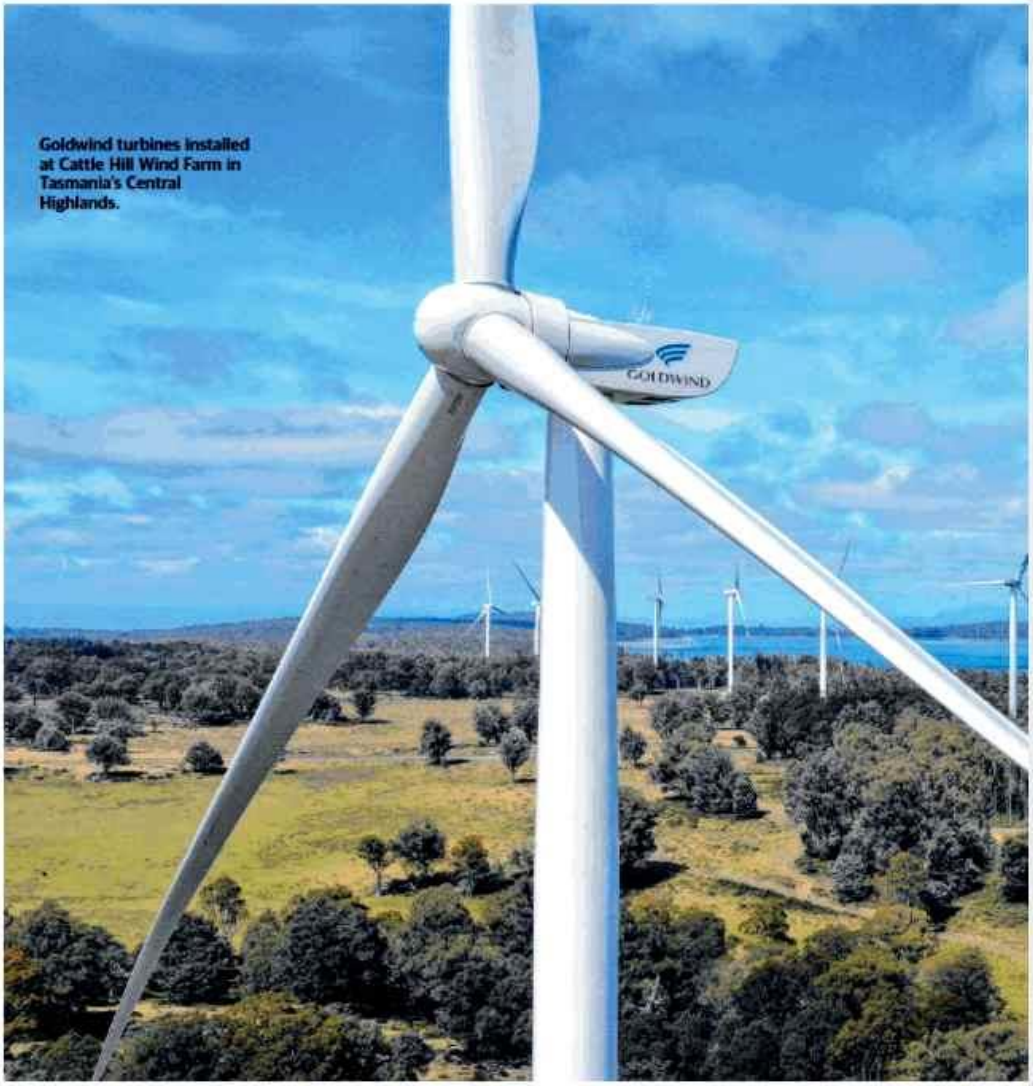
Is Tassie really 100%

Claims that Tasmania's energy needs are completely met by renewable power sources deserves closer scrutiny, writes a sceptical Jack Gilding



Goldwind turbines installed at Cattle Hill Wind Farm in Tasmania's Central Highlands.

LAST November, Guy Barnett claimed that "Tasmania is now 100 per cent self-sufficient in renewable energy".

The end of the financial year is a good time to fact check this claim by comparing it with what actually happened.

In summary, in 2020-2021 renewable electricity generation was less than 95 per cent of actual consumption.

Unless the government takes action to encourage new renewable generation, the situation is not likely to improve in the short-term.

This balance varies from year to year, depending mainly on rainfall and hence Hydro's capacity to generate. Saying "some years we are above 100 per cent and some years we are a bit below" is not ideal for a government that claims to have reached 100 per cent renewable electricity and has a target for 200 per cent. More importantly, without additional renewable generation new energy-intensive industries developed in Tasmania will result in increased imports from Victoria.

What actually happened in 2020-2021?

The government's 100 per cent claim is based on whether expected annual generation from Tasmanian renewables is greater than average annual Tasmanian demand for electricity. Assumptions within this include: that Hydro is capable of a long-term sustainable annual yield of 9000 gigawatt hours (GWh); the anticipated output from wind farms; and assumed annual Tasmanian usage of 10,500 GWh/year.

These assumptions don't match what actually happened in 2020-2021. The government's claim of "mission accomplished" is premature at least.

The shortfall was mainly due to lower than anticipated hydro yields and a slightly higher demand than was assumed. Also, energy in storage as reported by Hydro Tasmania fell by 545 GWh during the financial year, so hydro generation was partly achieved by drawing down dam levels.

What about the future?

Rainfall is variable, so estimating the long-term average yield from hydro is complex. Estimates are made even more difficult by uncertainty about the exact impact of climate change which is likely to result in more variable rainfall and reduced run-off due to hotter and drier conditions.

The Tasmanian government has legislated a 200 per cent renewable electricity target, but this legislation does not provide any mechanism for how this target would be achieved.

The target assumes that a second interconnector (Project Marinus) will be built and that this will provide an incentive for new wind farm development in Tasmania.

The state government also has ambitious plans for the development of green hydrogen-based industries which will require a substantial increase in renewable electricity generation.

Tasmania has committed to net-zero greenhouse gas emissions by 2050. Meeting this target will require reducing emissions from the half of Tasmania's energy use that is not currently electricity use. Widespread use of electric vehicles and the use of electricity rather than gas for all domestic and some commercial heating loads are some of the most practical ways of starting to meet this target and will require additional renewable electricity generation.

While increased renewable electricity investment is needed to meet climate objectives, if capacity exceeds demand this investment can place an unnecessary cost burden on electricity consumers or taxpayers. It is also possible that one or more major industrial consumers could close down which would substantially reduce demand.

Fortunately, Tasmania has a lot of flexibility in matching supply and demand.

Our dams, which are only at about 36 per cent of capacity, can store more than a year's worth of energy. There is also capacity on the existing Basslink to export more energy to the mainland.

The 2017 Tamblyn Report found that without a second interconnector, "Tasmanian wind generation could increase by up to 730MW by

renewable?

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2036". This is nearly three times the 252.8MW combined capacity of Cattle Hill and Granville Harbour which were built subsequent to the Tamblyn Report.

It is clearly desirable to increase renewable electricity generation in Tasmania. The question now is what is the best way to do this?

Wind farms at Granville Harbour and Cattle Hill were facilitated by confidential contracts signed with Hydro Tasmania and Aurora. Such arrangements lack public transparency. The state government needs to engage with the community about the need for more renewable electricity infrastructure irrespective of the fate of the proposed Marinus Link.

Consultation is needed to ensure that this infrastructure is developed in a way that meets the community's concerns about environmental impact, minimises costs and – amid a climate emergency – ensures rapid implementation.

Jack Gilding is the Executive Officer of the Tasmanian Renewable Energy Alliance.