Waddi Wind Farm

Fact Sheet
July
2025

Visual Impact & Shadow Flicker
Fact Sheet

The Waddi Wind Farm is located 150 km north of Perth in the Shire of Dandaragan. The Project would help reduce Western Australia's carbon footprint by generating up to 108 MW of clean energy when constructed. That's enough to power up to 68,000 homes per year, avoiding 286,000 tonnes in carbon emissions annually.

The Project would also help generate local employment and bring broader community benefits during construction and operation.

The Project will have minimal visual impact with no shadow flicker affecting adjoining dwellings. This fact sheet provides a summary of the supporting assessments and how this impact was managed.

The Approved Project

The Waddi Wind Farm Project first received planning approval from the Shire of Dandaragan in January 2012. Since then, several amendments have been approved, mainly focusing on the design and layout of the turbines and electrical transmission infrastructure.

The Project has 18 wind turbines, each one up to 220 metres tall. It is situated on largely cleared cropping land with the turbines located to minimise impacts on farm operations as well as our neighbours.

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Stay up to date and receive updates by hovering over the QR code. Would you like further information on the project? Please contact us at waddiwindfarm@tiltrenewables.com or 1800 WE TILT (938 458).

Recent design changes

The Project now has a maximum tip height of 220 metres, with a total of 18 turbines. **Table 1** shows the key elements of the project.

Key element	Original Project (2012)	Approved Project (2025)
Maximum number of Wind Turbine Generators	57	18
Hub Height	-	139 m
Tip Height	180 m	220 m
Rotor Diameter	-	162 m
Ground clearances to lowest turbine tip	18 m	58 m
Indicative Capacity	108 MW	108 MW
Turbine Model	-	Vestas V162-6.0 EnVentus

Table 1: Key elements of the Project

Visual impact

What is a Land Visual Impact Assessment?

A Landscape and Visual Impact Assessment looks at how a development might affect the surrounding landscape. To evaluate the potential visual impact of the higher turbine height, a Zone of Visual Impact map (**Figure 1**) and photomontages (**Figures 2-7**) were prepared.

What is the visual impact of the Approved Project?

The Landscape and Visual Impact Assessment found the Project will have a minimal visual impact on the region given the character of the surrounding area and the smaller number of turbines.

The Zone of Visual Impact map shows how many turbines are visible from different locations across the region.

The Zone of Visual Impact map does not account for vegetation, buildings or much of the other infrastructure. This means the actual number of visible turbines from a specific location could be less than shown in the map if there are any trees, shrubs or buildings between the viewer and the wind farm.

Zone of Visual Impact map

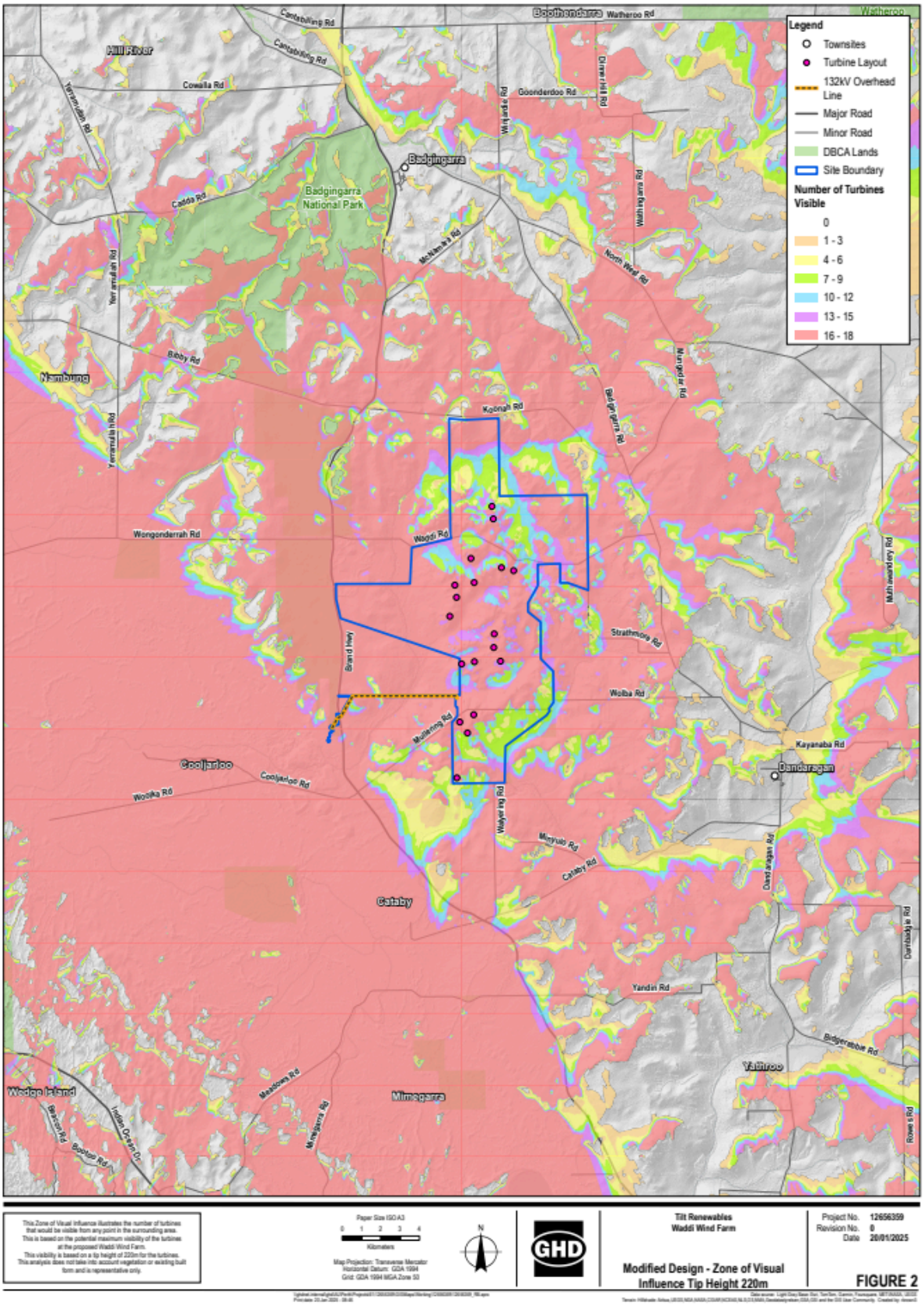

Figure 1: Number of turbines visible from surrounding area (ZVI mapping)

Visualisations

Tilt Renewables prepared photomontages from various locations near the site boundary to compare the Original Project, the Amended Project and the Approved Project.

Between the Amended Project and Approved Project, the scale of visible turbines slightly increased due to changes in hub and tip heights. The overall vistas remained largely unchanged due to the consistent turbine layout., meaning the visual impacts were generally considered low to negligible. The impact on the visual landscape character of the surrounding area for the Approved Project was deemed acceptable.

Original Project (2012)

Figure 2: Walyering Road (Number of turbines: 57; Tip Height: 180m)

Amended Project (2024)

Figure 3: Walyering Road (Number of turbines: 18; Hub height: 99m; Tip Height: 180m)

Approved Project (2025)

Figure 4: Walyering Road (Number of turbines: 18; Hub height: 139m; Tip Height: 220m)

Original Project (2012)

Figure 5: Koonah Road (Number of turbines: 57; Tip Height: 180m)

Amended Project (2024)

Figure 6: Koonah Road (Number of turbines: 18; Hub height: 99m; Tip Height: 180m)

Approved Project (2025)

Figure 7: Koonah Road (Number of turbines: 18; Hub height: 139m; Tip Height: 220m)

Shadow flicker

What is shadow flicker?

Wind turbine shadow flicker occurs when rotating blades cast moving shadows, creating a flickering effect on nearby sensitive receptors, such as residential dwellings. This intermittent shadow can cause annoyance if it affects a dwelling over an extended period. **Figure 8** shows how shadow flicker can impact a dwelling.

What shadow flicker is expected for the Approved Project?

The shadow flicker assessment found that no dwellings would experience shadow flicker from the Project.

To assess the impact on shadow flicker, an updated assessment was conducted in accordance with the Draft National Wind Farm Development Guidelines for Australia (2010). The assessment, completed in windPRO, modelled both a worst-case and cloud cover-adjusted scenarios. The worst-case scenario was highly conservative as it assumes that the sun shines all day (sunrise to sunset) with zero cloud cover.

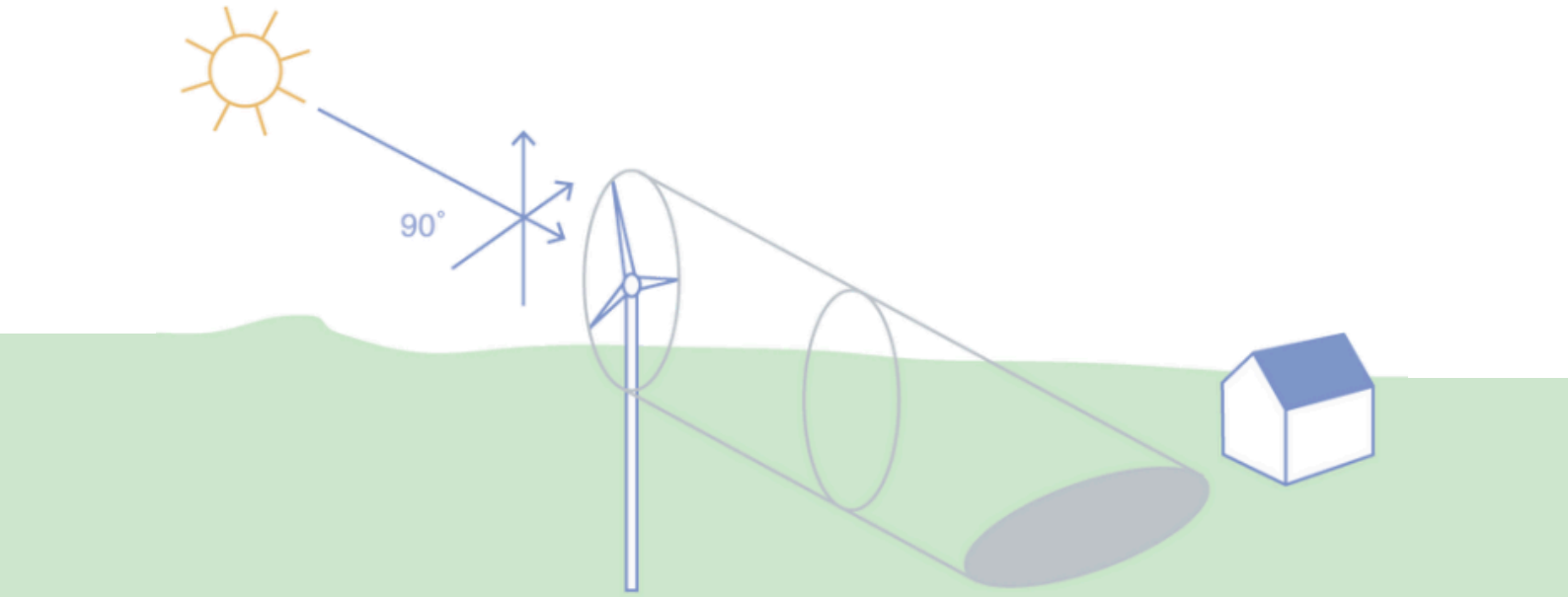

Figure 8: How shadow flicker can impact dwellings