



Mid West Wind Farm

Blade Glint & Shadow Flicker Assessment - Revised Layout

Mid West Wind Farm Pty Ltd

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Revision Record

Revision	Date	Prepared By	Checked By	Authorised By
0.1	11 May 2026	Peter Hayman	Ashley Gibson	Ashley Gibson
1.0	9 June 2026	Peter Hayman	Ashley Gibson	Ashley Gibson

Basis of Report

This report has been prepared by SLR Consulting Australia (SLR) with all reasonable skill, care and diligence, and taking account of the timescale and resources allocated to it by agreement with Mid West Wind Farm Pty Ltd (the Client). Information reported herein is based on the interpretation of data collected, which has been accepted in good faith as being accurate and valid.

This report is for the exclusive use of the Client. No warranties or guarantees are expressed or should be inferred by any third parties. This report may not be relied upon by other parties without written consent from SLR.

SLR disclaims any responsibility to the Client and others in respect of any matters outside the agreed scope of the work.



Executive Summary

SLR Consulting Australia has been engaged by Mid West Wind Farm Pty Ltd to provide a shadow flicker assessment for the proposed Mid West Wind Farm located in the Mid West Region of Western Australia. This assessment has been conducted in accordance with the Draft National Wind Farm Development Guidelines and prepared to support the planning and environmental approval processes.

The Mid West Wind Farm will include:

- Approximately 700 MW of wind energy generation (up to 98 wind turbines).

The site is on a land development area of 16,498 hectares, approximately 50 km east of Geraldton.

Shadow Flicker Modelling

Shadow flicker studies normally distinguish between the predictions from two scenarios:

- An “idealised” scenario which involves calculations that do not take into account factors such as weather cloudiness, wind directionality, operational downtime, etc, which reduce the level of shadow flicker experienced by a receiver. These predictions can therefore be considered a “theoretical worst-case” scenario.
- A “real-world” or “actual” scenario which does take into the real-world factors that influence the shadow flicker that would actually be experienced. These predictions can be considered an “expected” scenario.

Criteria

The widely accepted criteria for shadow flicker are:

- Theoretical Worst-case Scenario:
 - 30 hours per year and 30 minutes per day
- Expected Real-world Scenario:
 - 10 hours per year and 30 minutes per day.

Baseline Study Results

The assessment evaluated the Theoretical and Expected shadow flicker from a maximum of 98 proposed WTG locations with respect to 83 sensitive receivers around and within the Project Area.

The Theoretical scenario modelling showed no exceedances of the Theoretical Worst-case Scenario criteria. Therefore, no modelling of the Expected Real-world Scenario was required and no mitigation is required.



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Appendix B **Receptor Location Data**



Acronyms and Abbreviations

DECC	Department of Energy and Climate Change
km	Kilometre(s)
m	Metre
MW	Megawatt
RE	Renewable Energy
WTG	Wind Turbine Generator

Definitions

Arc second	Unit of angular measurement equal to 1/3600 of a degree
Expected model	Model taking into account real world meteorological and operational factors
Mast	Structure supporting the nacelle and rotor of a wind turbine
Sensitive Receiver	Location where the potential time of shadow flickering impact is calculated
Theoretical model	Model assuming worst case conditions
Timestep	Time interval between model calculations
Wind Power Project	An array of wind turbine generators



1.0 Introduction

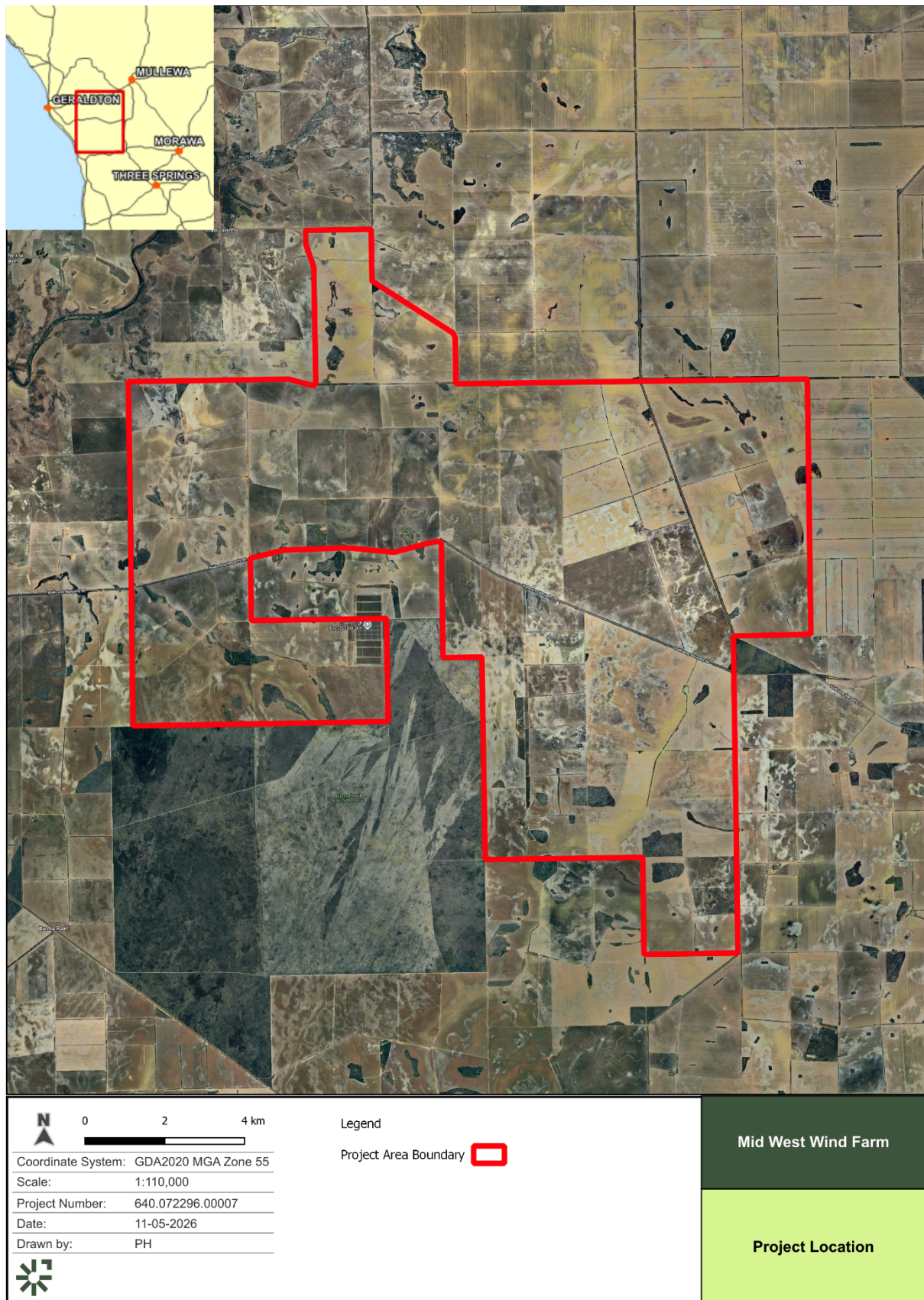
SLR Consulting Australia has been engaged by Vestas Development Australia (Vestas) under the Mid West Wind Farm Pty Ltd to prepare a Shadow Flicker assessment for the proposed Mid West Wind Farm (the Project) within a land development area east of Geraldton, Western Australia. The proposed design will consist of 98 wind turbine generators (WTGs) with a total installed generation capacity of approximately 700 MW.

1.1 Location

Vestas are proposing to develop the Project within a land development area of 16,498 hectares, approximately 50 km east of Geraldton, Western Australia within the Local Government Authorities including the City of Greater Geraldton. To provide regional context, a wider regional study area has been considered during the impact assessment which also extends to Shire of Mingenew and the Shire of Irwin. The Project area is shown in **Figure 1**.



Figure 1 Project Location



1.2 Project Description

The Project will involve the construction of up to 98 wind turbine generators (WTGs) with a generation capacity up to 700 MW supplemented by a battery energy storage system (BESS) with a storage capacity of 4,200 MWh and nominal rating of 700 MW plus associated infrastructure (see Figure 1). The Project will be developed across land tenure comprising freehold properties and road reserve. Total ground disturbance for the Project will be approximately 730 ha (the TGD area), with minimal clearing of native vegetation required.

The Project will connect into the transmission line owned and operated by Western Power and connected to the South West Interconnected System (SWIS) from the Project's collector substation. The WTGs nominally selected for the Project are the EnVentus V172-7.2 model. This model range includes a new modular nacelle design that allows a range of models to be manufactured using the same base componentry, thereby reducing cost. The V172-7.2 model has the following technical features relevant to the environmental and social impact studies:

- Standard rated power = 7,200 kW
- Cut-in wind speed = 3 m/s
- Wind class = IEC S (user defined)
- Rotor diameter = 172 m (approx. blade length = 84 m)
- Rotor swept area = 23,235 m²
- Hub height (above ground) = 150 m (IEC S)
- Maximum sound power level = 106.9 dB (A).

The WTG foundation design will be based on local geotechnical and terrain characteristics. Concrete supply will be obtained from an onsite concrete batching plant. To facilitate WTG erection and maintenance, a nominal hard stand area will be required at each turbine location (for construction and major maintenance) of 65 m x 70m.

One substation comprising 3-phase 33/330 kV step-up transformers will be included for connection to local networks. High voltage electrical collector cabling from each turbine to the substation will all be underground, 33 kV nominal. The BESS will also be connected to the substation via high voltage cabling. Other electrical infrastructure will include Static Synchronous Compensators (STATCOMs).

The Project infrastructure will be constructed over a 30-month period, with construction aiming to commence 2028. Construction workforce is estimated to be up to 300 persons during the peak of construction, with the workforce predominately coming from the Mid West region. Operational workforce is expected to include 15 full time staff throughout the 25+ year operational life of the Project.

The Port of Geraldton is a major transport hub and will be the landing point for any large infrastructure e.g. turbine blades and transformers. Access to the DE is provided by the local road network from Casuarinas Road, Kiely Road and Nangetty-Walkaway Road. These local roads connect to the regional arterial network, the Brand Highway and Geraldton-Mount Magnet Road. Airports or airfields are located at Geraldton, Dongara, Mullewa, Morawa, and Mingenew.

Office and workshop facilities to support the Project's construction, commissioning and long-term operation and maintenance will be included in the Project.



During the operational phase of the Project, WTGs, BESS and supporting infrastructure would require regular inspection and maintenance. During the initial operating years, operator attendance may be more regular while the wind farm operation is being optimised. Regular scheduled maintenance is required. It is possible that major unexpected or unscheduled maintenance could take place during the life of the wind farm.

The intended design life is 25+ years, with option for repowering and structural inspection to extend the life by an additional 10+ years. Decommissioning and rehabilitation will occur following the cessation of the operational life. The decommissioning phase is anticipated to be around 18 months and will involve dismantling and removing the above ground WTG components, removing related above-ground infrastructure and rehabilitating internal access roads not requested to be retained by individual landowners.



2.0 WTG Layout and Description

The turbine layout is shown in **Figure 2**. They are set in rows generally running northeast to southwest to capture the prevailing wind direction. **Figure 3** shows the primary dimensions and components of the WTG. All WTG's generally consist of the following:

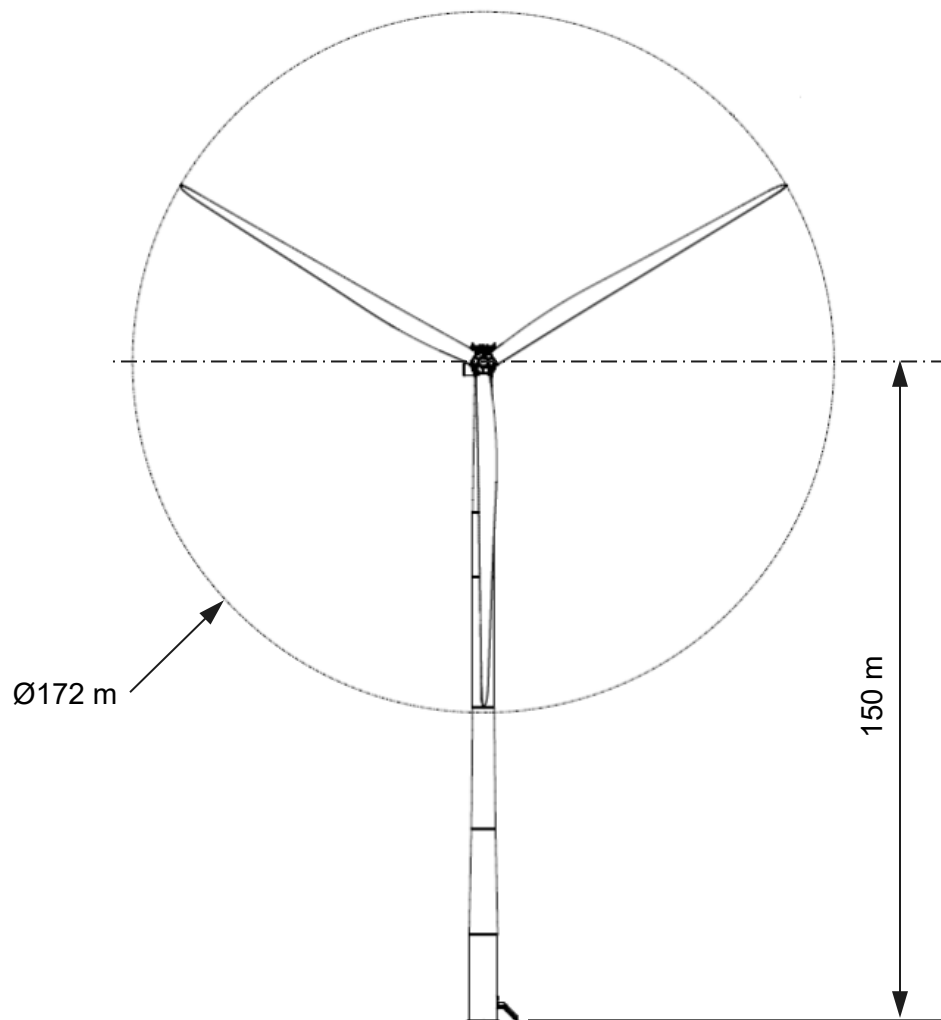
- Foundation – in-ground mass concrete to support the WTG.
- Tower – a tapered steel column.
- Nacelle – placed on top of the tower and houses the generator as well as other components. The nacelle can rotate to face the wind direction with the rotor hub attached to the front.
- Blades – all large modern WTG's have three blades forming the rotor attached to a central hub. The blades can be rotated about their spanwise axis to provide control over the speed of the rotor.



Figure 2 Turbine Layout



Figure 3 Turbine Dimensions – Vestas V172-7.2



3.0 Shadow Flicker

Shadow flicker is the effect experienced by an observer as sunlight passes through the swept area of an operational wind turbine. This tends to occur more often during winter when the sun's altitude is lower but can also be experienced in other seasons close to sunrise and sunset.

3.1 Factors Affecting Shadow Flicker

The impact of shadow flicker is influenced by two main factors, 1) the distance of a viewer from the turbine in question and 2) the duration that the flickering occurs for. Other factors affecting shadow flicker are:

- The size and height of the WTG.
- The relative ground elevation in the surrounding area.
- Intervening vegetation.
- The wind direction, which affects the direction the plane of the rotor is facing.
- Cloud cover.
- General visibility such as the presence of smoke etc.

The intensity of the shadows cast by the turbine decreases as the distance increases and it follows that the intensity of any flickering will also decrease. This is due to a larger proportion of visible disc of the sun being blocked as the blade passes across it (BERR, 2009), when a viewer is closer to the WTG. The effect of shadow flicker tends to dissipate at distances beyond 10 rotor diameters (DECC, 2011).

3.2 Potential Impacts on Surrounding Viewers

Shadow flicker caused by wind turbines can be a source of annoyance at surrounding residential dwellings and other sensitive receiver locations such as schools or hospitals. The closer a receiver is to a wind farm, the greater the likelihood that annoyance is experienced. This was the finding of NHMRC (2015) which cited one study (with a high risk of bias) where people who lived within 5 kilometres of a wind farm were more likely to be annoyed by shadow flicker than those who lived 5-10 kilometres away. It also found no studies that assessed the health effects of shadow flicker or other visual stimuli from wind farms.

The Draft National Wind Farm Development Guidelines (2010) notes negligible risk of distraction for drivers experiencing shadow flicker, as the effect is similar to that of passing through a shadow from a tree on the side of the road.



4.0 Standard Practice and Guidelines

4.1 Australian Regulations

At a national level, the Draft National Wind Farm Development Guidelines (EHPC, 2010) provide guidance on the assessment of wind farm shadow flicker. At State/Territory level, Victoria, NSW and Queensland also have their own guidelines that generally follow the lead of the national guideline. Western Australia policy planning documents mention that shadow flicker can be an impact and should be considered and reference is made to any codes, standards or guidelines that set requirements for what and how a shadow flicker assessment should be undertaken. SLR is not aware of any specific recommendations or guidelines being published within the Western Australian planning framework.

The Draft National Wind Farm Development Guidelines (EHPC, 2010) provides further guidance for assessing wind farm shadow flicker. It recommends the following shadow flicker duration limits at receiver locations:

- A theoretical value of 30 hours per year and a maximum of 30 minutes per day.

If the theoretical value is exceeded:

- An expected or measured value of 10 hours per year day taking into account various real-world considerations.

Allowable limits for shadow flicker vary from country to country, however the generally agreed limit of 30 hours per year (for a theoretical scenario) is widely used. The Australian Energy Infrastructure Commissioner (2022) concurs with this figure and notes that it is currently used across the country.

4.2 Theoretical Worst-case Model Assumptions

The Theoretical Worst-Case modelling scenario is based on astronomical worst-case conditions:

- There is continual sunshine (i.e. permanently cloudless skies) from sunrise to sunset.
- There is sufficient wind for continually rotating turbine blades.
- The WTG rotor is always perpendicular to the incident direction of the sunlight.
- Solar angles less than 3° above the horizon are disregarded (due to likelihood for vegetation and building screening and atmospheric particle dispersion).
- Distances between the WTG rotor plane and the mast are negligible.
- Light refraction in the atmosphere is not considered.
- The assessment area of interest for shadow flicker extends horizontally from the WTG locations (the calculation of this distance is discussed further in **Section 5.1**).
- The modelling period covers a full non-leap year.
- The height of all sensitive receivers should be 1.5 metres (m) – 2 m or at the window or balcony heights where the dwelling has more than one storey.
- The topography of the surrounding area should be included.



- The timestep used for the model should be 10 minutes or less.
- The annual duration of the shadow flicker should be reported for an area surrounding a receiver of interest (i.e. residence) comprising a circle of radius 50 m.
- The grid size used for mapping the sensitive receivers should not be more than 25 m.

4.3 Expected Real-World Model Assumptions

The Expected Real-World modelling scenario is a refinement of the Theoretical Worst-Case scenario using a more realistic evaluation of the potential occurrence of shadow flicker. The amount of predicted shadow flicker is reduced due to the following conditions.

- Cloud cover – not all days of the year will be sunny meteorological data sourced from the closest site should be used to calculate the reduction in shadow flicker hours.
- Wind speed and wind direction frequency data (i.e. a wind rose sourced from a nearby meteorological station) can be used to determine the reduction of shadow flicker hours due to the orientation of the turbine.
- If it can be shown that the view of a turbine is blocked, then the hours of shadow flicker from that turbine can be ignored.
- If the operation of a turbine has scheduled times when it is shut down, then this can be factored into the calculation.

4.4 Modelling area of Interest

As stated above, the assessment area of interest to include in the calculation is calculated horizontally from the WTG. There are a number of different ways to calculate this distance generally involving a function of the blade chord or the rotor diameter.

SLR notes that the Draft Guideline was published 15 years ago and there has been significant development in wind turbine technology since the time of publication (2010). At the time of publication, a modern WTG had a power generation output of approx. 2 MW, whereas the WTG's for this project are 7.2 MW and much larger in physical size.

When the Draft was written there was a wide variance in the distances used across jurisdictions. Victoria's recommendation was 265 times the maximum blade chord, while South Australia recommended 500 metres.

The DECC uses a factor of 10 x the rotor diameter while the German regulations recommend 2 kilometres around each turbine. The assessment software to be used has a slightly different method again, using a blockage of 20% this equates to a factor of approximately 683 times the mean blade chord. SLR has also seen assessments which use a slightly conservative version of this at a factor of 680 times the mean blade chord.

At the distances in question this is a change of less than 0.5% and would not be expected to significantly impact the results.

5.0 Methodology

SLR has conducted the shadow flicker assessment using the WindPRO version 4.2 software package. WindPRO is a widely accepted modelling software package developed specifically for the design and evaluation of wind power projects.



WindPRO has been used to develop both Theoretical (Worst-Case) and Expected (Real-World) model predictions based on the assumptions described in **Sections 5.2 and 5.3** respectively.

5.1 Inputs

Step 1: Digital Terrain Model

Terrain elevation data was added to the model.

- The Australian Digital Elevation Model was chosen which has a resolution of 1 arc second. A 45 km by 60 km section was imported to cover the Project Area and the nearby surrounds.

Step 2: WTG Data Inputs

The 98 WTGs were added to the model.

The base case layout shown in **Figure 2** was used for the assessment.

- The following Vestas V172-7.2 specification was added manually to the WindPRO WTG input data:
 - Hub Height – 150 metres
 - Rotor Diameter – 172 metres
 - Maximum Blade Chord – 4.35 metres
 - Mean Blade Chord – 2.81 m
 - Blade Chord at 90% Radius – 1.26 metres

Step 3: Modelling the Area of Interest

SLR reviewed the following guidelines when determining a suitable assessment distance for the area of interest:

- Australian Draft Guidelines (EPHC, 2010): $265 * 4.35 = 1,152 \text{ m}$
- DECC, 2011: $10 * 172 = 1,720 \text{ m}$
- WindPRO Default: $\frac{5 * 2.81 * \text{distance to the sun}}{1097780} = 1,919 \text{ m}$
- 20% Blockage method (conservative): $680 * 2.81 = 1,911 \text{ m}$
- German Regulations: $= 2,000 \text{ m}$
- The WindPRO Default distance, 20% Blockage method and the German regulations are within 5% of each other (mean average assessment distance = 1,943 m) and greater than the EPHC and DECC recommendations.
- SLR has chosen the WindPRO Default distance for the assessment (1,919 m). This distance provides ample conservatism and is sufficient to capture any areas of impact regarding the criteria set out in **Section 4.0**.

Step 4: Other Modelling Inputs

- A time interval of 1 minute was used across the whole year.



- For the Expected (Real-World) scenario, average sunshine hours were included, based on cloudiness data sourced from nearby meteorological stations.

Table 1 Average Daily Sunshine Hours

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
11.13	10.26	9.14	7.29	6.25	5.21	5.54	6.54	7.4	9.10	10.04	11.09

The following was excluded:

- Vegetation screening close to any potentially impacted receivers was not taken into account, therefore producing a more conservative result.

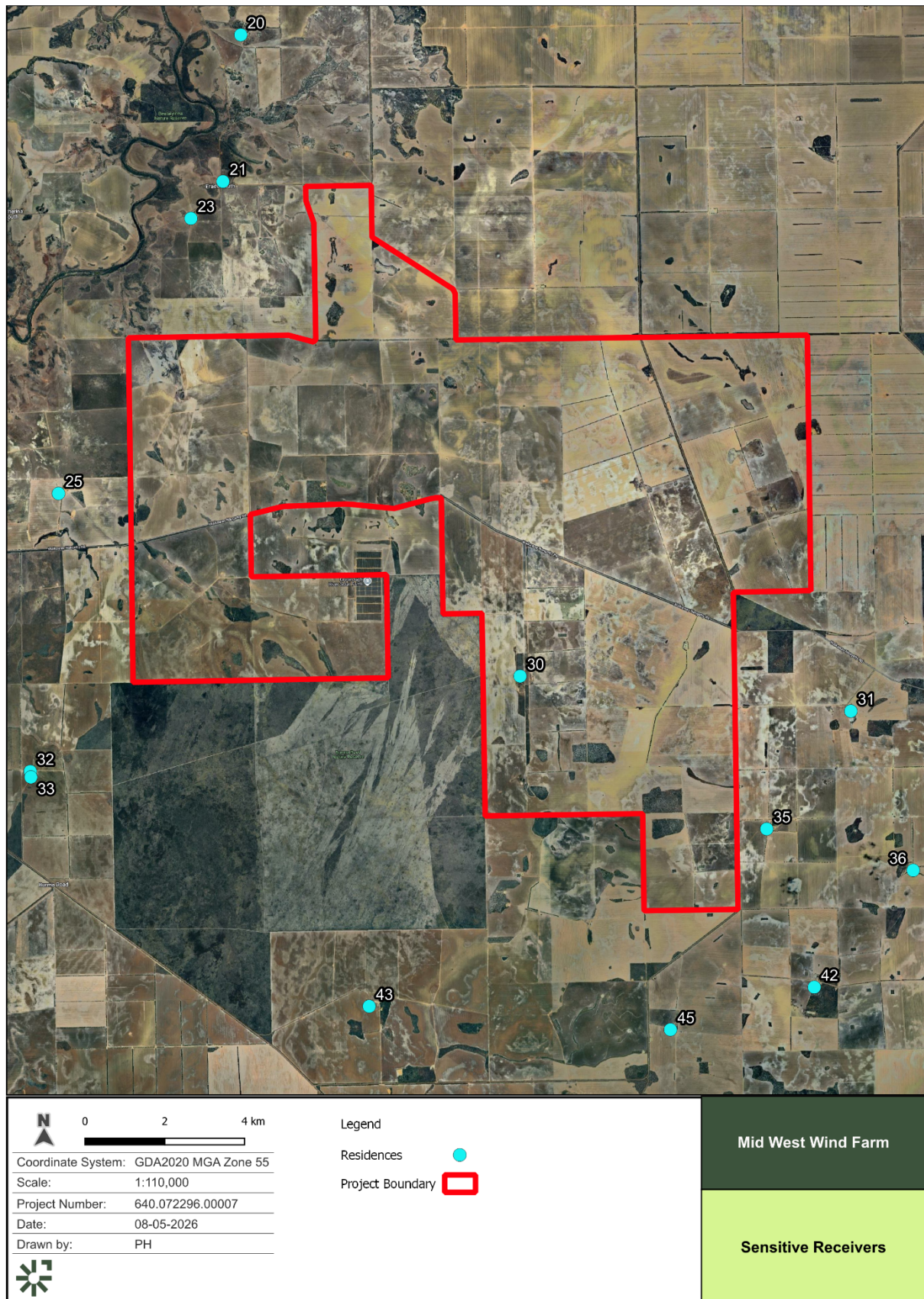
5.2 Sensitive Receivers

The project proponent has provided SLR with 84 identified dwellings surrounding the project site each with an ID number. As per the Draft National Guidelines for shadow flicker, only non-host are considered for the assessment. Most of these are well outside the area of interest for shadow flicker concerns, but they still have been included to demonstrate a thorough assessment. The sensitive receivers have been modelled with a 360° field of view, i.e. an observer being able to look in all directions equally rather than determining the orientation as a facade. This provides an additional level of conservatism in the model.

The following figure shows the locations of the receptors closest to the turbines.



Figure 4 Residential Locations



6.0 Shadow Flicker Results

The results of the shadow flicker modelling have been visualised in **Figure 5** for the Theoretical (Worst-Case) scenario and detailed in the following sections.

6.1 Theoretical (Worst Case) Results

- Theoretical (Worst-Case) Scenario:
 - Hours per year and (maximum) minutes per day.

Theoretical (Worst-Case) Scenario

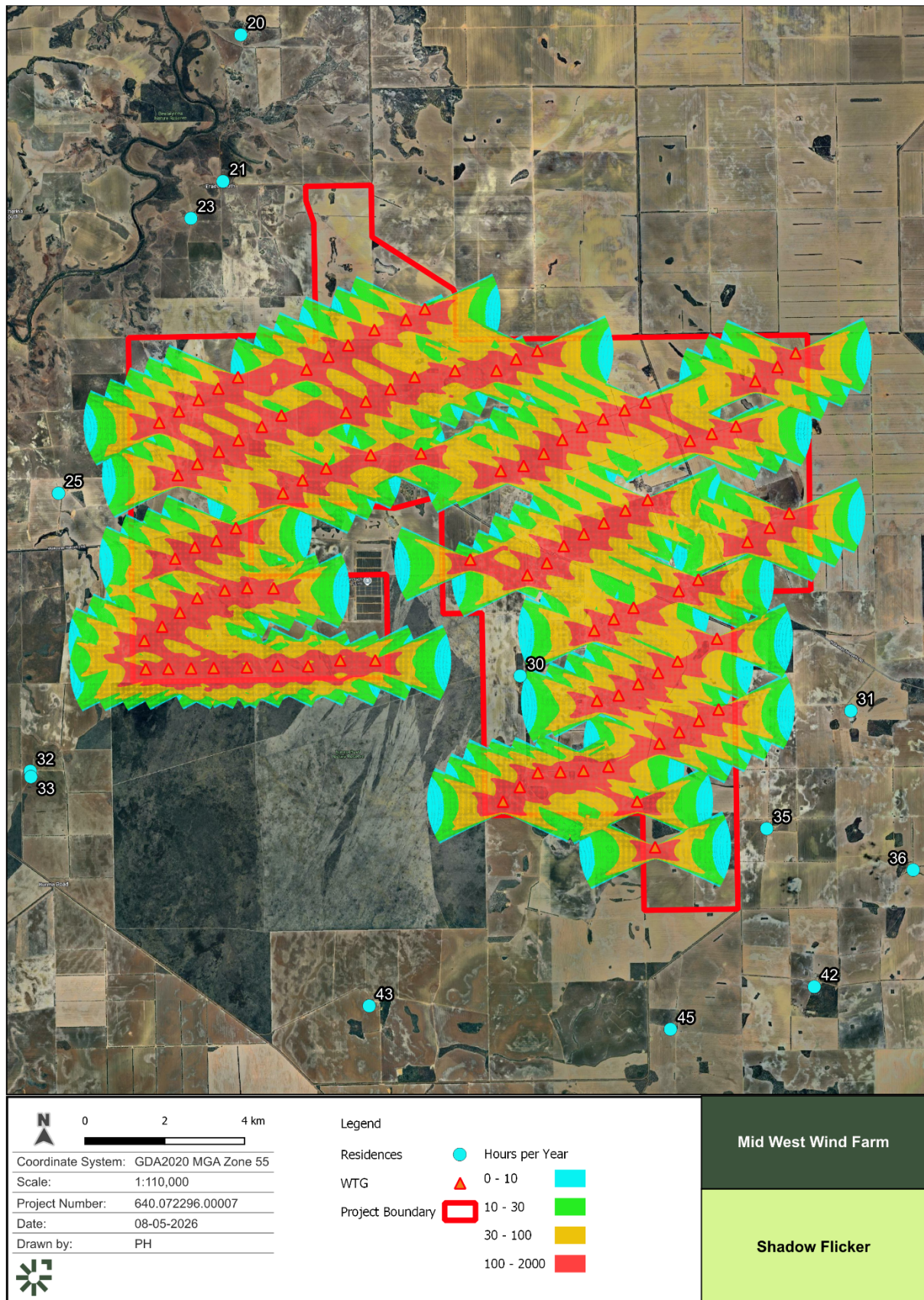
- Shadow flicker in excess of 30 hours per year is not predicted for any of the identified neighbouring dwellings.
- The maximum limit of 30 minutes per day (worst-case day of the year) was also not exceeded for any of the identified neighbouring dwellings.

6.1.1 Theoretical (Worst Case) Map

In general, it can be seen that even the closest WTGs are a sufficient distance from the non-involved dwellings and as a result there is no impact at any of the modelled locations.



Figure 5 Overall Shadow Flicker Results



7.0 Mitigation

There are generally three options for mitigating the impacts of shadow flicker:

1. Physically moving the turbine causing the annoyance, so the flickering effect no longer falls on the affected residence.
2. Implementing a screening element, so there is no longer a line of sight between the viewer and the WTG.
3. Implementing a shadow flicker control system which can shut down the offending WTG to ensure the allowable limits of duration are not exceeded. Such curtailment systems work on a timer to pause turbine operation during times when the conditions enable flickering to occur. This includes sensors for light and the orientation of the rotor, which follows the wind direction, so that the WTG will continue to produce power when conditions are cloudy and/or the wind direction causes the rotor to be orientated in such a way that a shadow flicker event is not possible.

As there is no impact above the criteria no further mitigation will be required.

8.0 Blade Glint

Blade 'glint' involves the theoretical reflection of sunlight from a turbine blade as seen by an observer as a periodic flash of light. Blade glint is not generally caused by modern wind turbines given that non-reflective coatings are used for the surface of the blades. As stated in the EPHC Draft National Wind Farm Development Guidelines (2010), which provide guidance on blade glint:

"The sun's light may be reflected from the surface of wind turbine blades. Blade Glint has the potential to annoy people. All major wind turbine manufacturers currently finish their blades with a low reflectivity treatment. This prevents a potentially annoying reflective glint from the surface of the blades and the possibility of a strobing reflection when the turbine blades are spinning. Therefore, the risk of blade glint from a new development is considered to be very low."

Assuming these treatments are used for the Project, blade glint is not expected to have an impact on any surrounding sensitive receivers.



9.0 Conclusion

Shadow flicker has not been predicted at any of the modelled residences, thereby demonstrating compliance with the Guidelines.

Following completion of the assessment and its results included in this report, shadow flicker impacts may be kept below the Guideline limit by:

- Periodically monitoring the location, stakeholder status and occupancy of all dwellings within the 2,000 metre threshold that defines the area of interest for assessing shadow flicker.
- Updating the model should any significant changes to the WTG layout occur, to confirm the hours of shadow flicker impact.

10.0 References

Business Enterprise & Regulatory Reform (BERR). 2009. Onshore Wind: Shadow Flicker [website]. Available at: <http://webarchive.nationalarchives.gov.uk/20081013085503/http://www.berr.gov.uk/whatwedo/energy/sources/renewables/planning/onshore-wind/shadow-flicker/page18736.html> (Accessed May 2015). United Kingdom Department for Business Enterprise and Regulatory Reform

Department of Energy and Climate Change (DECC). 2011. Update of UK Shadow Flicker Evidence Base: Final Report. Parsons Brinckerhoff, London, UK, p. 5

Dyer A (2022) *2022 Annual Report of the Office of the Australian Energy Infrastructure Commissioner*, Australian Energy Infrastructure Commissioner, Commonwealth of Australia, accessed 15 October 2024. <https://www.aeic.gov.au/sites/default/files/documents/2023-06/aeic-2022-annual-report.pdf>

EPHC. 2010. *National Wind Farm Development Guidelines - Draft*. Guidelines, Adelaide: Environment Protection and Heritage Council.

Epilepsy Society. 2012. Wind Turbines and Photosensitive Epilepsy. Available at: <http://www.epilepsysociety.org.uk/AboutEpilepsy/Whatisepilepsy/Triggers/Photosensitiveepilepsy/windturbines> (Accessed May 2015). Last updated June 2012

National Health and Medical Research Council (NHMRC). 2015. Evidence on Wind Turbines and Human Health. Australian Government, February 2015



Appendix A WTG Location Data

Mid-West Wind Farm

Shadow Flicker Assessment

Mid West Wind Farm Pty Ltd

SLR Project No.: 675.072296.00007

9 June 2026



WTGs

	Longitude	Latitude	Z [m]	Row data/Description	WTG type		Type-generator	Power, rated [kW]	Rotor diameter [m]	Hub height [m]
					Valid	Manufact.				
1	115.127386° E	-28.841421° N	216.8	VESTAS V172-7.2 7200...Yes	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	150.0
2	115.122497° E	-28.843816° N	204.4	VESTAS V172-7.2 7200...Yes	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	150.0
3	115.114333° E	-28.845988° N	191.7	VESTAS V172-7.2 7200...Yes	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	150.0
4	115.107519° E	-28.849378° N	209.6	VESTAS V172-7.2 7200...Yes	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	150.0
5	115.156162° E	-28.851266° N	238.4	VESTAS V172-7.2 7200...Yes	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	150.0
6	115.222526° E	-28.852729° N	258.1	VESTAS V172-7.2 7200...Yes	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	150.0
7	115.102406° E	-28.851882° N	228.0	VESTAS V172-7.2 7200...Yes	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	150.0
8	115.150644° E	-28.853112° N	242.4	VESTAS V172-7.2 7200...Yes	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	150.0
9	115.217834° E	-28.855768° N	260.6	VESTAS V172-7.2 7200...Yes	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	150.0
10	115.096720° E	-28.854700° N	233.8	VESTAS V172-7.2 7200...Yes	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	150.0
11	115.145540° E	-28.855614° N	238.1	VESTAS V172-7.2 7200...Yes	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	150.0
12	115.134880° E	-28.855509° N	238.5	VESTAS V172-7.2 7200...Yes	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	150.0
13	115.124475° E	-28.856792° N	217.3	VESTAS V172-7.2 7200...Yes	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	150.0
14	115.079067° E	-28.856205° N	236.8	VESTAS V172-7.2 7200...Yes	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	150.0
15	115.212043° E	-28.858909° N	245.5	VESTAS V172-7.2 7200...Yes	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	150.0
16	115.073961° E	-28.858704° N	236.5	VESTAS V172-7.2 7200...Yes	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	150.0
17	115.118222° E	-28.859433° N	197.5	VESTAS V172-7.2 7200...Yes	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	150.0
18	115.068855° E	-28.861203° N	233.6	VESTAS V172-7.2 7200...Yes	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	150.0
19	115.111836° E	-28.862162° N	219.7	VESTAS V172-7.2 7200...Yes	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	150.0
20	115.183716° E	-28.863311° N	243.2	VESTAS V172-7.2 7200...Yes	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	150.0
21	115.178324° E	-28.865034° N	241.2	VESTAS V172-7.2 7200...Yes	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	150.0
22	115.063749° E	-28.863701° N	235.8	VESTAS V172-7.2 7200...Yes	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	150.0
23	115.106666° E	-28.864592° N	229.2	VESTAS V172-7.2 7200...Yes	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	150.0
24	115.090086° E	-28.865016° N	250.6	VESTAS V172-7.2 7200...Yes	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	150.0
25	115.172756° E	-28.867001° N	236.4	VESTAS V172-7.2 7200...Yes	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	150.0
26	115.058643° E	-28.866199° N	241.1	VESTAS V172-7.2 7200...Yes	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	150.0
27	115.206921° E	-28.869098° N	249.9	VESTAS V172-7.2 7200...Yes	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	150.0
28	115.084980° E	-28.867516° N	255.0	VESTAS V172-7.2 7200...Yes	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	150.0
29	115.167288° E	-28.868691° N	235.6	VESTAS V172-7.2 7200...Yes	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	150.0
30	115.200668° E	-28.870711° N	253.4	VESTAS V172-7.2 7200...Yes	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	150.0
31	115.162195° E	-28.871530° N	235.9	VESTAS V172-7.2 7200...Yes	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	150.0
32	115.078937° E	-28.870471° N	249.5	VESTAS V172-7.2 7200...Yes	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	150.0
33	115.194990° E	-28.872181° N	247.8	VESTAS V172-7.2 7200...Yes	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	150.0
34	115.073830° E	-28.872970° N	246.8	VESTAS V172-7.2 7200...Yes	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	150.0
35	115.125800° E	-28.874137° N	219.4	VESTAS V172-7.2 7200...Yes	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	150.0
36	115.157367° E	-28.874657° N	236.6	VESTAS V172-7.2 7200...Yes	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	150.0
37	115.112872° E	-28.874317° N	216.9	VESTAS V172-7.2 7200...Yes	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	150.0
38	115.068286° E	-28.875683° N	238.0	VESTAS V172-7.2 7200...Yes	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	150.0
39	115.152141° E	-28.877319° N	243.3	VESTAS V172-7.2 7200...Yes	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	150.0
40	115.101355° E	-28.877195° N	238.7	VESTAS V172-7.2 7200...Yes	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	150.0
41	115.146242° E	-28.878366° N	236.0	VESTAS V172-7.2 7200...Yes	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	150.0

	Longitude	Latitude	Z	Row data/Description	Valid	Manufact.	Type-generator	Power, rated [kW]	Rotor diameter [m]	Hub height [m]
			[m]							
42	115.063179° E	-28.878181° N	230.0	VESTAS V172-7.2 7200...Yes		VESTAS	V172-7.2-7,200	7,200	172.0	150.0
43	115.095253° E	-28.879770° N	232.4	VESTAS V172-7.2 7200...Yes		VESTAS	V172-7.2-7,200	7,200	172.0	150.0
44	115.090144° E	-28.882652° N	239.1	VESTAS V172-7.2 7200...Yes		VESTAS	V172-7.2-7,200	7,200	172.0	150.0
45	115.183926° E	-28.885439° N	246.5	VESTAS V172-7.2 7200...Yes		VESTAS	V172-7.2-7,200	7,200	172.0	150.0
46	115.178114° E	-28.887781° N	243.8	VESTAS V172-7.2 7200...Yes		VESTAS	V172-7.2-7,200	7,200	172.0	150.0
47	115.220267° E	-28.889017° N	247.0	VESTAS V172-7.2 7200...Yes		VESTAS	V172-7.2-7,200	7,200	172.0	150.0
48	115.172546° E	-28.890565° N	239.4	VESTAS V172-7.2 7200...Yes		VESTAS	V172-7.2-7,200	7,200	172.0	150.0
49	115.215207° E	-28.892155° N	250.2	VESTAS V172-7.2 7200...Yes		VESTAS	V172-7.2-7,200	7,200	172.0	150.0
50	115.077916° E	-28.890368° N	241.3	VESTAS V172-7.2 7200...Yes		VESTAS	V172-7.2-7,200	7,200	172.0	150.0
51	115.167354° E	-28.893007° N	241.9	VESTAS V172-7.2 7200...Yes		VESTAS	V172-7.2-7,200	7,200	172.0	150.0
52	115.072857° E	-28.893186° N	243.0	VESTAS V172-7.2 7200...Yes		VESTAS	V172-7.2-7,200	7,200	172.0	150.0
53	115.209429° E	-28.895345° N	243.8	VESTAS V172-7.2 7200...Yes		VESTAS	V172-7.2-7,200	7,200	172.0	150.0
54	115.162161° E	-28.895636° N	242.1	VESTAS V172-7.2 7200...Yes		VESTAS	V172-7.2-7,200	7,200	172.0	150.0
55	115.067258° E	-28.894584° N	240.2	VESTAS V172-7.2 7200...Yes		VESTAS	V172-7.2-7,200	7,200	172.0	150.0
56	115.062150° E	-28.897082° N	235.9	VESTAS V172-7.2 7200...Yes		VESTAS	V172-7.2-7,200	7,200	172.0	150.0
57	115.157742° E	-28.899426° N	242.7	VESTAS V172-7.2 7200...Yes		VESTAS	V172-7.2-7,200	7,200	172.0	150.0
58	115.138048° E	-28.898367° N	238.1	VESTAS V172-7.2 7200...Yes		VESTAS	V172-7.2-7,200	7,200	172.0	150.0
59	115.152671° E	-28.902066° N	243.4	VESTAS V172-7.2 7200...Yes		VESTAS	V172-7.2-7,200	7,200	172.0	150.0
60	115.196628° E	-28.903710° N	247.2	VESTAS V172-7.2 7200...Yes		VESTAS	V172-7.2-7,200	7,200	172.0	150.0
61	115.080553° E	-28.903960° N	250.6	VESTAS V172-7.2 7200...Yes		VESTAS	V172-7.2-7,200	7,200	172.0	150.0
62	115.087342° E	-28.904142° N	242.5	VESTAS V172-7.2 7200...Yes		VESTAS	V172-7.2-7,200	7,200	172.0	150.0
63	115.074753° E	-28.904451° N	244.2	VESTAS V172-7.2 7200...Yes		VESTAS	V172-7.2-7,200	7,200	172.0	150.0
64	115.191523° E	-28.906213° N	246.3	VESTAS V172-7.2 7200...Yes		VESTAS	V172-7.2-7,200	7,200	172.0	150.0
65	115.067692° E	-28.906093° N	213.9	VESTAS V172-7.2 7200...Yes		VESTAS	V172-7.2-7,200	7,200	172.0	150.0
66	115.179854° E	-28.909847° N	240.7	VESTAS V172-7.2 7200...Yes		VESTAS	V172-7.2-7,200	7,200	172.0	150.0
67	115.063140° E	-28.909325° N	215.0	VESTAS V172-7.2 7200...Yes		VESTAS	V172-7.2-7,200	7,200	172.0	150.0
68	115.174748° E	-28.912349° N	239.9	VESTAS V172-7.2 7200...Yes		VESTAS	V172-7.2-7,200	7,200	172.0	150.0
69	115.058511° E	-28.912422° N	234.5	VESTAS V172-7.2 7200...Yes		VESTAS	V172-7.2-7,200	7,200	172.0	150.0
70	115.169641° E	-28.914852° N	239.7	VESTAS V172-7.2 7200...Yes		VESTAS	V172-7.2-7,200	7,200	172.0	150.0
71	115.053866° E	-28.915535° N	234.3	VESTAS V172-7.2 7200...Yes		VESTAS	V172-7.2-7,200	7,200	172.0	150.0
72	115.201203° E	-28.917145° N	232.2	VESTAS V172-7.2 7200...Yes		VESTAS	V172-7.2-7,200	7,200	172.0	150.0
73	115.104205° E	-28.920754° N	242.3	VESTAS V172-7.2 7200...Yes		VESTAS	V172-7.2-7,200	7,200	172.0	150.0
74	115.113194° E	-28.920880° N	244.0	VESTAS V172-7.2 7200...Yes		VESTAS	V172-7.2-7,200	7,200	172.0	150.0
75	115.190991° E	-28.922152° N	236.0	VESTAS V172-7.2 7200...Yes		VESTAS	V172-7.2-7,200	7,200	172.0	150.0
76	115.088095° E	-28.921790° N	238.4	VESTAS V172-7.2 7200...Yes		VESTAS	V172-7.2-7,200	7,200	172.0	150.0
77	115.095899° E	-28.921972° N	226.7	VESTAS V172-7.2 7200...Yes		VESTAS	V172-7.2-7,200	7,200	172.0	150.0
78	115.080134° E	-28.921984° N	230.5	VESTAS V172-7.2 7200...Yes		VESTAS	V172-7.2-7,200	7,200	172.0	150.0
79	115.071621° E	-28.921990° N	229.6	VESTAS V172-7.2 7200...Yes		VESTAS	V172-7.2-7,200	7,200	172.0	150.0
80	115.065790° E	-28.921993° N	238.8	VESTAS V172-7.2 7200...Yes		VESTAS	V172-7.2-7,200	7,200	172.0	150.0
81	115.059951° E	-28.921997° N	242.2	VESTAS V172-7.2 7200...Yes		VESTAS	V172-7.2-7,200	7,200	172.0	150.0
82	115.054111° E	-28.922000° N	236.8	VESTAS V172-7.2 7200...Yes		VESTAS	V172-7.2-7,200	7,200	172.0	150.0
83	115.185884° E	-28.924655° N	233.6	VESTAS V172-7.2 7200...Yes		VESTAS	V172-7.2-7,200	7,200	172.0	150.0
84	115.180778° E	-28.927158° N	229.7	VESTAS V172-7.2 7200...Yes		VESTAS	V172-7.2-7,200	7,200	172.0	150.0
85	115.175671° E	-28.929661° N	234.9	VESTAS V172-7.2 7200...Yes		VESTAS	V172-7.2-7,200	7,200	172.0	150.0
86	115.201328° E	-28.933190° N	251.1	VESTAS V172-7.2 7200...Yes		VESTAS	V172-7.2-7,200	7,200	172.0	150.0
87	115.196221° E	-28.935693° N	246.1	VESTAS V172-7.2 7200...Yes		VESTAS	V172-7.2-7,200	7,200	172.0	150.0
88	115.191114° E	-28.938196° N	235.9	VESTAS V172-7.2 7200...Yes		VESTAS	V172-7.2-7,200	7,200	172.0	150.0
89	115.186007° E	-28.940699° N	226.6	VESTAS V172-7.2 7200...Yes		VESTAS	V172-7.2-7,200	7,200	172.0	150.0
90	115.172762° E	-28.945751° N	236.0	VESTAS V172-7.2 7200...Yes		VESTAS	V172-7.2-7,200	7,200	172.0	150.0
91	115.160391° E	-28.946818° N	225.3	VESTAS V172-7.2 7200...Yes		VESTAS	V172-7.2-7,200	7,200	172.0	150.0
92	115.154560° E	-28.946943° N	230.8	VESTAS V172-7.2 7200...Yes		VESTAS	V172-7.2-7,200	7,200	172.0	150.0
93	115.145493° E	-28.953322° N	236.7	VESTAS V172-7.2 7200...Yes		VESTAS	V172-7.2-7,200	7,200	172.0	150.0
94	115.184449° E	-28.964196° N	237.8	VESTAS V172-7.2 7200...Yes		VESTAS	V172-7.2-7,200	7,200	172.0	150.0
95	115.149866° E	-28.950071° N	231.3	VESTAS V172-7.2 7200...Yes		VESTAS	V172-7.2-7,200	7,200	172.0	150.0
96	115.170078° E	-28.930780° N	241.9	VESTAS V172-7.2 7200...Yes		VESTAS	V172-7.2-7,200	7,200	172.0	150.0
97	115.180017° E	-28.953782° N	242.7	VESTAS V172-7.2 7200...Yes		VESTAS	V172-7.2-7,200	7,200	172.0	150.0
98	115.166332° E	-28.946620° N	228.8	VESTAS V172-7.2 7200...Yes		VESTAS	V172-7.2-7,200	7,200	172.0	150.0

Appendix B Receptor Location Data

Mid-West Wind Farm

Shadow Flicker Assessment

Mid West Wind Farm Pty Ltd

SLR Project No.: 675.072296.00007

9 June 2026



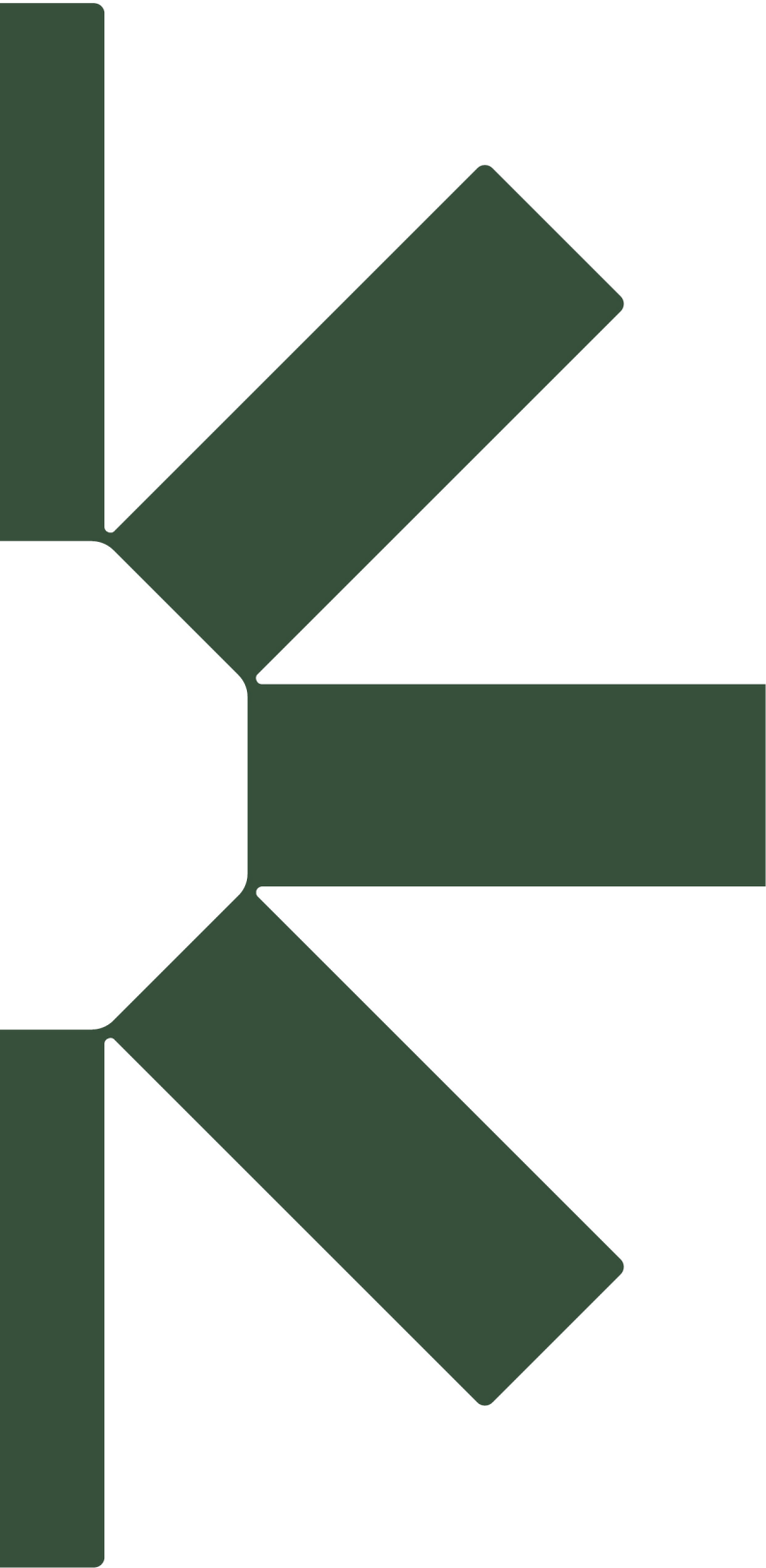
Shadow receptor-Input

No.	Longitude	Latitude	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode
			[m]	[m]	[m]	[m]	[°]	
A	115.168063° E	-28.640366° N	204.0	2.5	1.5	1.0	90.0	"Green house mode"
B	115.282526° E	-28.643031° N	204.0	2.5	1.5	1.0	90.0	"Green house mode"
C	115.247281° E	-28.680112° N	272.7	2.5	1.5	1.0	90.0	"Green house mode"
D	115.146916° E	-28.702398° N	263.7	2.5	1.5	1.0	90.0	"Green house mode"
E	115.280253° E	-28.767459° N	285.2	2.5	1.5	1.0	90.0	"Green house mode"
F	115.318831° E	-28.771347° N	288.0	2.5	1.5	1.0	90.0	"Green house mode"
G	115.280733° E	-28.869792° N	264.9	2.5	1.5	1.0	90.0	"Green house mode"
H	115.150396° E	-28.924895° N	245.7	2.5	1.5	1.0	90.0	"Green house mode"
I	115.389072° E	-28.916152° N	283.8	2.5	1.5	1.0	90.0	"Green house mode"
J	115.250797° E	-28.970223° N	266.6	2.5	1.5	1.0	90.0	"Green house mode"
K	115.213251° E	-28.960371° N	264.2	2.5	1.5	1.0	90.0	"Green house mode"
L	115.277919° E	-28.976413° N	270.0	2.5	1.5	1.0	90.0	"Green house mode"
M	115.370197° E	-28.973074° N	284.5	2.5	1.5	1.0	90.0	"Green house mode"
N	115.110214° E	-28.999146° N	246.2	2.5	1.5	1.0	90.0	"Green house mode"
O	115.161405° E	-29.037580° N	232.4	2.5	1.5	1.0	90.0	"Green house mode"
P	115.162734° E	-29.043937° N	222.9	2.5	1.5	1.0	90.0	"Green house mode"
Q	115.241076° E	-29.064571° N	248.9	2.5	1.5	1.0	90.0	"Green house mode"
R	115.175121° E	-29.063998° N	255.3	2.5	1.5	1.0	90.0	"Green house mode"
S	115.133012° E	-29.065931° N	198.9	2.5	1.5	1.0	90.0	"Green house mode"
T	115.109809° E	-29.093434° N	188.8	2.5	1.5	1.0	90.0	"Green house mode"
U	115.272206° E	-28.821646° N	282.2	2.5	1.5	1.0	90.0	"Green house mode"
V	115.423857° E	-28.979933° N	284.0	2.5	1.5	1.0	90.0	"Green house mode"
W	115.332182° E	-29.062413° N	274.7	2.5	1.5	1.0	90.0	"Green house mode"
X	115.362118° E	-29.069552° N	213.2	2.5	1.5	1.0	90.0	"Green house mode"
Y	115.358000° E	-29.069211° N	219.5	2.5	1.5	1.0	90.0	"Green house mode"
Z	115.291990° E	-29.082207° N	276.1	2.5	1.5	1.0	90.0	"Green house mode"
AA	115.168647° E	-29.110048° N	255.6	2.5	1.5	1.0	90.0	"Green house mode"
AB	115.327530° E	-29.133843° N	245.7	2.5	1.5	1.0	90.0	"Green house mode"
AC	115.326951° E	-29.129835° N	264.5	2.5	1.5	1.0	90.0	"Green house mode"
AD	115.243118° E	-29.151832° N	241.6	2.5	1.5	1.0	90.0	"Green house mode"
AE	115.182339° E	-29.163066° N	210.8	2.5	1.5	1.0	90.0	"Green house mode"
AF	115.186247° E	-29.162628° N	179.0	2.5	1.5	1.0	90.0	"Green house mode"
AG	115.162300° E	-29.198678° N	163.5	2.5	1.5	1.0	90.0	"Green house mode"
AH	115.032439° E	-28.881841° N	180.2	2.5	1.5	1.0	90.0	"Green house mode"
AI	115.247281° E	-28.679115° N	273.6	2.5	1.5	1.0	90.0	"Green house mode"
AJ	115.224874° E	-28.996368° N	259.0	2.5	1.5	1.0	90.0	"Green house mode"
AK	115.235352° E	-28.933955° N	265.3	2.5	1.5	1.0	90.0	"Green house mode"
AL	115.307290° E	-29.017676° N	262.0	2.5	1.5	1.0	90.0	"Green house mode"
AM	115.311213° E	-29.048913° N	272.3	2.5	1.5	1.0	90.0	"Green house mode"
AN	115.240517° E	-29.066555° N	245.5	2.5	1.5	1.0	90.0	"Green house mode"
AO	114.988697° E	-29.001364° N	178.3	2.5	1.5	1.0	90.0	"Green house mode"
AP	115.023977° E	-28.944687° N	250.6	2.5	1.5	1.0	90.0	"Green house mode"
AQ	114.958050° E	-28.903516° N	184.4	2.5	1.5	1.0	90.0	"Green house mode"
AR	114.954007° E	-28.904148° N	170.9	2.5	1.5	1.0	90.0	"Green house mode"
AS	115.025032° E	-29.047969° N	100.8	2.5	1.5	1.0	90.0	"Green house mode"
AT	115.062614° E	-29.054409° N	154.2	2.5	1.5	1.0	90.0	"Green house mode"
AU	115.036345° E	-29.114211° N	93.4	2.5	1.5	1.0	90.0	"Green house mode"
AV	115.454024° E	-28.893874° N	283.0	2.5	1.5	1.0	90.0	"Green house mode"
AW	115.300450° E	-29.149654° N	183.5	2.5	1.5	1.0	90.0	"Green house mode"
AX	115.087649° E	-29.147367° N	163.9	2.5	1.5	1.0	90.0	"Green house mode"
AY	115.107469° E	-29.184406° N	132.7	2.5	1.5	1.0	90.0	"Green house mode"
AZ	115.104659° E	-29.183053° N	137.3	2.5	1.5	1.0	90.0	"Green house mode"
BA	115.050914° E	-28.642241° N	204.0	2.5	1.5	1.0	90.0	"Green house mode"
BB	115.123933° E	-28.590302° N	204.0	2.5	1.5	1.0	90.0	"Green house mode"
BC	115.185588° E	-28.578529° N	204.0	2.5	1.5	1.0	90.0	"Green house mode"
BD	115.246593° E	-28.553137° N	210.0	2.5	1.5	1.0	90.0	"Green house mode"
BE	115.260985° E	-28.573146° N	210.0	2.5	1.5	1.0	90.0	"Green house mode"
BF	115.255160° E	-28.563976° N	210.0	2.5	1.5	1.0	90.0	"Green house mode"
BG	115.311109° E	-28.658283° N	212.9	2.5	1.5	1.0	90.0	"Green house mode"
BH	115.317978° E	-28.660369° N	208.2	2.5	1.5	1.0	90.0	"Green house mode"
BI	115.408788° E	-29.075611° N	195.0	2.5	1.5	1.0	90.0	"Green house mode"
BJ	115.408386° E	-29.083534° N	195.0	2.5	1.5	1.0	90.0	"Green house mode"
BK	115.306551° E	-29.159766° N	134.1	2.5	1.5	1.0	90.0	"Green house mode"
BL	115.272809° E	-29.184408° N	123.9	2.5	1.5	1.0	90.0	"Green house mode"



No.	Longitude	Latitude	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode
			[m]	[m]	[m]	[m]	[°]	
BM	115.262815° E	-29.209776° N	125.0	2.5	1.5	1.0	90.0	"Green house mode"
BN	115.234476° E	-29.203363° N	125.0	2.5	1.5	1.0	90.0	"Green house mode"
BO	115.071532° E	-29.123784° N	158.4	2.5	1.5	1.0	90.0	"Green house mode"
BP	115.026766° E	-29.047398° N	101.9	2.5	1.5	1.0	90.0	"Green house mode"
BQ	115.003150° E	-28.989274° N	228.1	2.5	1.5	1.0	90.0	"Green house mode"
BR	114.951396° E	-28.946655° N	252.6	2.5	1.5	1.0	90.0	"Green house mode"
BS	115.024105° E	-28.945978° N	251.3	2.5	1.5	1.0	90.0	"Green house mode"
BT	115.067637° E	-28.820024° N	156.5	2.5	1.5	1.0	90.0	"Green house mode"
BU	115.076015° E	-28.811777° N	171.4	2.5	1.5	1.0	90.0	"Green house mode"
BV	115.081195° E	-28.778638° N	152.1	2.5	1.5	1.0	90.0	"Green house mode"
BW	115.091257° E	-28.704776° N	230.9	2.5	1.5	1.0	90.0	"Green house mode"
BX	115.187686° E	-29.005506° N	266.4	2.5	1.5	1.0	90.0	"Green house mode"
BY	114.975914° E	-28.968365° N	250.1	2.5	1.5	1.0	90.0	"Green house mode"
BZ	115.101820° E	-29.139184° N	217.4	2.5	1.5	1.0	90.0	"Green house mode"
CA	115.103036° E	-29.137560° N	224.6	2.5	1.5	1.0	90.0	"Green house mode"
CB	115.198731° E	-29.105695° N	235.3	2.5	1.5	1.0	90.0	"Green house mode"
CC	115.243787° E	-28.772768° N	265.9	2.5	1.5	1.0	90.0	"Green house mode"
CD	115.283816° E	-28.617453° N	210.0	2.5	1.5	1.0	90.0	"Green house mode"
CE	115.283252° E	-28.619610° N	210.0	2.5	1.5	1.0	90.0	"Green house mode"





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