TECHNICAL APPENDIX 14.3

Meteorological Data & Potential Shadow Periods

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1 Meteorological Data

1.1.1 Table A14.3.1 below summarises raw data received from the climate station at Girvan and held by the Met Office (2019)[1].

Table A14.3.1 Summary of raw Meteorological Data for Girvan Met Station

Month	Days in month	Average Sun Hours/Month	Average Sun Hours/ Day
January	31	41.1	1.33
February	28	66.7	2.38
March	31	96.8	3.12
April	30	151.8	5.06
May	31	201.1	6.49
June	30	172.6	5.75
July	31	161.3	5.20
August	31	154	4.97
September	30	114.9	3.83
October	31	82.9	2.67
November	30	52.5	1.75
December	31	38.2	1.23

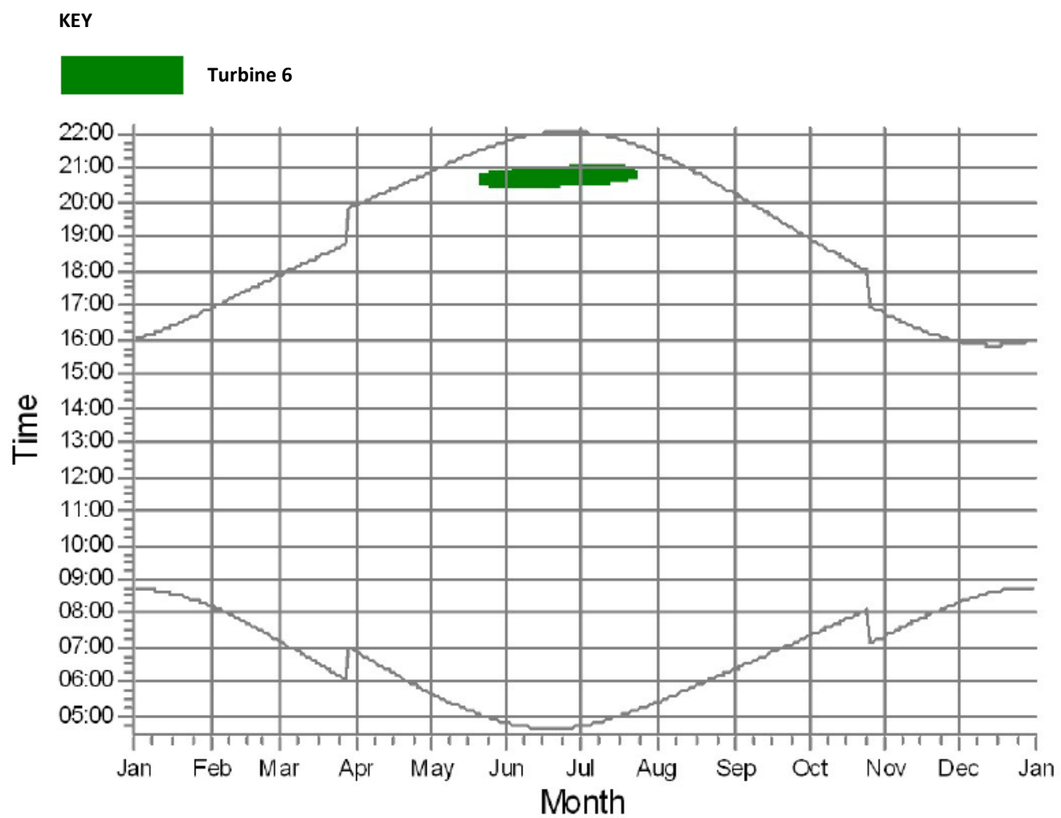
1.1.2 Table A14.3.2 below outlines the wind parameters used within the WindPro model for the proposed Development. It adopts a 16 degree sector with 7,446 hours of wind per year (equivalent to the development being operational for 85 % of the year). Wind distribution data for the site is taken from a met mast located on the proposed Development site.

Table A14.3.2 Wind Distribution at Site

Direction	Wind Distribution	Hours of Wind/year	Direction	Wind Distribution	Hours of Wind/year
N	4.14 %	308	**S**	9.67 %	720
NNE	1.64 %	122	**SSW**	7.22 %	538
NE	2.33 %	173	**SW**	5.73 %	427
ENE	2.35 %	175	**WSW**	6.90 %	514
E	3.89 %	290	**W**	6.50 %	484
ESE	4.48 %	333	**WNW**	8.88 %	661
SE	8.08 %	602	**NW**	10.44 %	777
SSE	12.13 %	903	**NNW**	5.63 %	419
			Totals	**100.0 %**	**7446**

2 Potential Shadow Periods

2.1.1 Graph A14.3 below visually represents the potential periods when the receptor may experience shadow flicker during the operational phase of the proposed Development. These are calculated using commercial software model WindPro Version 3.2 which takes into account the movement of the sun relative to the time of day and time of year predicting the time and duration of expected shadow flicker at each window of an affected receptor. This graph represents a worst case scenario assuming no mitigation as explained in Chapter 14: Other Issues.



Graph A14.3 Theoretical Shadow Flicker Periods for Receptor A - Ferter

[1] https://www.metoffice.gov.uk/research/climate/maps-and-data/uk-climate-averages/

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