

# **Technical Appendix 14.1**

## **Shadow Flicker**

### **Meteorological Data**



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## Appendix 14.1 - Shadow Flicker Meteorological Data

### Prestwick Airport Meteorological Data

Table 14.1.1 below summarises the raw data received from the historical weather station data for Prestwick Airport.

Table 14.1.1 - Summary of Meteorological Data for Prestwick Airport from 1991-2020

Month	Number of Days in Month	Average Hours per Month	Hours per day
January	31	39.67	1.28
February	28	70.01	2.50
March	31	105.8	3.41
April	30	161.04	5.37
May	31	211.21	6.81
June	30	179.17	5.97
July	31	174.55	5.63
August	31	159.55	5.15
September	30	120.59	4.02
October	31	86.69	2.80
November	30	54.38	1.81
December	31	37.93	1.22

### Wind Parameters

Table 14.1.2 below outlines the wind parameters used within 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 the historical weather station data for Prestwick Airport.

Table 14.1.2 - Wind Distribution at Prestwick Airport from 2000-2010

Direction	Wind Distribution	Hours of Wind / year	Operational Hours (85%)
N	0.64%	56.06	48
NNE	0.88%	77.09	66
NE	2.49%	218.12	185
ENE	0.64%	56.06	48
E	2.27%	198.85	169
ESE	2.23%	195.35	166
SE	3.23%	282.95	241
SSE	5.69%	498.44	424
S	17.00%	1489.20	1266
SSW	10.23%	896.15	762
SW	16.66%	1459.42	1241



Direction	Wind Distribution	Hours of Wind / year	Operational Hours (85%)
WSW	12.13%	1062.59	903
W	13.78%	1207.13	1026
WNW	9.84%	861.98	733
NW	1.88%	164.69	140
NNW	0.41%	35.92	31

## References

Rensmart (n.d.) Wind Speed Map. Available at: <https://www.rensmart.com/Maps#NOABL>. Accessed 13/12/2024.

UK Met Office (2024). Historic Station Data. Available at: <https://www.metoffice.gov.uk/research/climate/maps-and-data/historic-station-data>. Accessed 13/12/2024.