

# Appendix 15.1 Meteorological Data

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## Sunshine Hours

Table 1 below summarises raw data received from the historical weather station data for Kirkwall and held by the UK Met Office (2020)<sup>1</sup>.

**Table 1 – Mean Monthly Sunshine from 1981-2010 at Kirkwall**

Month	Number of Days in Month	Average Sun Hours /month	Average Sun Hours /day
January	31	32.2	1.04
February	28	59.3	2.12
March	31	98.2	3.17
April	30	136.8	4.56
May	31	190	6.13
June	30	148.6	4.95
July	31	132.2	4.26
August	31	129.7	4.18
September	30	105.3	3.51
October	31	75.8	2.45
November	30	10.1	1.34
December	31	24.5	0.79

## Wind Distribution

Table 2 below outlines the wind parameters used within the WindPro model for the Proposed Development. It adopts a 12 degree sector with 7,446 hours of wind per year (equivalent to the development being operational for 85 % of the year). Wind distribution for the site is averaged over 20 years and was recorded at an elevation of 100 m above ordnance datum (AOD).

**Table 2 – Wind Distribution<sup>2</sup>**

Direction	Wind Distribution	Hours of Wind / year
N	6.1%	454
NNE	4.4%	325
ENE	3.5%	262

<sup>1</sup> <https://www.metoffice.gov.uk/research/climate/maps-and-data/uk-climate-averages/gfmzqh0rc>

<sup>2</sup> <https://climate.copernicus.eu/climate-reanalysis>

Direction	Wind Distribution	Hours of Wind / year
E	4.3%	320
ESE	8.1%	606
SSE	12.9%	962
S	10.2%	757
SSW	9.2%	688
WSW	11.3%	840
W	12.3%	915
WNW	9.5%	704
NNW	8.2%	613
<b>Total</b>	<b>100%</b>	<b>7446</b>