

**Site Description**

Measurement period	12/19/2006	12/9/2007
Coordinates	44.644°N	73.010°W
Elevation	450 feet	

**Table 2.1: Wind Characteristics (10-minute averages at 100 ft)**

	Winter	Summer	Annual
Average wind speed (mph)	8.3	5.9	7.1
Peak wind speed (mph)	46.1	68.4	68.4
Wind turbulence	0.20	0.20	0.20

**Table 2.2: Estimated Potential Turbine Performance\***

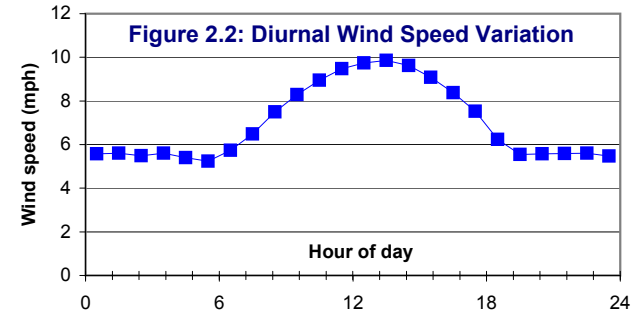
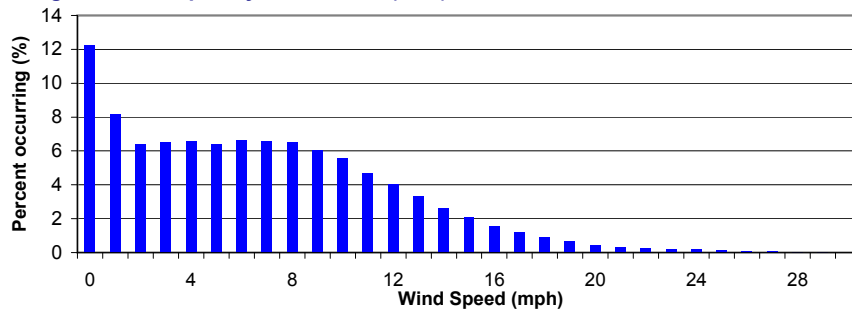
	3.7 kW	10 kW
Cumulative annual energy (kWh)	1484	4712
Average monthly energy (kWh)	123.7	392.7
Average daily energy (kWh)	4.1	12.9
Capacity Factor (%)	9.4	0.0

\*Based on wind statistics for anticipated long-term values and standard power curves in optimal conditions

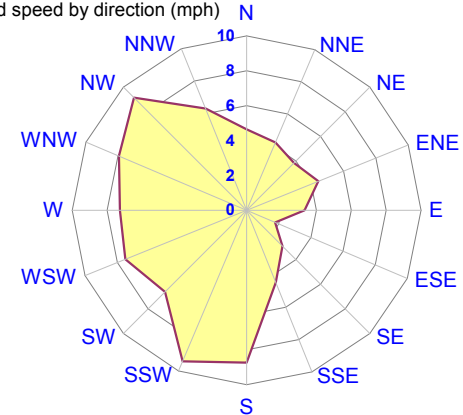
**Table 2.3: Air Temperature and Air Density**

	Winter	Summer	Annual
Average Temperature (F)	18.0	64.7	43.3
Maximum Temperature (F)	57.2	98.4	92.0
Minimum Temperature (F)	-23.4	-22.6	-29.1
Air Density (kg / m <sup>3</sup> )	1.429	1.217	1.245

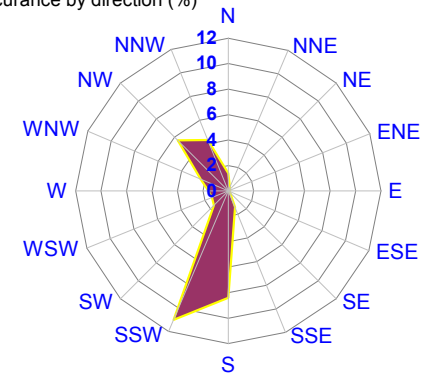
**Figure 2.1: Frequency distribution (30m)**



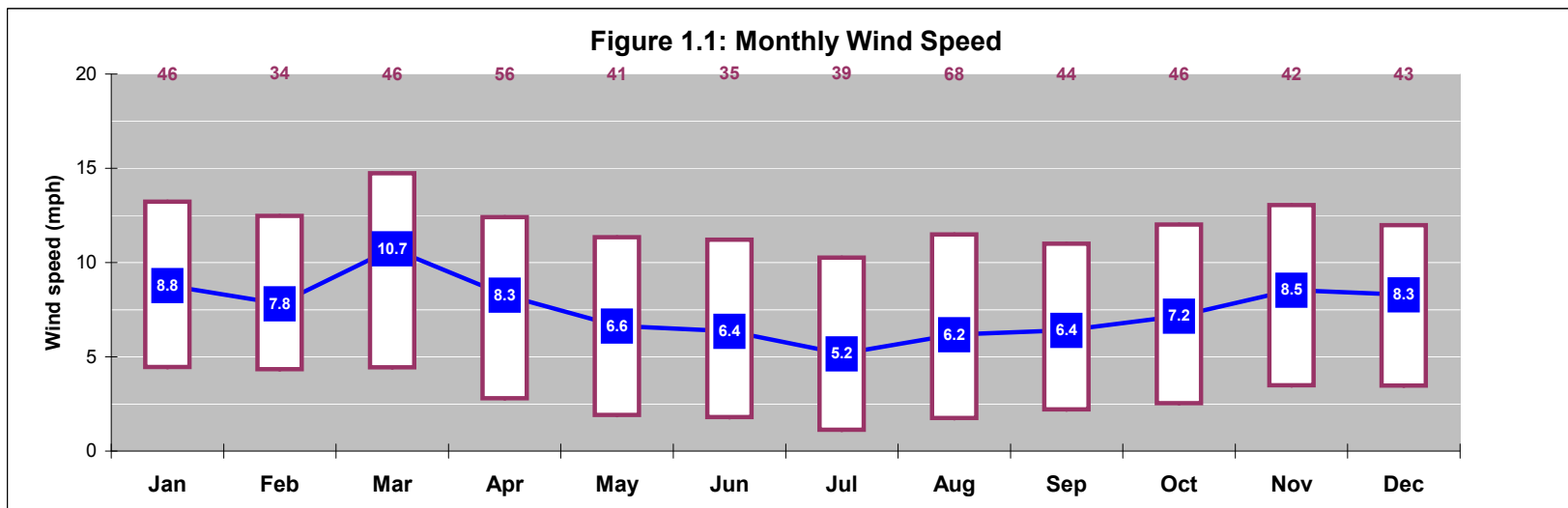
■ Average wind speed by direction (mph)



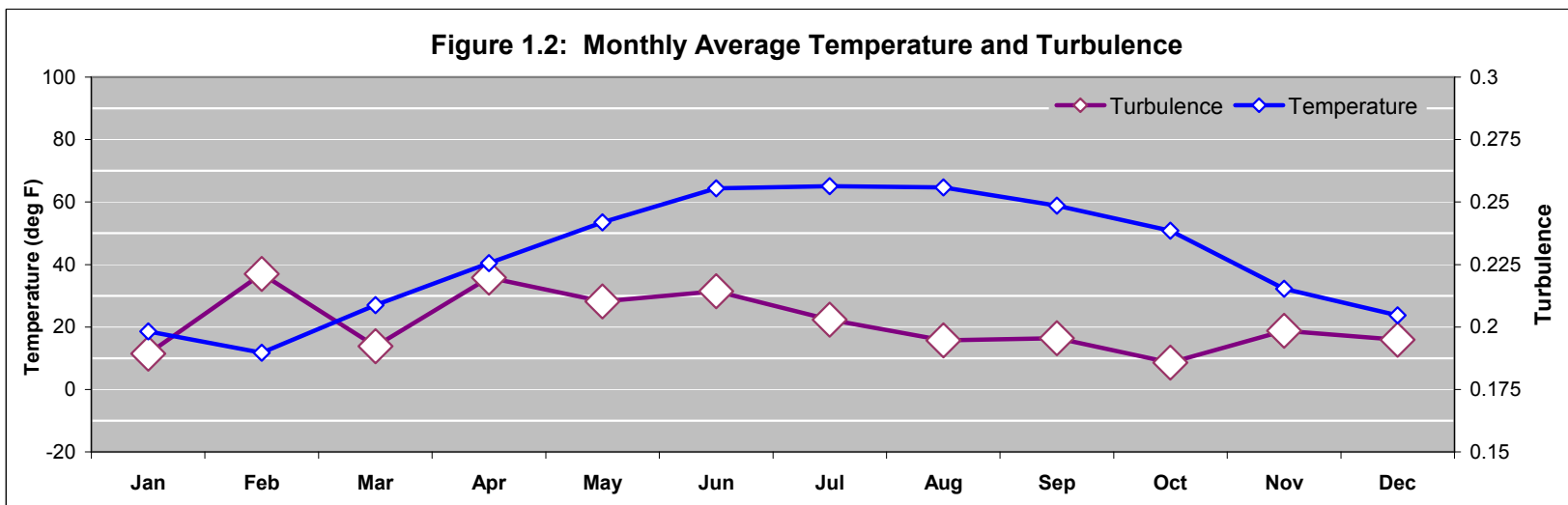
■ Percent occurrence by direction (%)



## Westford Residence



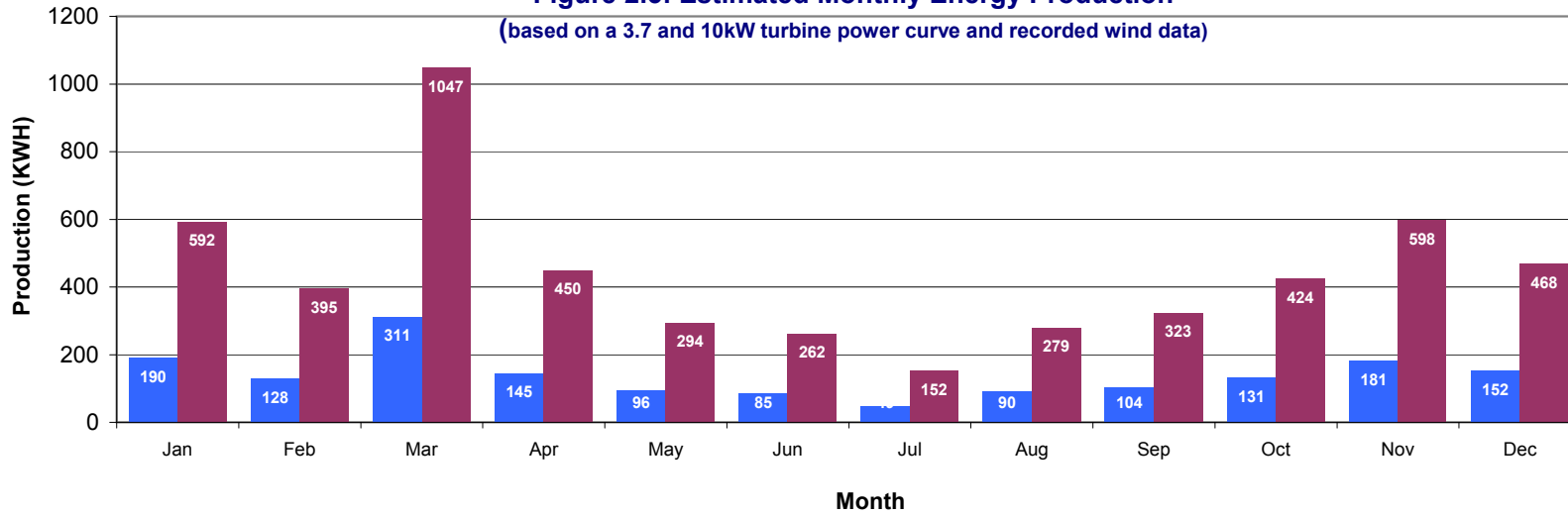
Box plot of measured wind speeds. The white boxes represent the range of daily average wind speeds recorded in the month with the monthly average shown as the blue line with accompanying value. The purple values at the top of the graph are the highest recorded gusts during each month.



Turbulence is defined as the standard deviation of the wind speed divided by the average wind speed for a given period

**Figure 2.5: Estimated Monthly Energy Production**

(based on a 3.7 and 10kW turbine power curve and recorded wind data)



**Figure 2.6: Estimated Cumulative Energy Production**

(based on a 3.7 and 10kW turbine power curve and recorded wind data)

