

Site Description

Measurement period 7/20/2006 11/11/2007
 Coordinents 42° 50.90' N 72° 51.29'W
 Elevation 1910 feet

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

	Winter	Summer	Annual
Average wind speed (mph)	9.6	5.72	7.1
Peak wind speed (mph)	59.8	43.60	59.8
Wind turbulence	0.28	0.28	0.28

Table 2.2: Estimated Potential Turbine Performance*

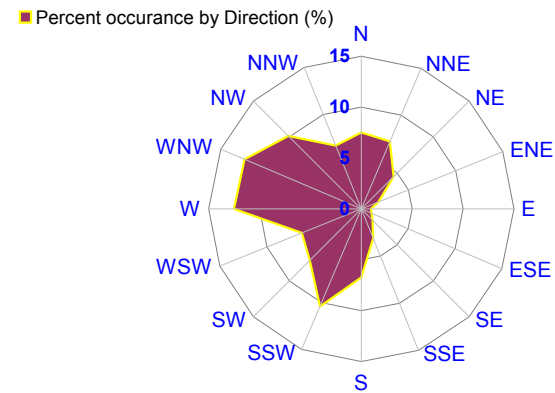
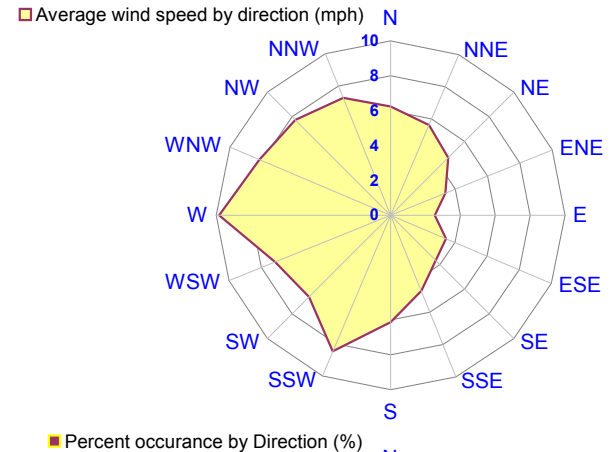
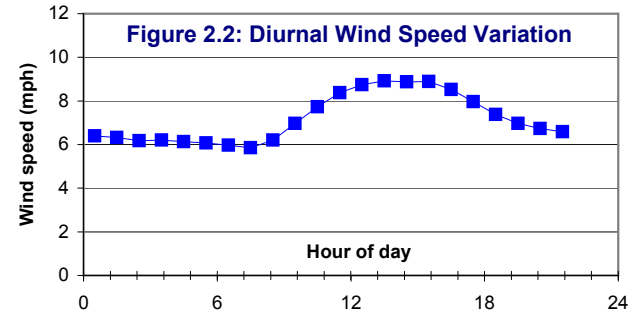
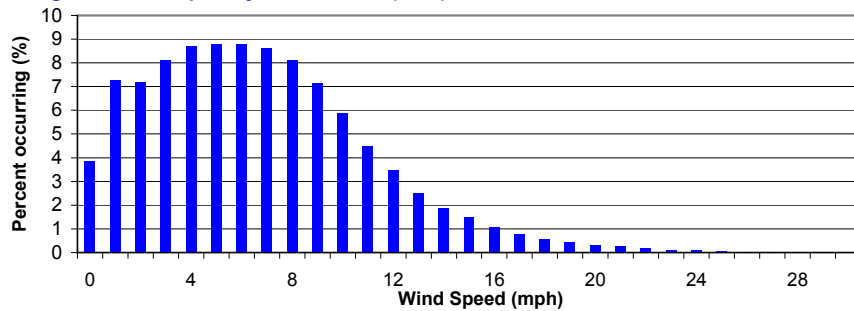
	3.7 kW	10 kW
Cumulative annual energy (kWh)	1257	3664
Average monthly energy (kWh)	104.8	305.3
Average daily energy (kWh)	3.4	10.0
Capacity Factor (%)	8.0	4.2

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

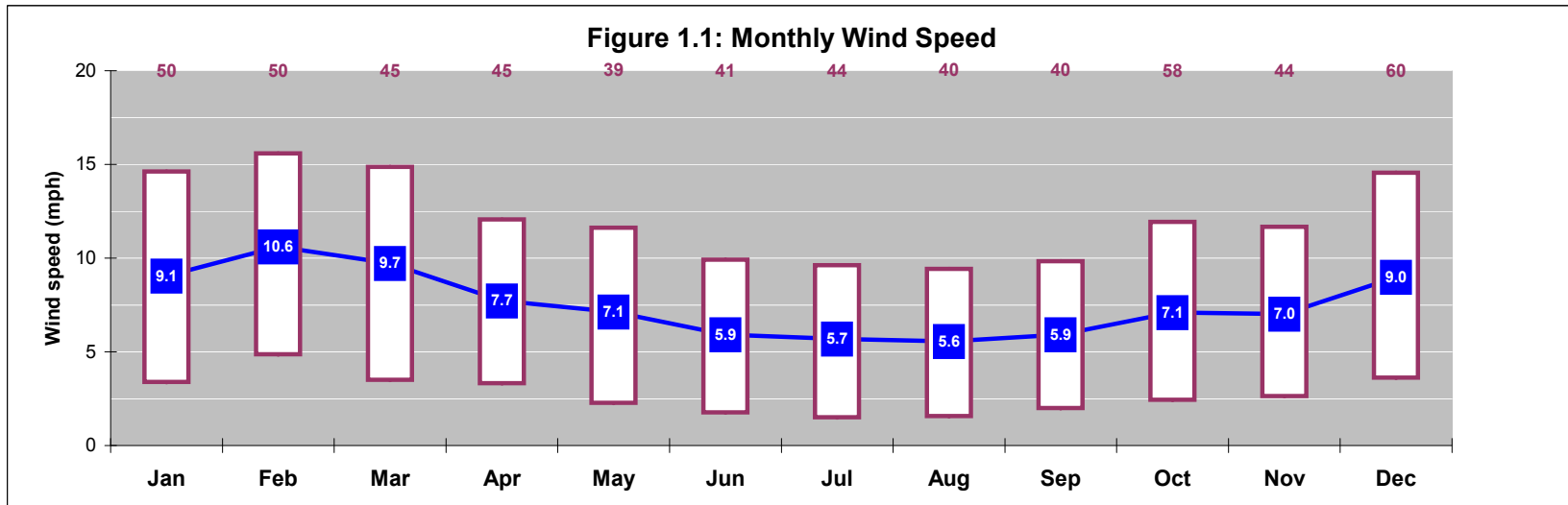
Table 2.3: Air Temperature and Air Density

	Winter	Summer	Annual
Average Temperature (F)	22.5	63.0	47.2
Maximum Temperature (F)	60.8	98.4	88.1
Minimum Temperature (F)	-12.3	-22.6	-13.0
Air Density (kg / m ³)	1.318	1.154	1.171

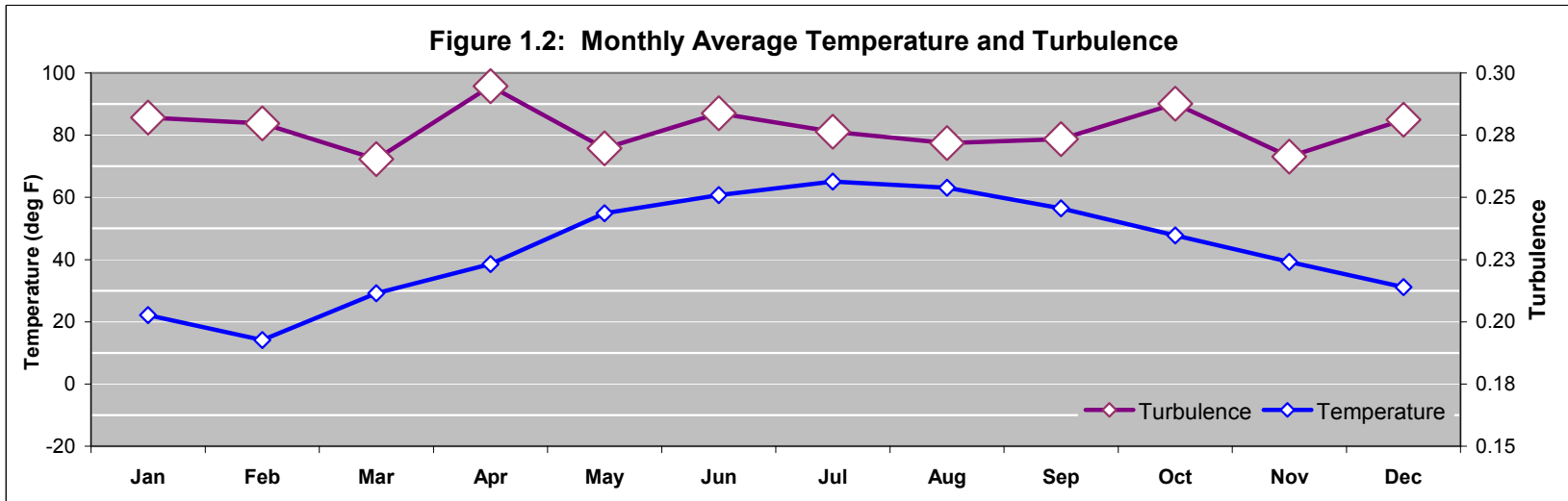
Figure 2.1: Frequency distribution (30m)



Wilmington 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)

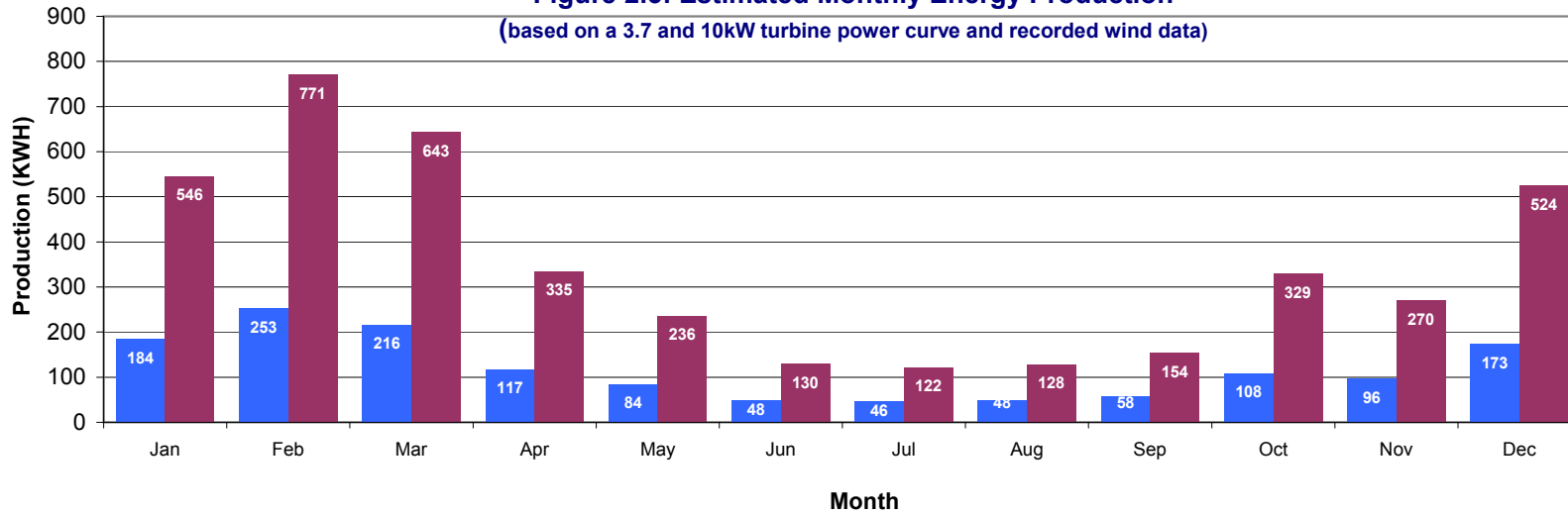


Figure 2.6: Estimated Cumulative Energy Production

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

