



Basic Wind Site Assessment Report

for Location: Central NY

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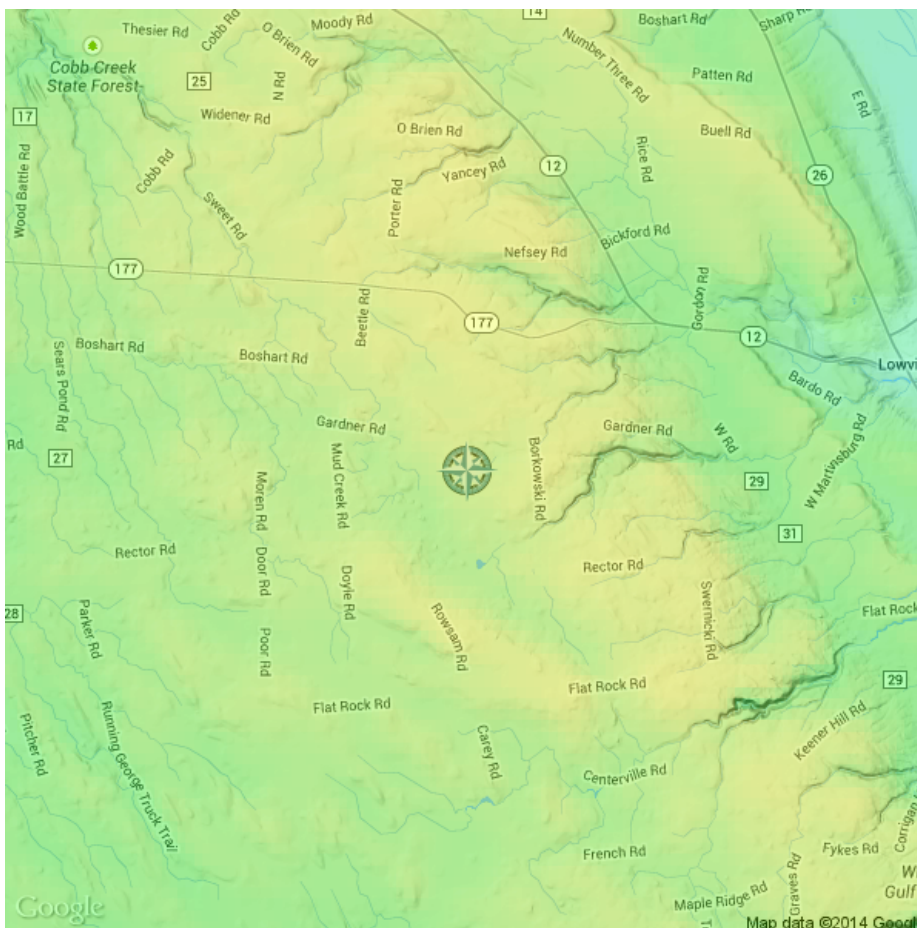
Executive Summary

This Basic Wind Site Assessment Report describes the wind resource and energy production potential for Location: Central NY. The estimates contained in this report are based on AWS Truepower's proprietary *MesoMap*® system, available exclusively through the Wind Site Assessment Dashboard.

The site is located at 43.7696, -75.5897, at an elevation of 536.3 m above mean sea level. The site roughness length is approximately 1.13 m. The expected long-term mean wind speed at 80m is 7.2 m/s, with a confidence range of 6.7 to 7.7 m/s. The expected mean wind power density is 367 W/m², and the best-fit Weibull k is 2.26.

The energy production potential of the site was evaluated for 1 turbine model(s): GE 1.5se . For the first model, the gross energy production of a single turbine is estimated to be 4434.18 MWh, corresponding to a capacity factor of 33.7%. The annual variation in gross power production is estimated to be 0.05. Taking into account estimated losses for a typical wind project, the net production range is 3325.64 to 3769.05 MWh.

Site Characteristics



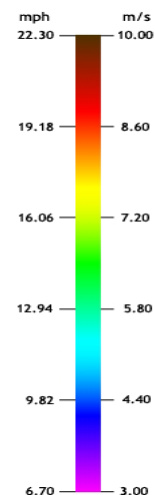
Mean annual wind speed map at 80 m hub height for Location: Central NY.

Latitude: 43.7696

Longitude: -75.5897

Roughness: 1.13 m

Elevation: 536.3 m (1759.6 ft)



Wind Resource Characteristics

Mean annual Wind Speed:	7.2 m/s (16.11 mph)
Power Density:	367 W/m ²
Weibull A:	8.15 m/s (18.23 mph)
Weibull k:	2.26
50 Year Max Gust:	41.85 m/s (93.62 mph)
Uncertainty Estimate:	+/- 0.5 m/s (1.12 mph)
Interannual Variation:	0.18

The wind resource estimates are based on AWS Truepower's proprietary atmospheric modeling systems. The effective horizontal resolution of the wind resource data is 200 m. The power density is derived from the site speed frequency distribution and air density. The Weibull function is an analytical curve that describes the wind speed frequency distribution, or number of observations in specific wind speed ranges. Its two adjustable parameters allow a good fit to a wide range of actual distributions. A is a scale parameter related to the mean wind speed while k is dependent on the width of the distribution. Values of k typically range from 1 to 3.5, the higher values indicate a narrower distribution. The inter-annual variation is the standard deviation of annual wind speed values.

Energy Production

Turbine Model:	GE 1.5se
Rated Capacity:	1500 kW
Hub Height:	80m
Gross Energy Production:	4434.18 MWh
Loss Estimation Range:	15% - 25%
Net Energy Production:	3325.64 MWh - 3769.05 MWh

The gross energy production is estimated from the turbine power curve, adjusted for air density, and the site speed frequency distribution. The gross energy is reduced by the range of losses to attain the range of net energy. The losses shown are typical of those experienced by wind projects; actual losses may vary.

The power curves used for calculations of energy are either publicly available or have been provided by the manufacturer and are not available for distribution through AWS Truepower.

Annual Data For Location: Central NY

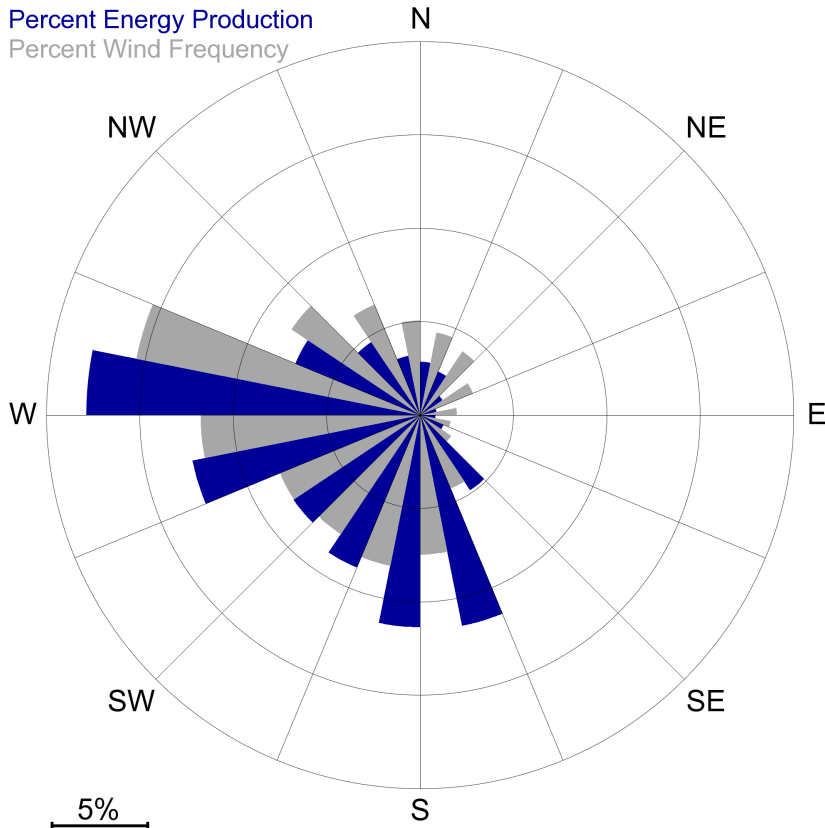


Figure 1: Annual wind frequency and energy content (percent) by direction sector at 80m height.

Table 1: Annual wind frequency and energy content (percent) by direction sector at 80m height.

Sector	Freq	Pct Energy
N	4.5	2.8
NNE	4.1	2.5
NE	3.1	1.4
ENE	2.0	0.9
E	1.7	0.8
ESE	2.0	1.3
SE	4.3	4.8
SSE	7.5	11.5
S	8.2	11.4
SSW	7.7	8.9
SW	8.1	8.2
WSW	11.8	12.4
W	15.5	17.8
WNW	8.3	7.2
NW	6.4	4.7
NNW	5.0	3.2

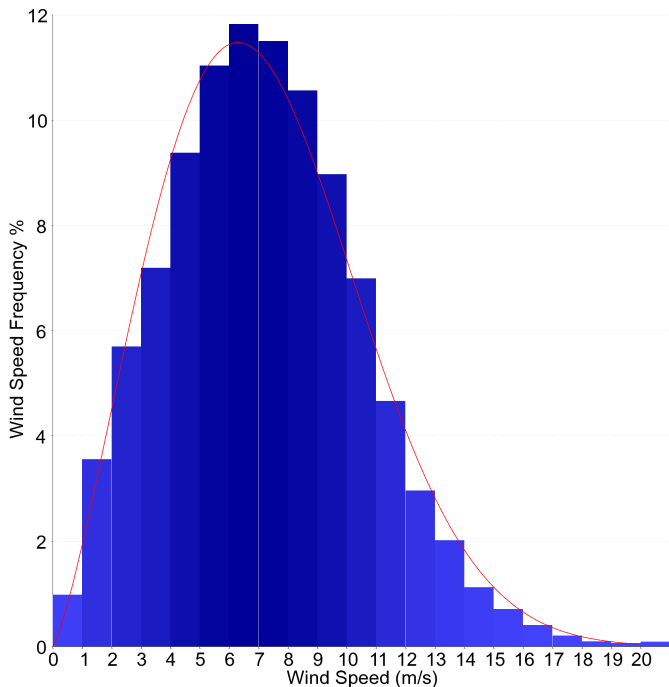


Figure 2: Annual speed frequency distribution at 80m hub height (bars) and Weibull fitted curve (line).

Table 2: Annual speed frequency distribution at 80m height. Wind speed bin values are m/s.

Spd	Freq	Spd	Freq	Spd	Freq
0-1	1.0	7-8	11.5	14-15	1.1
1-2	3.6	8-9	10.6	15-16	0.7
2-3	5.7	9-10	9.0	16-17	0.4
3-4	7.2	10-11	7.0	17-18	0.2
4-5	9.4	11-12	4.7	18-19	0.1
5-6	11.0	12-13	3.0	19-20	0.1
6-7	11.8	13-14	2.0	>20	0.1

Annual Data For Location: Central NY

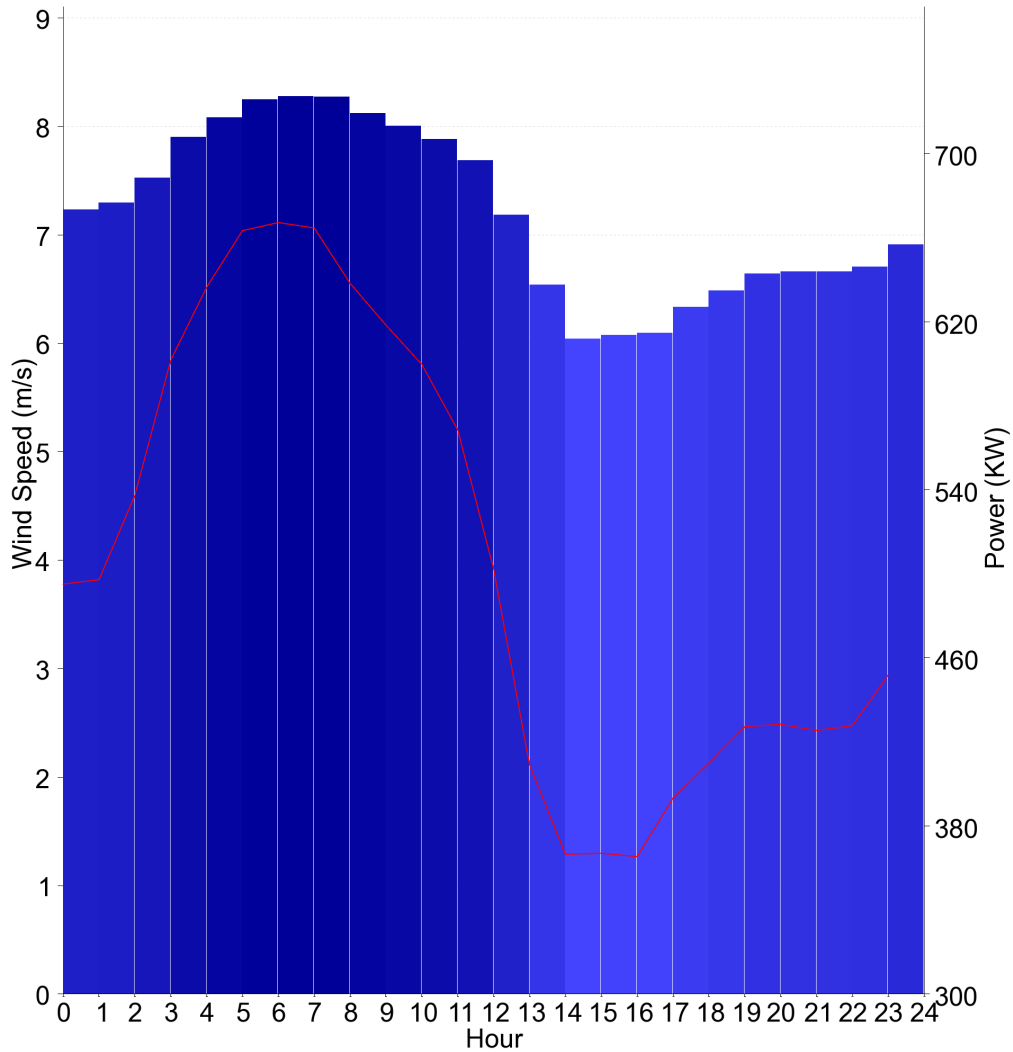


Figure 3: Mean annual wind speed (m/s) and power output (kW)(line) by time of day at 80m height. Times are based on Greenwich Mean Time (GMT).

Table 3: Mean annual wind speed (m/s) and power output (kW) by time of day at 80m height. Times are based on GMT.

Hour	Spd	Pwr	Hour	Spd	Pwr	Hour	Spd	Pwr
1	7.23	495.15	9	8.12	638.28	17	6.09	365.38
2	7.29	497.19	10	8.00	618.36	18	6.33	393.12
3	7.53	537.44	11	7.88	599.68	19	6.49	409.91
4	7.90	601.75	12	7.69	568.42	20	6.64	427.21
5	8.09	636.43	13	7.18	502.33	21	6.66	428.37
6	8.25	663.37	14	6.54	409.13	22	6.66	425.43
7	8.28	667.20	15	6.04	366.52	23	6.71	427.72
8	8.27	664.62	16	6.08	367.00	24	6.91	451.71

Annual Data For Location: Central NY

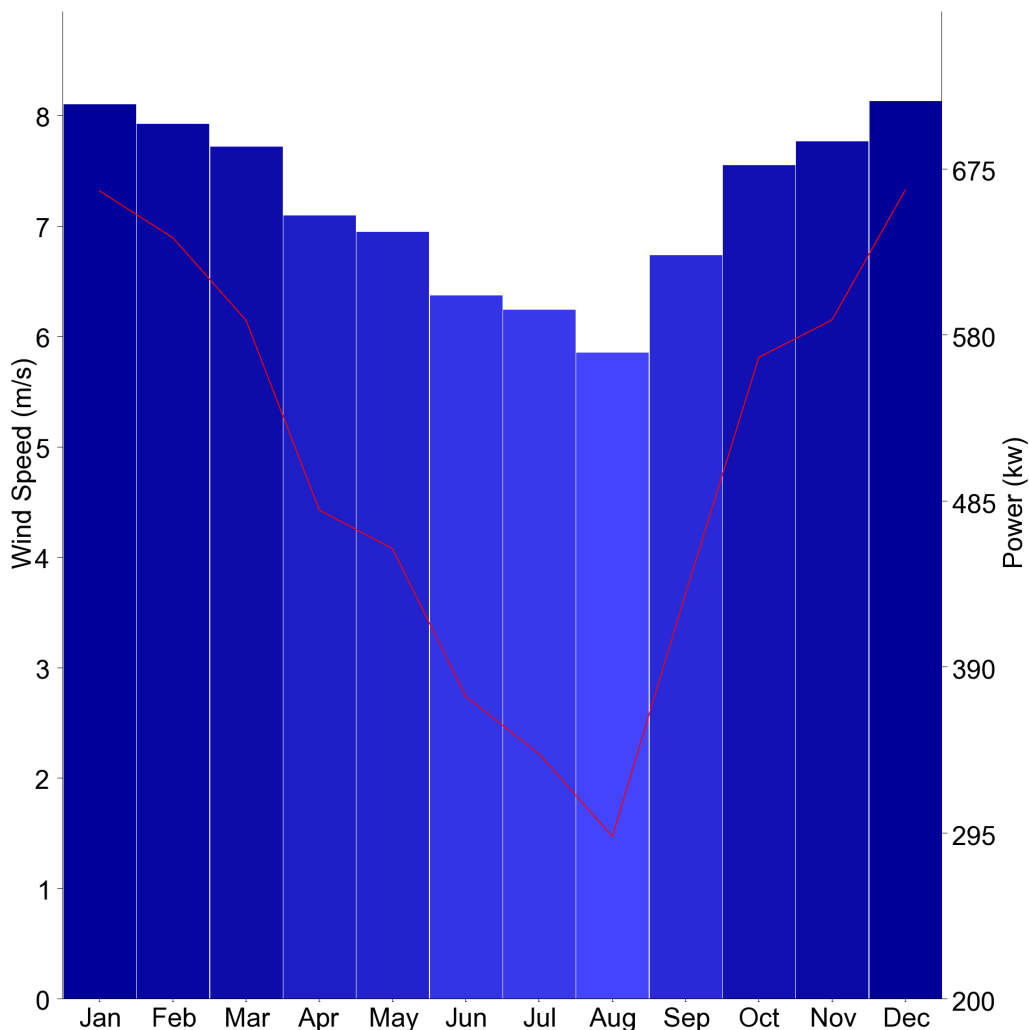


Figure 4: Mean wind speed (m/s) and power output (kW)(line) by month at 80m height.

Table 4: Mean wind speed (m/s) and power output (kW) by month at 80m height.

Month	Spd	Pwr	Month	Spd	Pwr	Month	Spd	Pwr
Jan	8.10	662.39	May	6.95	457.65	Sep	6.74	432.02
Feb	7.93	635.60	Jun	6.37	373.09	Oct	7.55	567.12
Mar	7.72	588.33	Jul	6.24	340.27	Nov	7.77	588.64
Apr	7.09	479.80	Aug	5.85	292.98	Dec	8.13	662.97