Main Assumptions

Angle of panel for latitude is ideal (about 44%)
Minimal shading from trees and snow

1 watt = 1 J/s

Concord New Hampshire Solar Radiation (NREL datasource)

	kJ/m2 (per day)	# of Days	hr/day	s/day	(W/m2)	Power Available per day (kW/m2)	Power Available per Panel (kW)	kWh per day produced at Rated Efficiency	Energy Output by Month per Panel (kWh)
Jan	6351	31	24	86400	74	0.0735	0.190	1.041	32.3
Feb	9044	28	24	86400	105	0.1047	0.270	1.482	41.5
Mar	12585	31	24	86400	146	0.1457	0.376	2.063	63.9
Apr	16523	30	24	86400	191	0.1912	0.494	2.708	81.2
May	18976	31	24	86400	220	0.2196	0.567	3.110	96.4
Jun	20140	30	24	86400	233	0.2331	0.602	3.301	99.0
Jul	19328	31	24	86400	224	0.2237	0.578	3.168	98.2
Aug	17395	31	24	86400	201	0.2013	0.520	2.851	88.4
Sep	14306	30	24	86400	166	0.1656	0.428	2.345	70.3
Oct	10846	31	24	86400	126	0.1255	0.324	1.778	55.1
Nov	7052	30	24	86400	82	0.0816	0.211	1.156	34.7
Dec	5389	31	24	86400	62	0.0624	0.161	0.883	27.4
Average	**13161**				**152**	**0.1523**	**0.394**	**2.157**	
					This makes sense			**Total Panel Out per Year**	**788.6**
					Literature says solar panels average about 150 watts/m2			**Total Array Output per Year**	**200,293**

Commercial Panel (89.69" x 44.65")	27.8	ft^2
1	27.8	ft2
	0.0929	sq m/sq ft
	2.584	m^2

NREL PVWatts Calculator (https://pvwatts.nlr.gov/ PVWatts Calculator

Requested Location	98 Oakmont Road, New London, NH 03257		590	max watts per panel	
System Size (DC) kW	149.7		254	panels	
Module Type	Phono PS590M8GF-24/TNH		DC Rating (W)		149,860
Array Type	Fixed Rack		22.84%	rated efficiency	
System Losses (percent)	14.08%	default values	AC Rating		99,700
Array Tilt (degrees)	35	Set equal to latitude	DC to AC Ratio		1.503
Array Azimuth (degrees)	180				
DC to AC Size Ratio	1.503				
Inverter Efficiency (percent)	96%				
Ground Coverage Ratio	0.4	Default value			
Albedo	From weather file				
Bifacial	Yes				
Monthly Irradiance Loss	Not included	(my calculation includes this type of loss)			
Calculated System Output (kWh/year)	**199,263**				

Electricity Costs

Generation	Cost per kWh from Eversource	$ 0.11303	100% paid by Eversource
Distribution	Cost per kWh from Eversource	$ 0.02325	25% paid by Eversource
Transmission	Cost per kWh from Eversource	$ 0.01326	100% paid by Eversource
Combined Rate - Amount paid by Eversource		$ 0.13210	