

Solar for Town of Alstead

Prelim. PPA Proposal for Town of Alstead PV

Prelim. proposal date

February 23, 2022

Solar Design Summary

Project size (DC)	272 Panels	130.6 kW
Project size (AC)	1 Inverters	100 kW
Year 1 generation (kWh)		162,107

PPA Financial Summary

Upfront cost to Town of Alstead	\$0.00
O&M cost to Town of Alstead	\$0.00
Year 1 PPA rate (per kWh)	\$0.1150
PPA rate escalator starting year 2	2.0%
PPA term (minimum 5 years)	5-25 years
Year 6 early buyout estimate (optional)	\$225,093
Upfront cost financed by investor partner	\$357,291

PPA rate offer good for 30 days from date above

Engineer's Rendering: Ground



49 Pleasant St, Alstead, NH 03602 (2019 Satellite Data)

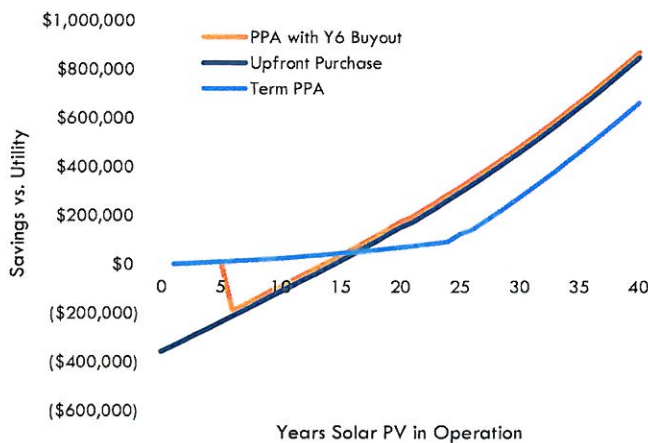
PPA Project Savings/Revenue

Estimated savings years 1-5 under PPA	\$12,000
Year 6 buyout (optional) less savings	\$213,093
O&M cost after buyout (per year, optional)	\$1,184
Term PPA savings, no buyout	\$126,000
25-Year net savings with year 6 buyout	\$318,000
40-Year net savings with year 6 buyout	\$871,000

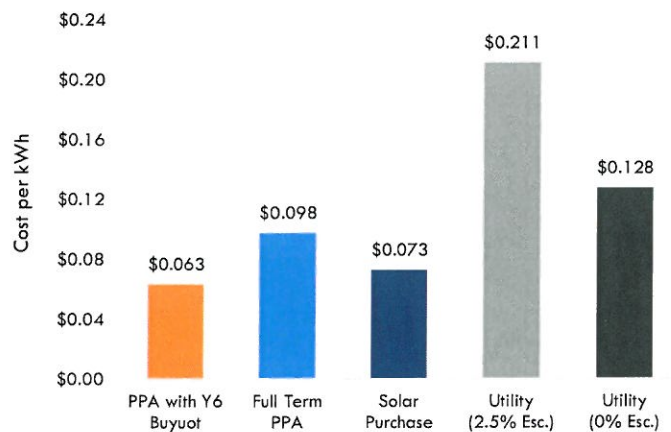
Environmental Benefits

Annual CO2e offset (lbs)	158,865
Equivalent to...	
Gallons of gasoline not burned	8,108
Passenger cars removed from the road	16
Pounds of coal not burned	79,396
Tons of waste recycled	25

Solar Savings vs. Utility



Levelized Cost of Energy



PPA Rate Schedule & Savings Projection - Town of Alstead

Project Design	
Annual Generation	162,107
System Size in kW (DC)	130.6
System Size in kW (AC)	100.0
Annual Output Derate	0.5%
Purchase Option	\$0

Project Income	
Year 1 Utility Rate	\$0.1275
Utility Escalator	2.5%
Y1 REC Volume	162
REC Price (\$/MWh)	\$30
REC Term (years)	10
REC De-Escalator	5%
Tariff Rate (\$/kWh)	\$0.000

Project Incentives	
State	NH
Grant/Rebate	\$0
RECs Flow to	Investor

Operating Expenses	
Inverter Replacement	\$7,836
Insurance	\$0
Insurance De-Escalator	0.0%
O&M	\$1,072
O&M Escalator	2.0%
Land Lease (\$/kW)	\$0.00
Land Lease Escalator	2%
Property Tax	\$0
Property Tax Escalator	5%

PPA Assumptions	
ReVision Offer Type	Custom
Energy Pre-Payment	\$0
Year 1 PPA Rate	\$0.115
PPA Escalator %	2.0%
Year Escalator Takes Effect	2
Year 7 Premium	\$0.00
Buyout Estimate	\$225,093
Buyout Year	6

Net Metering Assumptions			
Utility Company	Liberty Utilities	Utility Rate (2020-21)	\$0.2013
NEB/Net Metering	100.0%	Net Metering Rate	\$0.1275
Annual Escalator	2.5%	Value of Solar	\$0.1275

Year	Generation (kWh)	Utility \$/kWh (Value of Solar)	Avoided Utility Cost/Revenue	REC Revenue	Operating Expenses	PPA Rate per kWh	PPA Rate	Term PPA		PPA w/ Early Buyout		
								Annual Revenue	Cumulative Revenue	Buyout Payment	Annual Revenue	Cumulative Revenue
1	162,107	\$0.1275	\$20,669	\$0	\$0	\$0.1150	\$18,642	\$2,026	\$2,026	\$0	\$2,026	\$2,026
2	161,297	\$0.1307	\$21,079	\$0	\$0	\$0.1173	\$18,920	\$2,159	\$4,186	\$0	\$2,159	\$4,186
3	160,490	\$0.1340	\$21,498	\$0	\$0	\$0.1196	\$19,202	\$2,296	\$6,482	\$0	\$2,296	\$6,482
4	159,688	\$0.1373	\$21,926	\$0	\$0	\$0.1220	\$19,488	\$2,438	\$8,920	\$0	\$2,438	\$8,920
5	158,889	\$0.1407	\$22,361	\$0	\$0	\$0.1245	\$19,779	\$2,583	\$11,503	\$0	\$2,583	\$11,503
6	158,095	\$0.1443	\$22,806	\$3,275	(\$1,184)	\$0.1270	\$20,073	\$2,733	\$14,235	(\$225,093)	(\$200,197)	(\$188,694)
7	157,305	\$0.1479	\$23,259	\$3,076	(\$1,208)	\$0.1295	\$20,372	\$2,887	\$17,122	\$0	\$25,127	(\$163,567)
8	156,518	\$0.1516	\$23,721	\$2,888	(\$1,232)	\$0.1321	\$20,676	\$3,046	\$20,168	\$0	\$25,377	(\$138,189)
9	155,735	\$0.1553	\$24,193	\$2,710	(\$1,256)	\$0.1347	\$20,984	\$3,209	\$23,377	\$0	\$25,647	(\$112,543)
10	154,957	\$0.1592	\$24,674	\$2,542	(\$1,282)	\$0.1374	\$21,297	\$3,377	\$26,754	\$0	\$25,935	(\$86,608)
11	154,182	\$0.1632	\$25,164	\$0	(\$1,307)	\$0.1402	\$21,614	\$3,550	\$30,304	\$0	\$23,857	(\$62,751)
12	153,411	\$0.1673	\$25,664	\$0	(\$1,333)	\$0.1430	\$21,936	\$3,728	\$34,033	\$0	\$24,331	(\$38,420)
13	152,644	\$0.1715	\$26,174	\$0	(\$1,360)	\$0.1458	\$22,263	\$3,912	\$37,944	\$0	\$24,814	(\$13,606)
14	151,881	\$0.1758	\$26,695	\$0	(\$1,387)	\$0.1488	\$22,595	\$4,100	\$42,044	\$0	\$25,307	\$11,701
15	151,121	\$0.1802	\$27,225	\$0	(\$1,415)	\$0.1517	\$22,931	\$4,294	\$46,338	\$0	\$25,810	\$37,511
16	150,366	\$0.1847	\$27,766	\$0	(\$1,443)	\$0.1548	\$23,273	\$4,493	\$50,832	\$0	\$26,323	\$63,834
17	149,614	\$0.1893	\$28,318	\$0	(\$1,472)	\$0.1579	\$23,620	\$4,698	\$55,530	\$0	\$26,846	\$90,680
18	148,866	\$0.1940	\$28,881	\$0	(\$1,502)	\$0.1610	\$23,972	\$4,909	\$60,440	\$0	\$27,379	\$118,060
19	148,122	\$0.1989	\$29,455	\$0	(\$1,532)	\$0.1642	\$24,329	\$5,126	\$65,566	\$0	\$27,923	\$145,983
20	147,381	\$0.2038	\$30,040	\$0	(\$1,562)	\$0.1675	\$24,691	\$5,349	\$70,915	\$0	\$28,478	\$174,461
21	146,644	\$0.2089	\$30,637	\$0	(\$9,430)	\$0.1709	\$25,059	\$5,578	\$76,493	\$0	\$29,044	\$203,505
22	145,911	\$0.2141	\$31,246	\$0	(\$1,625)	\$0.1743	\$25,432	\$5,814	\$82,307	\$0	\$29,621	\$233,126
23	145,181	\$0.2195	\$31,867	\$0	(\$1,658)	\$0.1778	\$25,811	\$6,056	\$88,363	\$0	\$30,209	\$263,335
24	144,455	\$0.2250	\$32,501	\$0	(\$1,691)	\$0.1813	\$26,196	\$6,305	\$94,668	\$0	\$30,810	\$294,145
25	143,733	\$0.2306	\$33,147	\$0	(\$1,725)	\$0.1850	\$26,586	\$6,560	\$101,228	\$0	\$31,424	\$325,569
26	143,014	\$0.2364	\$33,805	\$0	(\$1,759)	\$0.1887	\$26,982	\$6,820	\$108,048	\$0	\$32,052	\$357,621
27	142,299	\$0.2423	\$34,477	\$0	(\$1,795)	\$0.1924	\$27,385	\$7,085	\$115,133	\$0	\$32,694	\$390,315
28	141,588	\$0.2483	\$35,163	\$0	(\$1,830)	\$0.1963	\$27,793	\$7,355	\$122,488	\$0	\$33,351	\$423,666
29	140,880	\$0.2546	\$35,861	\$0	(\$1,867)	\$0.2002	\$28,207	\$7,630	\$130,118	\$0	\$34,023	\$457,689
30	140,176	\$0.2609	\$36,574	\$0	(\$1,904)	\$0.2042	\$28,627	\$7,910	\$138,028	\$0	\$34,710	\$492,399
31	139,475	\$0.2674	\$37,301	\$0	(\$1,943)	\$0.2083	\$29,053	\$8,195	\$146,223	\$0	\$35,413	\$527,812
32	138,777	\$0.2741	\$38,042	\$0	(\$1,981)	\$0.2125	\$29,486	\$8,485	\$154,708	\$0	\$36,132	\$563,944
33	138,083	\$0.2810	\$38,799	\$0	(\$2,021)	\$0.2167	\$29,926	\$8,780	\$163,488	\$0	\$36,867	\$600,811
34	137,393	\$0.2880	\$39,570	\$0	(\$2,061)	\$0.2211	\$30,372	\$9,080	\$172,568	\$0	\$37,618	\$638,429
35	136,706	\$0.2952	\$40,356	\$0	(\$2,103)	\$0.2255	\$30,824	\$9,385	\$181,953	\$0	\$38,385	\$676,814
36	136,022	\$0.3026	\$41,158	\$0	(\$2,145)	\$0.2300	\$31,283	\$9,695	\$191,648	\$0	\$39,168	\$715,982
37	135,342	\$0.3101	\$41,976	\$0	(\$2,188)	\$0.2346	\$31,750	\$9,999	\$201,647	\$0	\$39,968	\$755,950
38	134,666	\$0.3179	\$42,810	\$0	(\$2,231)	\$0.2393	\$32,223	\$10,308	\$211,955	\$0	\$40,785	\$796,735
39	133,992	\$0.3258	\$43,661	\$0	(\$2,276)	\$0.2441	\$32,703	\$10,620	\$222,575	\$0	\$41,618	\$838,353
40	133,322	\$0.3340	\$44,529	\$0	(\$2,321)	\$0.2489	\$33,190	\$10,937	\$233,512	\$0	\$42,468	\$880,821