

Sheet2

Year n	actual Build cost	discounted Build cost	actual O&M cost	discounted O&M cost	discounted cumulative cost
\$0.00	\$1,020.00	\$1,020.00	\$37.50	\$37.50	\$1,057.50
\$1.00	0	\$0.00	\$37.50	\$35.71	\$1,093.21
\$2.00	0	\$0.00	\$37.50	\$34.01	\$1,127.23
\$3.00	0	\$0.00	\$37.50	\$32.39	\$1,159.62
\$4.00	0	\$0.00	\$37.50	\$30.85	\$1,190.47
\$5.00	0	\$0.00	\$37.50	\$29.38	\$1,219.86
\$6.00	0	\$0.00	\$37.50	\$27.98	\$1,247.84
\$7.00	0	\$0.00	\$37.50	\$26.65	\$1,274.49
\$8.00	0	\$0.00	\$37.50	\$25.38	\$1,299.87
\$9.00	0	\$0.00	\$37.50	\$24.17	\$1,324.04
\$10.00	0	\$0.00	\$37.50	\$23.02	\$1,347.07
\$11.00	0	\$0.00	\$37.50	\$21.93	\$1,368.99
\$12.00	0	\$0.00	\$37.50	\$20.88	\$1,389.87
\$13.00	0	\$0.00	\$37.50	\$19.89	\$1,409.76
\$14.00	0	\$0.00	\$37.50	\$18.94	\$1,428.70
\$15.00	235	\$113.04	\$37.50	\$18.04	\$1,559.78
\$16.00	0	\$0.00	\$37.50	\$17.18	\$1,576.96
\$17.00	0	\$0.00	\$37.50	\$16.36	\$1,593.32
\$18.00	0	\$0.00	\$37.50	\$15.58	\$1,608.90
\$19.00	0	\$0.00	\$37.50	\$14.84	\$1,623.74
\$20.00	0	\$0.00	\$37.50	\$14.13	\$1,637.87
\$21.00	0	\$0.00	\$37.50	\$13.46	\$1,651.33
\$22.00	0	\$0.00	\$37.50	\$12.82	\$1,664.15
\$23.00	0	\$0.00	\$37.50	\$12.21	\$1,676.36
\$24.00	0	\$0.00	\$37.50	\$11.63	\$1,687.99
\$25.00	0	\$0.00	\$37.50	\$11.07	\$1,699.06
\$26.00	0	\$0.00	\$37.50	\$10.55	\$1,709.61
\$27.00	0	\$0.00	\$37.50	\$10.04	\$1,719.65
\$28.00	0	\$0.00	\$37.50	\$9.57	\$1,729.22
\$29.00	0	\$0.00	\$37.50	\$9.11	\$1,738.33
\$30.00	480	\$111.06	\$37.50	\$8.68	\$1,858.07
\$31.00	0	\$0.00	\$37.50	\$8.26	\$1,866.33
\$32.00	0	\$0.00	\$37.50	\$7.87	\$1,874.20
\$33.00	0	\$0.00	\$37.50	\$7.50	\$1,881.70
\$34.00	0	\$0.00	\$37.50	\$7.14	\$1,888.83
\$35.00	0	\$0.00	\$37.50	\$6.80	\$1,895.63
\$36.00	0	\$0.00	\$37.50	\$6.47	\$1,902.11
\$37.00	0	\$0.00	\$37.50	\$6.17	\$1,908.27
\$38.00	0	\$0.00	\$37.50	\$5.87	\$1,914.15
\$39.00	0	\$0.00	\$37.50	\$5.59	\$1,919.74
\$40.00	0	\$0.00	\$37.50	\$5.33	\$1,925.07
\$41.00	0	\$0.00	\$37.50	\$5.07	\$1,930.14
\$42.00	0	\$0.00	\$37.50	\$4.83	\$1,934.97
\$43.00	0	\$0.00	\$37.50	\$4.60	\$1,939.57
\$44.00	0	\$0.00	\$37.50	\$4.38	\$1,943.95
\$45.00	235	\$26.15	\$37.50	\$4.17	\$1,974.28
\$46.00	0	\$0.00	\$37.50	\$3.97	\$1,978.26
\$47.00	0	\$0.00	\$37.50	\$3.79	\$1,982.04
\$48.00	0	\$0.00	\$37.50	\$3.61	\$1,985.65

Sheet2

\$49.00	0	\$0.00	\$37.50	\$3.43	\$1,989.08
\$50.00	0	\$0.00	\$37.50	\$3.27	\$1,992.35
Decommission = 1%	\$1,970.00	\$171.79			\$2,164.14

All values are in units of \$ /kW

Energy source is Onshore wind

Assumed discount rate is 5% /yr

Levelized cost of Power = \$2,164.14 \$ /kW

Capacity Factor = 37.9%

Levelized Cost of Energy – LCOE = $\$2164.14 \div 166.002$ \$13.04 /MWh

	Actual Build cost	Discounted Build cost	Actual O&M cost	Discounted O&M cost	Cumulative cost	Yearly energy
Year n	\$750 /kW					average
	\$750	\$750	\$19.50	\$19.50	\$769.50	1.822
1	0	0	\$19.50	\$19.50	\$789.00	1.822
2	0	0	\$19.50	\$19.50	\$808.50	1.822
3	0	0	\$19.50	\$19.50	\$828.00	1.822
4	0	0	\$19.50	\$19.50	\$847.50	1.822
5	0	0	\$19.50	\$19.50	\$867.00	1.822
6	0	0	\$19.50	\$19.50	\$886.50	1.822
7	0	0	\$19.50	\$19.50	\$906.00	1.822
8	0	0	\$19.50	\$19.50	\$925.50	1.822
9	0	0	\$19.50	\$19.50	\$945.00	1.822
10	0	0	\$19.50	\$19.50	\$964.50	1.822
11	0	0	\$19.50	\$19.50	\$984.00	1.822
12	\$37.50	\$37.50	\$19.50	\$19.50	\$1,041.00	1.822
13	0	0	\$19.50	\$19.50	\$1,060.50	1.822
14	0	0	\$19.50	\$19.50	\$1,080.00	1.822
15	0	0	\$19.50	\$19.50	\$1,099.50	1.822
16	0	0	\$19.50	\$19.50	\$1,119.00	1.822
17	0	0	\$19.50	\$19.50	\$1,138.50	1.822
18	0	0	\$19.50	\$19.50	\$1,158.00	1.822
19	0	0	\$19.50	\$19.50	\$1,177.50	1.822
20	0	0	\$19.50	\$19.50	\$1,197.00	1.822
21	0	0	\$19.50	\$19.50	\$1,216.50	1.822
22	0	0	\$19.50	\$19.50	\$1,236.00	1.822
23	0	0	\$19.50	\$19.50	\$1,255.50	1.822
24	\$37.50	\$37.50	\$19.50	\$19.50	\$1,312.50	1.822
25	0	0	\$19.50	\$19.50	\$1,332.00	1.822
26	0	0	\$19.50	\$19.50	\$1,351.50	1.822
27	0	0	\$19.50	\$19.50	\$1,371.00	1.822
28	0	0	\$19.50	\$19.50	\$1,390.50	1.822
29	0	0	\$19.50	\$19.50	\$1,410.00	1.822
30	0	0	\$19.50	\$19.50	\$1,429.50	1.822
31	0	0	\$19.50	\$19.50	\$1,449.00	1.822
32	0	0	\$19.50	\$19.50	\$1,468.50	1.822
33	0	0	\$19.50	\$19.50	\$1,488.00	1.822
34	0	0	\$19.50	\$19.50	\$1,507.50	1.822
35	0	0	\$19.50	\$19.50	\$1,527.00	1.822
36	\$37.50	\$37.50	\$19.50	\$19.50	\$1,584.00	1.822
37	0	0	\$19.50	\$19.50	\$1,603.50	1.822
38	0	0	\$19.50	\$19.50	\$1,623.00	1.822
39	0	0	\$19.50	\$19.50	\$1,642.50	1.822
40	0	0	\$19.50	\$19.50	\$1,662.00	1.822
41	0	0	\$19.50	\$19.50	\$1,681.50	1.822
42	0	0	\$19.50	\$19.50	\$1,701.00	1.822
43	0	0	\$19.50	\$19.50	\$1,720.50	1.822
44	0	0	\$19.50	\$19.50	\$1,740.00	1.822
45	0	0	\$19.50	\$19.50	\$1,759.50	1.822
46	\$0.00	\$0.00	\$19.50	\$19.50	\$1,779.00	1.822

Sheet1

47	0	0	\$19.50	\$19.50	\$1,798.50	1.822
48	\$712.50	\$712.50	\$19.50	\$19.50	\$2,530.50	1.822
49	0	0	\$19.50	\$19.50	\$2,550.00	1.822
50	0	0	\$19.50	\$19.50	\$2,569.50	1.822
51	0	0	\$19.50	\$19.50	\$2,589.00	1.822
52	0	0	\$19.50	\$19.50	\$2,608.50	1.822
53	0	0	\$19.50	\$19.50	\$2,628.00	1.822
54	0	0	\$19.50	\$19.50	\$2,647.50	1.822
55	0	0	\$19.50	\$19.50	\$2,667.00	1.822
56	0	0	\$19.50	\$19.50	\$2,686.50	1.822
57	0	0	\$19.50	\$19.50	\$2,706.00	1.822
58	0	0	\$19.50	\$19.50	\$2,725.50	1.822
59	0	0	\$19.50	\$19.50	\$2,745.00	1.822
60	0	0	\$19.50	\$19.50	\$2,764.50	1.822
Total BLDG cost	\$1,575.00	Replacements performed		Actual lifetime energy (MWh)		111.15
Decom = 0.75%	\$11.81					
		Levelized Cost of Power (\$/kW)		\$2,776.31		Include decom
		All the above values are in units of \$/kW				
		Levelized Cost of Energy – LCOE (\$/MWh)				\$24.98

Sheet1

Source is Utility Solar w/ CF = 20.8%	0.208	1.822	average yearly energy (MWh)
Assumed discount rate is 0% /year			
Levelized Cost of Power in \$ /kW units	\$2,776.31	from Column F above, after year 60	
Conversion factor from Power to Actual Energy	0.009147055	for CF = 0.208	Conversion = $1 \div (CF \times 8760 \text{ h /yr} \times 60)$
Levelized Cost of Energy	\$24.98 /MWh	LCOE	

Discounted yearly energy	Remarks
in MWh	Utility PV Solar @0%
1.822	Construction
1.822	completed
1.822	In 1 year
1.822	
1.822	Total CAPEX = \$750 /kW
1.822	
1.822	Columns A through F
1.822	are nominal dollars
1.822	per kilowatt
1.822	of peak generating
1.822	capacity
1.822	
1.822	Replace DC inverter 5%
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1.822	Replace DC inverter 5%
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1.822	Replace DC inverter 5%
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Replace hardware = 95%
Panel module and BOS hardware plus labor.
71% + 24% = 95%

111.15 Discounted lifetime energy (MWh)

mission from column B

Equals Levelized cost of power

divided by
discounted lifetime energy
||
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||
yrs /1000 kW per MW)
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