

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	\$1930 /kW					average
	\$1,930	\$1,930.00	\$27.50	\$27.50	\$1,957.50	1.726
1	0	0	\$27.50	\$27.50	\$1,985.00	1.726
2	0	0	\$27.50	\$27.50	\$2,012.50	1.726
3	0	0	\$27.50	\$27.50	\$2,040.00	1.726
4	0	0	\$27.50	\$27.50	\$2,067.50	1.726
5	0	0	\$27.50	\$27.50	\$2,095.00	1.726
6	0	0	\$27.50	\$27.50	\$2,122.50	1.726
7	0	0	\$27.50	\$27.50	\$2,150.00	1.726
8	0	0	\$27.50	\$27.50	\$2,177.50	1.726
9	0	0	\$27.50	\$27.50	\$2,205.00	1.726
10	0	0	\$27.50	\$27.50	\$2,232.50	1.726
11	0	0	\$27.50	\$27.50	\$2,260.00	1.726
12	\$154.40	\$154.40	\$27.50	\$27.50	\$2,441.90	1.726
13	0	0	\$27.50	\$27.50	\$2,469.40	1.726
14	0	0	\$27.50	\$27.50	\$2,496.90	1.726
15	0	0	\$27.50	\$27.50	\$2,524.40	1.726
16	0	0	\$27.50	\$27.50	\$2,551.90	1.726
17	0	0	\$27.50	\$27.50	\$2,579.40	1.726
18	0	0	\$27.50	\$27.50	\$2,606.90	1.726
19	0	0	\$27.50	\$27.50	\$2,634.40	1.726
20	0	0	\$27.50	\$27.50	\$2,661.90	1.726
21	0	0	\$27.50	\$27.50	\$2,689.40	1.726
22	0	0	\$27.50	\$27.50	\$2,716.90	1.726
23	0	0	\$27.50	\$27.50	\$2,744.40	1.726
24	\$154.40	\$154.40	\$27.50	\$27.50	\$2,926.30	1.726
25	0	0	\$27.50	\$27.50	\$2,953.80	1.726
26	0	0	\$27.50	\$27.50	\$2,981.30	1.726
27	0	0	\$27.50	\$27.50	\$3,008.80	1.726
28	0	0	\$27.50	\$27.50	\$3,036.30	1.726
29	0	0	\$27.50	\$27.50	\$3,063.80	1.726
30	0	0	\$27.50	\$27.50	\$3,091.30	1.726
31	0	0	\$27.50	\$27.50	\$3,118.80	1.726
32	0	0	\$27.50	\$27.50	\$3,146.30	1.726
33	0	0	\$27.50	\$27.50	\$3,173.80	1.726
34	0	0	\$27.50	\$27.50	\$3,201.30	1.726
35	0	0	\$27.50	\$27.50	\$3,228.80	1.726
36	\$154.40	\$154.40	\$27.50	\$27.50	\$3,410.70	1.726
37	0	0	\$27.50	\$27.50	\$3,438.20	1.726
38	0	0	\$27.50	\$27.50	\$3,465.70	1.726
39	0	0	\$27.50	\$27.50	\$3,493.20	1.726
40	0	0	\$27.50	\$27.50	\$3,520.70	1.726
41	0	0	\$27.50	\$27.50	\$3,548.20	1.726
42	0	0	\$27.50	\$27.50	\$3,575.70	1.726
43	0	0	\$27.50	\$27.50	\$3,603.20	1.726
44	0	0	\$27.50	\$27.50	\$3,630.70	1.726
45	0	0	\$27.50	\$27.50	\$3,658.20	1.726
46	\$1,775.60	\$1,775.60	\$27.50	\$27.50	\$5,461.30	1.726

Sheet1

47	0	0	\$27.50	\$27.50	\$5,488.80	1.726
48	0	0	\$27.50	\$27.50	\$5,516.30	1.726
49	0	0	\$27.50	\$27.50	\$5,543.80	1.726
50	0	0	\$27.50	\$27.50	\$5,571.30	1.726
51	0	0	\$27.50	\$27.50	\$5,598.80	1.726
52	0	0	\$27.50	\$27.50	\$5,626.30	1.726
53	0	0	\$27.50	\$27.50	\$5,653.80	1.726
54	0	0	\$27.50	\$27.50	\$5,681.30	1.726
55	0	0	\$27.50	\$27.50	\$5,708.80	1.726
56	0	0	\$27.50	\$27.50	\$5,736.30	1.726
57	0	0	\$27.50	\$27.50	\$5,763.80	1.726
58	0	0	\$27.50	\$27.50	\$5,791.30	1.726
59	0	0	\$27.50	\$27.50	\$5,818.80	1.726
60	0	0	\$27.50	\$27.50	\$5,846.30	1.726
Total BLDG cost	\$4,168.80	Replacements performed		Actual lifetime energy (MWh)		105.27
Decom = 0.75%	\$31.27					
		Levelized Cost of Power (\$/kW)		\$5,877.57		Include decom
		All the above values are in units of \$/kW				
		Levelized Cost of Energy – LCOE (\$/MWh)				\$55.83

Sheet1

Source is Residential Roof Solar w/ CF = 19.7%	0.197	1.726	average yearly energy (MWh)
Assumed discount rate is 0% /year			
Levelized Cost of Power in \$ /kW units	\$5,877.57	from Column F above, after year 60	
Conversion factor from Power to Actual Energy	0.009657805	for CF = 0.197	Conversion = 1 ÷ (CF x 8760 h /yr x 60)
Levelized Cost of Energy	\$55.83 /MWh	LCOE	

Discounted yearly energy	Remarks
in MWh	Residential Roof Solar @0%
1.726	Construction
1.726	completed
1.726	In 1 year
1.726	
1.726	Total CAPEX = \$1930 /kW
1.726	
1.726	Columns A through F
1.726	are nominal dollars
1.726	per kilowatt
1.726	of peak generating
1.726	capacity
1.726	
1.726	Replace DC inverter 8%
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1.726	Replace DC inverter 8%
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1.726	Replace DC inverter 8%
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1.726	Replace hardware = 92%

1.726	Panel module and BOS hardware plus labor.
1.726	59% + 33% = 92%
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105.27	Discounted lifetime energy (MWh)

mission from column B

Equals Levelized cost of power

