

Pine Valley Community Village Solar Project Costs and Benefits

179.80 kW PV
\$ 142,553.03 Total Costs not covered by grants
240,273 Total kWh savings expected, yr 1
\$ 0.0720 Avoided Cost /kWh, Alliant

Cost of Current Rate versus Going Solar under this Proposal			
Current Rate =	Goes up every 2 yrs, an avg.	\$0.072 / kWh	= Current Cost of Electricity from Utility, Avg
kWh, 25 yrs =	5,646,416	\$0.032 / kWh	= Cost per kWh for solar over 25 yrs
kWh, 40 yrs =	8,673,855	\$0.019 / kWh	= Cost per kWh for solar over 40 yrs

Solar panels have a 25 year warranty but should last much longer. Expect to see a .5% annual degradation of output over time

Costs (red) and Benefits (green) assumptions based on rate escalators

Using \$100,000 grant from Foundation + Capital Funds

Yr	-0.50%	2.0%	2.0%	0.0%	Yr	Annual Benefit after Net LSC Fees and Hard Costs	Cumulative Cost Recovery funds from Capital Account
	Solar Output, kWh	kWh Savings Rate per kWh	kWh Savings from Electric Bill equals A x B	O&M Estimate: \$4/kW			
0	100% Expected kWh			\$4.00	0	(5,842.03)	includes grant/s
1	240,273	\$0.0720	\$17,299.66	(\$719.20)	1	\$16,580.46	(\$148,395.05)
2	239,072	\$0.0734	\$17,557.42	(\$719.20)	2	\$16,838.22	(\$114,976.37)
3	237,870	\$0.0749	\$17,818.58	(\$719.20)	3	\$17,099.38	(\$97,877.00)
4	236,669	\$0.0764	\$18,083.16	(\$719.20)	4	\$17,363.96	(\$80,513.04)
5	235,468	\$0.0779	\$18,351.19	(\$719.20)	5	\$17,631.99	(\$62,881.05)
6	234,266	\$0.0795	\$18,622.71	(\$719.20)	6	\$17,903.51	(\$44,977.54)
7	233,065	\$0.0811	\$18,897.76	(\$719.20)	7	\$18,178.56	(\$26,798.98)
8	231,863	\$0.0827	\$19,176.35	(\$719.20)	8	\$18,457.15	(\$8,341.83)
9	230,662	\$0.0844	\$19,458.53	(\$719.20)	9	\$18,739.33	\$10,397.50
10	229,461	\$0.0860	\$19,744.33	(\$719.20)	10	\$19,025.13	\$29,422.63
11	228,259	\$0.0878	\$20,033.77	(\$719.20)	11	\$19,314.57	\$48,737.20
12	227,058	\$0.0895	\$20,326.90	(\$719.20)	12	\$19,607.70	\$68,344.91
13	225,857	\$0.0913	\$20,623.74	(\$719.20)	13	\$19,904.54	\$88,249.44
14	224,655	\$0.0931	\$20,924.32	(\$719.20)	14	\$20,205.12	\$108,454.56
15	223,454	\$0.0950	\$21,228.67	(\$719.20)	15	\$20,509.47	\$128,964.03
16	222,253	\$0.0969	\$21,536.83	(\$719.20)	16	\$20,817.63	\$149,781.66
17	221,051	\$0.0988	\$21,848.82	(\$719.20)	17	\$21,129.62	\$170,911.29
18	219,850	\$0.1008	\$22,164.68	(\$719.20)	18	\$21,445.48	\$192,356.77
19	218,648	\$0.1028	\$22,484.43	(\$719.20)	19	\$21,765.23	\$214,122.00
20	217,447	\$0.1049	\$22,808.11	(\$719.20)	20	\$22,088.91	\$236,210.91
21	216,246	\$0.1070	\$23,135.74	(\$15,000.00)	21	\$8,135.74	\$244,346.65
22	215,044	\$0.1091	\$23,467.35	(\$719.20)	22	\$22,748.15	\$267,094.80
23	213,843	\$0.1113	\$23,802.98	(\$719.20)	23	\$23,083.78	\$290,178.58
24	212,642	\$0.1135	\$24,142.64	(\$719.20)	24	\$23,423.44	\$313,602.02
25	211,440	\$0.1158	\$24,486.36	(\$719.20)	25	\$23,767.16	\$337,369.18

5,646,416 Nominal Total= \$518,025.03 **(\$32,260.80)**
 NPV = \$281,664.22 **(\$15,262.35)**

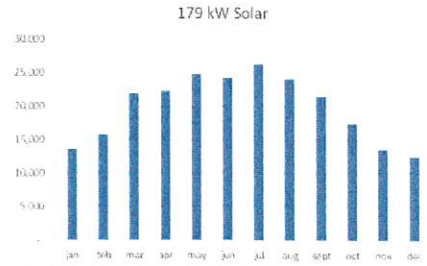
(If Paid Cash)
25-year horizon, IRR

kWh	x Rate	Equals Benefit	minus Operation & Maintenance Costs	=	Equals Net Annual Alliant Bill Savings	12.09%
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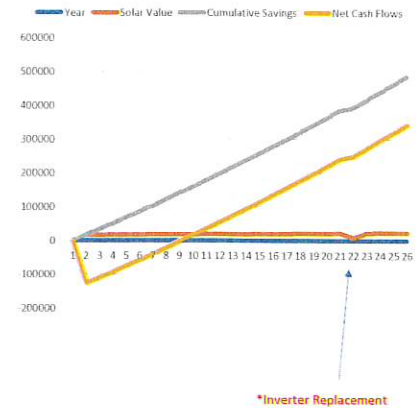
*Year 20 includes a \$15,000 cost to replace inverter/s

APY (avg)	9.09%
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ESTIMATED MONTHLY ENERGY



Savings over time



25 Years of Fossil Fuel Pollution Mitigated by Solar

Equivalent to Plantine	333,979	7,848,518	Pounds of CO2
	# CO2 / yr 1	102,794	mg of Mercury
		169,392	Pounds of SOX
		16,939	Pounds of NOX
		3,114,491	Trees !!
		112,928,310	Gallons of Water

Solar Project financing (highlighting revisions from previous plan)

Previous Plan – involved setting up a special contract with Ray Schmitz and Bob Simpson, who would become owners of the DC side of the Solar Array for a minimum of 5 years. The contract would have had to meet IRS regulations for such arrangements.

Revised Plan – has no contract; no special arrangements needed.

Previous Plan – had no involvement from the Pine Valley Foundation.

Revised Plan – has \$100,000 coming from the Foundation, thanks to \$50,000 pledged from Ray Schmitz, and \$50,000 pledged from Bob Simpson.

Previous Plan – had Pine Valley making annual payments for 5 years, plus a buy out in year 6.

Revised Plan – Pine Valley will not be making payments to anyone. Total out of pocket to be only \$142,553, as compared to \$237,111 from previous plan.

Previous Plan – had no grant coming from Focus on Energy.

Revised Plan – estimates Focus on Energy grant for this project of \$42,970

Previous Plan – had Pine Valley setting aside funds for 5 years in order to cover the cost of the buyout in year 6 of the contract.

Revised Plan – there is no buyout in year 6. However, funds from the capital fund are being used, therefore consideration should be given to eventually replenish those funds for future Pine Valley needs.

Previous Plan – had Pine Valley not breaking even until year 13.

Revised Plan – has Pine Valley breaking even in year 9.

Previous Plan – had Pine Valley's cumulative energy savings at \$272,163 after 25 years.

Revised Plan – estimates savings of \$337,369 after 25 years.