


Q&A Table
 Solar PV – purchase

Location	Chaffee County Fairgrounds - Salida, Colorado
Size of system	9.84 KW
Year installed	2008
Grid-tied or stand alone?	Grid-Tied
Estimated kWh generated/year	14,939 estimated, actual has been 18,132
Percent of electricity use from solar	14.6 percent
Electric bill before and after installation (optional)	
Payback period (optional)	12 years
What made you decide to go forward with the project?	Board of County Commissioners decision.
What made you choose solar PV instead of solar hot water or other renewable energy?	Rebate incentives at time of installation
How was the system sized?	Keep within the Xcel Energy “Small System” sizing, but as large as possible to offset electric use.
How long did the install take/were there any snafus?	No problems
How did you finance the system (i.e. cash, bank loan)?	Cash reserves
Did you take advantage of any financial incentives/tax credits for the project?	Yes, Xcel Solar Rewards program

<p>Has the performance met your expectations, including financially?</p>	<p>Yes – see attachments for Initial Financial Feasibility using estimated performance (14,939 kWh/year) and Actual Financial Feasibility using electrical output from inverters and average rate charges (18,132 kWh/year)</p>
<p>Did you learn any lessons you'd like to share with others who might be considering a similar project?</p>	
<p><i>Photo of the installation</i></p>	

ACTUAL FINANCIAL FEASIBILITY

FINANCIAL FEASIBILITY: OWNING GRID-TIED SOLAR PV



This calculator may be used to determine the financial and economic benefits (or costs) of purchasing a photovoltaic grid-tied system for a residence. It relates only to grid-tied solar photovoltaic systems without battery systems. If your utility offers per kWh REC payments, use the 'Financial Feasibility - Own REC' tab in place of this tab. The calculator should not be used as the only aid in deciding whether or not to purchase and install a photovoltaic grid-tied system.

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Simple payback year*

12

Return on Investment

130%

20 Year Cash Analysis with Rising Electric Rates and 0.5% Loss of Output per Year**

YEAR	SAVINGS***				COSTS				NET
	kWh - pro	Rate	Savings	Total	Insurance	Debt	Costs	Total	
1	18,132	\$0.150	\$ 2,720	\$ 2,720	\$ 233	\$ 1,993	\$ 2,226	\$ 2,226	\$ 494
2	18,041	\$0.158	\$ 2,842	\$ 5,561	\$ 240	\$ 1,993	\$ 2,233	\$ 4,459	\$ 1,102
3	17,951	\$0.165	\$ 2,969	\$ 8,530	\$ 248	\$ 1,993	\$ 2,240	\$ 6,700	\$ 1,830
4	17,861	\$0.174	\$ 3,102	\$ 11,631	\$ 255	\$ 1,993	\$ 2,248	\$ 8,947	\$ 2,684
5	17,772	\$0.182	\$ 3,240	\$ 14,872	\$ 263	\$ 1,993	\$ 2,255	\$ 11,203	\$ 3,669
6	17,683	\$0.191	\$ 3,385	\$ 18,257	\$ 271	\$ 1,993	\$ 2,263	\$ 13,466	\$ 4,791
7	17,595	\$0.201	\$ 3,537	\$ 21,794	\$ 279	\$ 1,993	\$ 2,271	\$ 15,737	\$ 6,057
8	17,507	\$0.211	\$ 3,695	\$ 25,489	\$ 287	\$ 1,993	\$ 2,280	\$ 18,017	\$ 7,472
9	17,419	\$0.222	\$ 3,860	\$ 29,349	\$ 296	\$ 1,993	\$ 2,288	\$ 20,305	\$ 9,044
10	17,332	\$0.233	\$ 4,033	\$ 33,383	\$ 304	\$ 1,993	\$ 2,297	\$ 22,603	\$ 10,780
11	17,246	\$0.244	\$ 4,214	\$ 37,596	\$ 314	\$ 1,993	\$ 2,306	\$ 24,909	\$ 12,687
12	17,159	\$0.257	\$ 4,402	\$ 41,999	\$ 323	\$ 1,993	\$ 2,316	\$ 27,225	\$ 14,774
13	17,074	\$0.269	\$ 4,599	\$ 46,598	\$ 333	\$ 1,993	\$ 2,325	\$ 29,550	\$ 17,048
14	16,988	\$0.283	\$ 4,805	\$ 51,403	\$ 343	\$ 1,993	\$ 2,335	\$ 31,886	\$ 19,517
15	16,903	\$0.297	\$ 5,020	\$ 56,423	\$ 353	\$ 1,993	\$ 2,346	\$ 34,231	\$ 22,191
16	16,819	\$0.312	\$ 5,245	\$ 61,668	\$ 364	\$ 1,993	\$ 2,356	\$ 36,588	\$ 25,080
17	16,735	\$0.327	\$ 5,479	\$ 67,147	\$ 374	\$ 1,993	\$ 2,367	\$ 38,955	\$ 28,192
18	16,651	\$0.344	\$ 5,725	\$ 72,872	\$ 386	\$ 1,993	\$ 2,378	\$ 41,333	\$ 31,538
19	16,568	\$0.361	\$ 5,981	\$ 78,852	\$ 397	\$ 1,993	\$ 2,390	\$ 43,723	\$ 35,129
20	16,485	\$0.379	\$ 6,248	\$ 85,101	\$ 409	\$ 1,993	\$ 2,402	\$ 46,125	\$ 38,976

*Based on Net Installed Cost and does not account for Revenues from Sales of Excess Electricity.

**Does not include Revenues from Sales of Excess Electricity or Maintenance Costs.

***Savings above reflect credit for total electricity savings at full retail rate (Savings).

Excess energy produced (above electricity used) is not reflected above.

INITIALLY ESTIMATED FINANCIAL FEASIBILITY

FINANCIAL FEASIBILITY: OWNING GRID-TIED SOLAR PV



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Simple payback year*

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Return on Investment

101%

20 Year Cash Analysis with Rising Electric Rates and 0.5% Loss of Output per Year**

YEAR	SAVINGS***				COSTS				NET
	kWh - pro	Rate	Savings	Total	Insurance	Debt	Costs	Total	
1	14,939	\$0.110	\$ 1,643	\$ 1,643	\$ 233	\$ 1,658	\$ 1,892	\$ 1,892	\$ (248)
2	14,864	\$0.116	\$ 1,717	\$ 3,360	\$ 240	\$ 1,658	\$ 1,899	\$ 3,791	\$ (430)
3	14,790	\$0.121	\$ 1,794	\$ 5,154	\$ 248	\$ 1,658	\$ 1,906	\$ 5,697	\$ (543)
4	14,716	\$0.127	\$ 1,874	\$ 7,028	\$ 255	\$ 1,658	\$ 1,913	\$ 7,610	\$ (582)
5	14,642	\$0.134	\$ 1,958	\$ 8,985	\$ 263	\$ 1,658	\$ 1,921	\$ 9,531	\$ (546)
6	14,569	\$0.140	\$ 2,045	\$ 11,031	\$ 271	\$ 1,658	\$ 1,929	\$ 11,460	\$ (429)
7	14,496	\$0.147	\$ 2,137	\$ 13,168	\$ 279	\$ 1,658	\$ 1,937	\$ 13,397	\$ (229)
8	14,424	\$0.155	\$ 2,233	\$ 15,400	\$ 287	\$ 1,658	\$ 1,945	\$ 15,342	\$ 58
9	14,352	\$0.163	\$ 2,332	\$ 17,733	\$ 296	\$ 1,658	\$ 1,954	\$ 17,296	\$ 436
10	14,280	\$0.171	\$ 2,437	\$ 20,170	\$ 304	\$ 1,658	\$ 1,963	\$ 19,259	\$ 910
11	14,209	\$0.179	\$ 2,546	\$ 22,716	\$ 314	\$ 1,658	\$ 1,972	\$ 21,231	\$ 1,484
12	14,138	\$0.188	\$ 2,660	\$ 25,375	\$ 323	\$ 1,658	\$ 1,981	\$ 23,213	\$ 2,162
13	14,067	\$0.198	\$ 2,779	\$ 28,154	\$ 333	\$ 1,658	\$ 1,991	\$ 25,204	\$ 2,950
14	13,997	\$0.207	\$ 2,903	\$ 31,057	\$ 343	\$ 1,658	\$ 2,001	\$ 27,205	\$ 3,852
15	13,927	\$0.218	\$ 3,033	\$ 34,090	\$ 353	\$ 1,658	\$ 2,011	\$ 29,216	\$ 4,874
16	13,857	\$0.229	\$ 3,169	\$ 37,259	\$ 364	\$ 1,658	\$ 2,022	\$ 31,238	\$ 6,021
17	13,788	\$0.240	\$ 3,311	\$ 40,570	\$ 374	\$ 1,658	\$ 2,033	\$ 33,271	\$ 7,299
18	13,719	\$0.252	\$ 3,459	\$ 44,029	\$ 386	\$ 1,658	\$ 2,044	\$ 35,315	\$ 8,713
19	13,650	\$0.265	\$ 3,614	\$ 47,642	\$ 397	\$ 1,658	\$ 2,056	\$ 37,371	\$ 10,271
20	13,582	\$0.278	\$ 3,775	\$ 51,418	\$ 409	\$ 1,658	\$ 2,068	\$ 39,439	\$ 11,979

*Based on Net Installed Cost and does not account for Revenues from Sales of Excess Electricity.

**Does not include Revenues from Sales of Excess Electricity or Maintenance Costs.

***Savings above reflect credit for total electricity savings at full retail rate (Savings).

Excess energy produced (above electricity used) is not reflected above.