

**Letter to California Energy Commission's Integrated Energy Policy Report (IEPR)
Committee**

Docket Number #09-IEP-1E Present and Future Central Station Renewable Plant Costs
July 15, 2009

Thank you for the opportunity to submit this concern to the California Energy Commission. I reviewed the *Small Renewable Generator Power Purchase Agreement* with PG&E representatives. We discussed that the 'Market Price Referents' paid per kWh is based on methane developed in the dairy industry. My focus is on photovoltaics. I have a 2.3 acre site near Yuba City on the Feather River which is well suited to produce energy. When you try to apply the current market price references per kWh paid for energy to the cost of installing a photovoltaic system, the numbers show that it is not economically possible to provide energy through private entrepreneurship. This shortfall has evidently been recognized by both PG&E and the California Energy Commission.

With the state's need for power, I am hopeful that a realistic look at market pricing for feed-in-tariffs of photovoltaic energy suppliers can be added to your list of many things to do. The most readily available source of energy is the sun; it does not require a site specific location to produce power as does wind generation, hydro power, or methane gas. The obvious downside is the incentive needed to make it economically viable. The quickest way to ramp up our energy production is to look at reaching the largest potential source of production. I, as well as many others are willing to dedicate land and resources to the energy cause but cannot afford to lose money on the investment required up front.

Enclosed please find a cost study prepared by Blueline Power of Marina, CA. We have worked with Blueline Power in the past and have found their knowledgeable approach to energy generation to be exceptional. There are obviously many factors which the Energy Commission must evaluate in setting market referencing. I am hopeful that this example of a 10,000 Watt photovoltaic system may be of help. Naturally the sooner this issue can be addressed the sooner more energy can be produced by the private sector.

Sincerely,
Richard G. Murray

DOCKET

09-IEP-1E

DATE JUL 15 2009

RECD JUL 27 2009



California Energy Commission
1516 9th St
Sacramento, CA 95814-5512
(916) 654-4287

7/17/09

Subj: Comments from Blueline Solar Power regarding the development of reasonable parameters for a small feed-in tariff.

Honorable members of the CEC

Thank you for your fine work in diligently working to make California a centerpiece for renewable energy. I have personally watched and worked in concert with the CEC now for 8 years, and although not perfect, I have had the pleasure of seeing a continuously improving series of programs which make me proud of the state of California.

Richard Murray, a small business owner from Monterey, California, is attending a CEC briefing during the week of 7/19/09. I have had the pleasure of working with Richard on a sporadic basis now for 3 years. I believe his approach and desires have integrity and merit.

Richard would like to see a small feed-in tariff that he could apply to his 3 acre parcel in Northern California. His intent is to eventually will this generation system to his children, and use a portion of the profit to support the Salvation Army. Also, he is proposing that perhaps many investors could benefit by engaging in small systems instead of buying CD's. To do this, we believe that it would be reasonable if the rate of return on a small solar system should be just slightly more than that which would be paid by a CD.

To this end, Richard is providing some initial documentation to the CEC for consideration.

Respectfully,

Ed Bless

Ed Bless – CEO
Blueline Solar Power

PRACTICAL INVESTOR STUDY

Simple

Installed kW (AC)	\$/ Watt	CSI Rebate	Cost of installed system	Cost of System With the Federal ITC (30%)	Federal Depreciation	Yearly Value from E-SRG	Interest Rate Loan payment	Simple Interest Fixed Rate Loan payment	Simple Interest Fixed Rate Loan payment	Simple Interest Fixed Rate Loan payment
5	\$5.50	\$0.00	\$27,500.00	\$19,250.00		\$1,111	\$1,827	\$1,767	\$1,709	\$1,283
10	\$5.50	\$0.00	\$55,000.00	\$38,500.00	\$19,322.00	\$19,178.00	\$1,834	\$1,774	\$1,715	\$1,288
10	\$5.50	\$1.10	\$44,000.00	\$33,250.00	\$11,258.00	\$19,542.00	\$1,068	\$1,033	\$999	\$751
20	\$5.50	\$0.00	\$110,000.00	\$77,000.00		\$4,445	\$7,307	\$7,069	\$6,834	\$5,133
25	\$5.50	\$0.00	\$137,500.00	\$96,250.00		\$5,556	\$9,134	\$8,836	\$8,543	\$6,417
30	\$5.50	\$0.00	\$165,000.00	\$115,500.00		\$6,667	\$10,960	\$10,603	\$10,251	\$7,700
40	\$5.50	\$0.00	\$220,000.00	\$154,000.00		\$8,890	\$14,614	\$14,137	\$13,668	\$10,267
50	\$5.00	\$0.00	\$250,000.00	\$175,000.00		\$11,112	\$16,607	\$16,065	\$15,532	\$11,667

PHOTOVOLTAIC STUDY USING SMALL RENEWABLE GENERATOR POWER PURCHASE AGREEMENT

Installed kW (AC)	\$/ Watt	Cost of Installed system	Cost of System With the Federal ITC (30%)	Yearly Value from E-SRG	Loan payment 5.5% for 20 years	Loan payment 5.5% for 15 years	Loan payment 5.5% for 12 years	Loan payment 5.5% for 10 years
5	\$5.50	\$27,500	\$19,250	\$1,111	\$1,589	\$1,887	\$2,195	\$2,507
10	\$5.50	\$55,000	\$38,500	\$2,222	\$3,178	\$3,775	\$4,390	\$5,014
15	\$5.50	\$82,500	\$57,750	\$3,334	\$4,767	\$5,662	\$6,585	\$7,521
20	\$5.50	\$110,000	\$77,000	\$4,445	\$6,356	\$7,550	\$8,780	\$10,028
25	\$5.50	\$137,500	\$96,250	\$5,556	\$7,945	\$9,437	\$10,974	\$12,535
30	\$5.50	\$165,000	\$115,500	\$6,667	\$9,534	\$11,325	\$13,169	\$15,042
40	\$5.50	\$220,000	\$154,000	\$8,890	\$12,712	\$15,100	\$17,559	\$20,056
50	\$5.00	\$250,000	\$175,000	\$11,112	\$14,446	\$17,159	\$19,954	\$22,790

Time-of-Day Factor	MPPR X Time-of-Day
Monthly Period	Super-Peak Shoulder Night
June-Sept	2.037 0.921 0.700
Oct-Dec, Jan-Feb	1.203 1.049 0.841
Mar-May	1.030 0.855 0.656

MPPR Values (Nominal - dollars / kWh)			
Generation start year	10-year contract	15-year contract	20-year contract
2009	0.09302	0.09475	0.09696
2010	0.09357	0.09591	0.09840

Super-Peak (1300-2000) PPT Monday - Friday except NERC holidays

Per Month 20 Yr. Contract \$ Amount of Electricity Per Month for 1kWh CEC Solar Generator

Super-Peak Installed kW (AC)

Super-Peak \$/Yr Value of Electricity Generated

TOTAL Combined Super-Peak & Shoulder

Month	10 Year	15 Year	20 Year	Sacramento Peak Sun hrs. / Day Percentage	20 Yr. Contract \$ Amount of Electricity Per Month for 1kWh CEC Solar Generator	Installed kW (AC)	\$/Yr Value of Electricity Generated	\$ / Year Value
January	0.112	0.114	0.117	1.05	\$3.72	5	\$530.90	\$1,111.23
February	0.112	0.114	0.117	1.51	\$5.36	10	\$1,061.80	\$2,222.45
March	0.096	0.098	0.100	1.94	\$5.90	15	\$1,592.71	\$3,333.68
April	0.096	0.098	0.100	2.27	\$6.89	20	\$2,123.61	\$4,444.90
May	0.096	0.098	0.100	2.45	\$7.43	25	\$2,654.51	\$6,556.13
June	0.189	0.193	0.198	2.52	\$15.13	30	\$3,185.41	\$8,667.36
July	0.189	0.193	0.198	2.63	\$15.78	40	\$4,247.22	\$8,889.81
August	0.189	0.193	0.198	2.59	\$15.56	50	\$5,309.02	\$11,112.26
September	0.189	0.193	0.198	2.48	\$14.91	100	\$10,618.05	\$22,224.52
October	0.112	0.114	0.117	2.05	\$7.28	200	\$21,236.09	\$44,449.04
November	0.112	0.114	0.117	1.33	\$4.72	300	\$31,854.14	\$66,673.56
December	0.112	0.114	0.117	0.99	\$3.50	400	\$42,472.18	\$88,998.07
Average	0.134	0.136	0.139	1.98	\$106.18	500	\$53,090.23	\$111,122.59
						1000	\$106,180.46	\$222,245.18
						1500	\$159,270.69	\$333,367.78

Shoulder (0700-1200) (2100 and 2200) Monday - Friday except NERC holidays

HE (0700-2200) Saturday, Sunday, and all NERC holidays

Shoulder

Month	10 Year	15 Year	20 Year	Sacramento Peak Sun hrs. / Day Percentage	20 Yr. Contract \$ Amount of Electricity Per Month for 1kWh CEC Solar Generator	Installed kW	\$/Yr Value of Electricity Generated
January	0.098	0.099	0.102	1.95	\$6.03	5	\$580.32
February	0.098	0.099	0.102	2.65	\$8.18	10	\$1,160.65
March	0.080	0.081	0.083	3.40	\$8.57	15	\$1,740.97
April	0.080	0.081	0.083	3.97	\$10.00	20	\$2,321.29
May	0.080	0.081	0.083	4.22	\$10.63	25	\$2,901.62
June	0.086	0.087	0.089	4.27	\$11.59	30	\$3,481.94
July	0.086	0.087	0.089	4.53	\$12.29	40	\$4,642.59
August	0.086	0.087	0.089	4.54	\$12.31	50	\$5,803.24
September	0.086	0.087	0.089	4.35	\$11.80	100	\$11,606.47
October	0.098	0.099	0.102	3.59	\$11.10	200	\$23,212.94
November	0.098	0.099	0.102	2.47	\$7.64	300	\$34,819.42
December	0.098	0.098	0.102	1.91	\$5.92	400	\$46,425.89
Average	0.089	0.091	0.093	3.49	\$116.06	500	\$58,032.36
						1000	\$116,064.72
						1500	\$174,097.09

Total 12 Months \$116.06

Average Sun Paths for Each Month (For 31° - 37° North Latitude) Using SOLAR PATHFINDER

Time of Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Night	0100-0600	0	0	0	0	0	0	0	0	0	0	0
	0600-0700	0	1	1	1	2	2	2	1	1	0	0
Shoulder	0700-0800	3	3	4	4	4	4	4	4	3	3	2
	0800-0900	7	7	7	7	7	7	7	7	7	7	7
	0900-1000	11	11	11	11	10	10	11	11	11	11	11
	1000-1100	14	14	13	13	13	12	13	13	14	14	14
	1100-1200	15	14	14	14	14	14	14	14	14	15	16
	1200-1300	15	14	14	14	14	14	14	14	14	15	16
Super-Peak	1300-1400	14	14	13	13	12	13	13	13	14	14	14
	1400-1500	11	11	11	11	10	10	11	11	11	11	11
	1500-1600	7	7	7	7	7	7	7	7	7	7	7
	1600-1700	3	3	4	4	4	4	4	4	3	3	2
	1700-1800	0	1	1	1	2	2	1	1	1	0	0
	1800-1900	0	0	0	0	0	0	0	0	0	0	0
	1900-2000	0	0	0	0	0	0	0	0	0	0	0
	2000-2100	0	0	0	0	0	0	0	0	0	0	0
	2100-2200	0	0	0	0	0	0	0	0	0	0	0
	2200-2300	0	0	0	0	0	0	0	0	0	0	0
Night	2300-0000	0	0	0	0	0	0	0	0	0	0	0

% Time in Super Peak	35.00%	36.00%	36.00%	36.00%	36.00%	36.00%	36.00%	36.00%	36.00%	36.00%	35.00%	34.00%
% In Shoulder Time	65.00%	63.00%	63.00%	63.00%	62.00%	61.00%	62.00%	63.00%	63.00%	63.00%	65.00%	66.00%

San Francisco

Total Sun Hours	Super-Peak	Shoulder
January	1,260	2,340
February	1,512	2,730
March	1,836	3,213
April	2,160	3,780
May	2,304	3,968
June	2,340	3,965
July	2,448	4,216
August	2,376	4,158
September	2,304	4,032
October	1,944	3,402
November	1,400	2,600
December	1,190	2,310
Average	1,923	3,393

Sacramento

Total Sun Hours	Super-Peak	Shoulder
January	1,050	1,950
February	1,512	2,646
March	1,944	3,402
April	2,268	3,969
May	2,448	4,216
June	2,520	4,270
July	2,628	4,526
August	2,592	4,536
September	2,484	4,347
October	2,052	3,591
November	1,330	2,470
December	0,986	1,914
Average	1,985	3,4864