

Date of Assessment: 4/23/2007  
 Client: Ralph Friedland  
 Client Phone #: 555-765-4321  
 Client E-mail: [thermalquy999@yahoo.com](mailto:thermalquy999@yahoo.com)  
 Assessment Address: Friedland Residence, Everett PA  
 Assessment ZIP CODE: 15537

**Site Description:** SITE 2. This site is on the (approx.) south facing roof of the dwelling breezeway/porch.  
 See photo below.



**Potential System:** 6 kW (DC) roof mounted fixed solar array.

Estimated Installed Cost:	\$42,000
Rebates:	\$0
Tax Credits:	\$0
Cost to Client:	\$42,000
Current Electric Rate:	\$0.085 per kW-hr
Estimated Annual Electric Rate Hike:	9 %
Est. Annual Solar Electricity Generated:	4,447 kW-hr (AC)
Avg CO <sub>2</sub> emissions per kW-hr grid electricity produced in the US:	1.34 lb

  

Year	Electric Rate (per kW-hr)	Cumulative Savings	Cumulative CO <sub>2</sub> Savings (lbs)
1	\$0.085	\$378	5,959
2	\$0.093	\$790	11,918
3	\$0.101	\$1,239	17,877
4	\$0.110	\$1,729	23,836
5	\$0.120	\$2,262	29,795
6	\$0.131	\$2,844	35,754
7	\$0.143	\$3,478	41,713
8	\$0.155	\$4,169	47,672
9	\$0.169	\$4,922	53,631
10	\$0.185	\$5,743	59,590
11	\$0.201	\$6,638	65,549
12	\$0.219	\$7,613	71,508
13	\$0.239	\$8,676	77,467
14	\$0.261	\$9,835	83,426
15	\$0.284	\$11,098	89,385
16	\$0.310	\$12,475	95,344
17	\$0.337	\$13,976	101,303
18	\$0.368	\$15,612	107,262
19	\$0.401	\$17,395	113,221
20	\$0.437	\$19,338	119,180
21	\$0.476	\$21,457	125,139
22	\$0.519	\$23,766	131,098
23	\$0.566	\$26,283	137,057
24	\$0.617	\$29,026	143,016
25	\$0.672	\$32,017	148,975





# Marc Edward LLC Solar Site Analysis Report

**Report Title** Friedland Residence near Everett PA  
**Image File** SITE 2.JPG  
**Report Date** Sunday, April 29, 2007  
**Declination** -10d 1m  
**Latitude/Longitude** 39.967 / -78.459  
**Analysis Site** EVERETT, PA, Zipcode: 15537  
**Weather Station** HARRISBURG, PA, Elevation: 106 m  
**Station/Site Distance** 66.86 miles

**Array Type** Fixed  
**Tilt Angle** 25.00 degrees  
**Cost of Electricity** 9 cents/kWhr  
**DC Rate** 6.00 kW  
**Derate Factor** 0.77  
**Azimuth (180 = south)** 0.00 degrees

Month	Unshaded % of Ideal Site Azimuth=180.0 Tilt=40.0	Ideal Solar Rad w/o Shading Azimuth=180 Tilt=40.0 KWH/m <sup>2</sup> /day	Actual Solar Rad w/ Shading Azimuth=200.0 Tilt=25.0 KWH/m <sup>2</sup> /day	Ideal AC Power (KWH) w/o shading Azimuth=180.0 Tilt=40.0	Actual AC Power (KWH) w/ shading Azimuth=200.0 Tilt=25.0	Actual Solar Savings
January	0.80%	3.43	0.06	500.0	6.98	\$0.63
February	46.10%	4.11	1.74	541.0	231.95	\$20.88
March	64.80%	4.70	2.94	665.0	422.4	\$38.02
April	76.80%	5.29	3.96	708.0	535.1	\$48.16
May	84.30%	5.29	4.61	695.0	608.73	\$54.79
June	84.40%	5.62	4.93	693.0	614.69	\$55.32
July	84.90%	5.60	4.96	707.0	629.4	\$56.65
August	80.80%	5.32	4.29	678.0	550.24	\$49.52
September	68.00%	4.89	3.21	611.0	409.59	\$36.86
October	60.80%	4.40	2.51	595.0	344.53	\$31.01
November	21.90%	3.05	0.65	417.0	92.58	\$8.33
December	0.00%	2.58	0.02	377.0	0.67	\$0.06
<b>Totals</b>	<b>56.13%</b>	--	--	<b>7187.0</b>	<b>4446.86</b>	<b>\$400.22</b>
	<b>Unweighted Yearly Avg</b>	<b>Effect: 100%</b> <b>Sun Hrs: 4.52</b>	<b>Effect: 62.47%</b> <b>Sun Hrs: 2.83</b>			

**NOTES:** This site is on the south facing roof of the dwelling breezeway/porch.  
 Above data is based on a 6 kW (DC) fixed, roof mounted array at roof tilt.  
 Estimated installed system cost: \$42,000.

