

Proposal for Supply and Installation of a Renewable Energy Power System





Date: 6/6/10
Valid until: 8/5/10
State: PA

Solar Analysis provided by:
Vlad Ringe
Electrical Edge, Inc
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www.ElectricalEdge.Net

Proposal for Supply and Installation of a Renewable Energy Power System

Customer:

Name:
Street address:
City, ST, Zip Code
Phone:
e-mail:

We hereby submit quotation and financial analysis for **10,000 Watt DC Roof Mounted, Grid-Tied Solar PV System**

Total Estimated Price **\$49,000**

This estimate includes all permits, engineering, material, labor, inspections, grid-tied applications, rebate filing, SREC registration and warranties.

Final material selection will be determined upon final site analysis and engineering.

Electrical Edge is fully insured, registered with the state and licensed locally where applicable.

Please make sure all contractors you deal with are Registered in the State and have a License number.

PROPOSED MAJOR SYSTEM COMPONENTS

PV Modules: Yingli, 230W, Silver frame

Inverters: SMA

PROPOSED SCOPE OF WORK

1. Installation of specified system in good workman like manner.
2. Electrical Contractor shall complete the final System orientation with Customer including the following activities:
 - a. Verification of proper System operation with Customer present.
 - b. Explanation of how the system functions.
3. Upon project completion, the Electrical Contractor will provide the Customer an Owner's Manual, which includes:
 - a. Name and address of the Electrical Contractor
 - b. Identification and explanation of system components
 - c. Single line drawing of system
 - d. Contractor's parts and labor warranty
 - e. Copies of manufacturer's warranties for all major system components
 - f. Manufacturer's user manuals
4. Periodic post-installation system inspection by Electrical Contractor:
 - a. 1st inspection: within 30 - 60 days after system installation completion
 - b. 2nd inspection: within 6 - 7 month after system installation completion
 - c. 3rd inspection: within 12 - 13 month after system installation completion
5. Equipment and panels troubleshooting during first 12 month after system installation completion



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PROPOSED PAYMENT SCHEDULE

Payments will be made in Six (6) installments as follows;

- 1st payment: **\$700.00** Deposit upon signed contract
- 2nd payment: **\$2,400.00** All permits are secured, rebates are approved by State
- 3rd payment: **\$25,000.00** PV Panels delivered to the customer address
- 4rd payment: **\$14,000.00** Materials delivered to the customer address, beginning of installation
- 5th payment: **\$4,900.00** Installation completed
- 6th payment: **\$2,000.00** Within 30 days of electrical permit signoff

PROPOSED WORK SCHEDULE (Sample)

Number	Task	Resource	Start	End	Duration	2010						2011		
						July	August	September	October	November	December	January	February	March
1	Contract Signing		7/1/2010	7/8/2010	5									
2	Payment: Milestone 1		7/8/2010	7/13/2010	3									
3	System Design		7/13/2010	7/22/2010	7									
4	Submit a Pre Approval Application		7/22/2010	7/31/2010	7									
5	Waiting for approval		7/31/2010	8/31/2010	21									
6	Approval Received		8/31/2010	9/2/2010	2									
7	Payment: Milestone 2		9/2/2010	9/7/2010	3									
8	Order PV Panels		9/7/2010	10/6/2010	21									
9	Payment: Milestone 3		10/6/2010	10/20/2010	10									
10	Order Materials		10/20/2010	11/9/2010	14									
11	Payment: Milestone 4		11/9/2010	11/12/2010	3									
12	Installation		11/12/2010	12/2/2010	14									
13	Payment: Milestone 5		12/2/2010	12/7/2010	3									
14	Electrical Inspection		12/7/2010	12/25/2010	14									
15	Payment: Milestone 6		12/25/2010	12/30/2010	3									
16	Utility Interconnection		12/30/2010	1/28/2011	21									
17	Reimbursement Application		1/28/2011	3/12/2011	31									

PROPOSED WARRANTY AND WORKMANSHIP

1. The Work shall:
 - a. be performed in accordance with good, sound design and/or engineering practices;
 - b. be in conformity with any applicable specifications in respect to the materials utilized and
 - c. reflect Electrical Contractor’s best professional knowledge, skill and judgment.
2. Workmanship.
 - a. Workmanship and materials of the Installation will be warranted by Electrical Contractor pursuant to this Contract for five (5) years from the date of the electrical permit signoff.
 - b. Should there be a failure of the foregoing warranty within the applicable warranty period, Electrical Contractor shall correct the defect at Electrical Contractor’s sole cost.
3. Perform service calls to address down-system conditions that cannot be remedied through the trouble-shooting methods provided in the System manual.
4. Remedy workmanship defects that result from Work performed by the Electrical Contractor and any defects of Electrical Contractor supplied materials.



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SOLAR FINANCIAL ANALYSIS

Notice:

This information is provided as an illustration of potential financial benefits stemming from ownership of a renewable energy power system. This is not a product guarantee. A professional accountant or tax advisor should confirm these estimates. Electrical Edge Inc. do not warrants the applicability of this estimates for particular business cases, and disclaim all liability.

The estimate of production and other results can be independently validated at the following websites:

PV Watts Solar Performance Estimator: <http://www.pvwatts.org>
www.FindSolar.com funded by the Department of Energy
California Energy Commission: www.consumerenergycenter.org
New Jersey Clean Energy Program: www.njcep.com
The DSIRE Database of Incentive: www.dsireusa.org

Photovoltaic System at a glance

Annual Rate of Return on Investment (first year)	29%
Annual Avoided Electricity Purchases	\$1,930
AEC Market Income	\$3,000
25 Years Cumulative Savings and Income	\$109,937

System Data

System Size (Name Plate STC)	10,000 Watt DC
Estimated Annual Production 1st Year	12,060 kWh
Shading Effect	No Shade
System Cost Per Watt DC (STC)	\$ 4.90

www.pvwatts.org

Savings and Income

Savings:

Avoided Monthly Electricity Purchases(kWh)	1,005 kWh
Avoided Monthly Electricity Purchases (\$)	\$161

Income:

Proposed PV System will generate annually	12	Solar Renewable Energy Certificates
Each SREC / AEC is worth		\$250
Annual Income from SREC trade		\$3,000

Assumptions

PV System degradation	0.9 %
Average cost of electricity per 1kWh	\$0.160
Assumed Electrical Rates Inflation	5.5 %
AEC Value in year of installation	\$250
PV System Tilt (degrees)	40.0
PV System Azimuth (degrees)	180
Federal Income Tax Rate:	28.00 %
State Income Tax Rate:	3.07 %
Pennsylvania Sunshine Solar Rebate Program (\$ per Watt DC)	\$1.72

<http://www.sretrade.com/auctionhistory.php>



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System Pricing

Total System Cost (includes design, parts, delivery, installation, warranty)	\$49,000
Pennsylvania Sunshine Solar Rebate Program (Total Amount)	\$17,150
Federal Tax Credit 30%	\$14,700
Net System Cost	\$17,150

http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=PA37F&re=1&ee=1

<http://www.irs.gov/formspubs/article/0,,id=207332,00.html>

Return On Investment Summary

Annual Rate Of Return	29%
Equity / Property Value Increase.	\$38,592

Based on 20 X First Year's Net Utility Savings of: \$1,930
(Ref: The Appraisal Journal, Oct 98)



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Cash Flow

Year At Install	1	2	3	4	5	6	7	8	9	10	11	12	
Operating Savings													
Annual Utility Savings(\$)	1,930	2,017	2,109	2,205	2,306	2,410	2,520	2,635	2,755	2,880	3,011	3,148	
Pennsylvania AEC Market Income	3,000	2,750	2,750	2,750	2,750	2,750	2,750	2,750	2,750	2,750	2,750	2,500	
Air Conditioning Savings													
Roof Maintenance Savings													
Operating Expenses													
Capital Cost after Rebates													
Operating Profit (Loss)													
Total System Cost	49,000												
PA State SunShine Rebate	17,150												
Federal Tax Credit 30%	14,700												
Annual Rate of Return	29%	28%	28%										
Annual Savings & Profit	4,930	4,767	4,859	4,955	5,056	5,160	5,270	5,385	5,505	5,630	5,761	5,648	
Cash Flow Cumulative	-17,150	-12,220	-7,453	-2,594	2,361	7,417	12,577	17,848	23,232	28,737	34,367	40,128	45,776

Year	13	14	15	16	17	18	19	20	21	22	23	24	25
Operating Savings													
Annual Utility Savings(\$)	3,291	3,441	3,598	3,761	3,933	4,112	4,299	4,494	4,699	4,913	5,136	5,370	5,614
Pennsylvania AEC Market Income	2,500	2,500	2,500										
Air Conditioning Savings													
Roof Maintenance Savings													
Operating Expenses													
Capital Cost after Rebates													
Operating Profit (Loss)													
Annual Savings & Profit	5,791	5,941	6,098	3,761	3,933	4,112	4,299	4,494	4,699	4,913	5,136	5,370	5,614
Cash Flow Cumulative	51,568	57,509	63,607	67,368	71,301	75,412	79,711	84,205	88,904	93,817	98,953	104,323	109,937

Support Data

Support Data	1	2	3	4	5	6	7	8	9	10	11	12
Annual Production AC Energy (kWh)	12060	11951	11844	11737	11632	11527	11423	11320	11219	11118	11018	10918
Annual AEC	12	11	11	11	11	11	11	11	11	11	11	10
Electricity Cost	0.16	0.17	0.18	0.19	0.20	0.21	0.22	0.23	0.25	0.26	0.27	0.29

Support Data	13	14	15	16	17	18	19	20	21	22	23	24	25
Annual Production AC Energy (kWh)	10820	10723	10626	10531	10436	10342	10249	10157	10065	9975	9885	9796	9708
Annual AEC	10	10	10	10	10	10	10	10	10	9	9	9	9
Electricity Cost	0.30	0.32	0.34	0.36	0.38	0.40	0.42	0.44	0.47	0.49	0.52	0.55	0.58



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How does a solar electric system work?

Solar cells in the modules mounted on your roof convert sunlight directly into DC power. A component called an inverter converts this DC power into AC power that can be used in your home. The system is interconnected with your utility. During the day, if your solar system produces more electricity than your property is using, your utility allow net metering or the crediting of your utility account for the excess power generated being returned to the grid. Your utility would provide power as usual at night and during the day when your electricity demand exceeds that produced by your solar system.

The Cost To Go Solar

This is only an estimate based upon many assumptions and limited data entered by you: Installation costs can vary considerably. The cost to purchase and install a complete grid-tied solar photovoltaic (PV) system includes the PV array, inverter and associated balance of system costs. It does not include the cost of options you may select, such as battery backup power storage, or the costs of building preparation work, like new shingles. Costs can also be higher if you add other features or have special installation needs (such as application over tile roofing) or you choose to use special mounting systems (such as sun tracking systems). Other factors may also affect price, including, but not limited to, your location, the building condition, type and location, its wiring, and warranties offered.

Solar Renewable Energy Certificates (SREC)

An SREC is created each time a qualified alternative energy facility produces 1000 kWh of electricity. The SREC is then be sold or traded separately from the power. This makes it easy for individuals and businesses to finance and invest in clean, emission free solar power.