

# Proposal for Supply and Installation of a Renewable Energy Power System





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

Solar Analysis provided by:  
Vlad Ringe  
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## 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. 1<sup>st</sup> inspection: within 30 - 60 days after system installation completion
  - b. 2<sup>nd</sup> inspection: within 6 - 7 month after system installation completion
  - c. 3<sup>rd</sup> 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.

**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](http://www.FindSolar.com) funded by the Department of Energy  
 California Energy Commission: [www.consumerenergycenter.org](http://www.consumerenergycenter.org)  
 New Jersey Clean Energy Program: [www.njcep.com](http://www.njcep.com)  
 The DSIRE Database of Incentive: [www.dsireusa.org](http://www.dsireusa.org)

**Photovoltaic System at a glance**

Annual Rate of Return on Investment (first year)	29%
Annual Avoided Electricity Purchases	\$1,930
SREC Market Income	\$7,920
25 Years Cumulative Savings and Income	\$159,207

**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](http://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		\$660
Annual Income from SREC trade		\$7,920

### Assumptions

PV System degradation	0.9 %
Average cost of electricity per 1kWh	\$0.160
Assumed Electrical Rates Inflation	5.5 %
SREC Value in year of installation	\$660
PV System Tilt (degrees)	40.0
PV System Azimuth (degrees)	180
Federal Income Tax Rate:	28.00 %
State Income Tax Rate:	7.80 %
Renewable Energy Incentive Program Rebate (\$ per Watt DC)	\$0.00

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



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### System Pricing

Total System Cost (includes design, parts, delivery, installation, warranty)	\$49,000
Renewable Energy Incentive Program Rebate (Total Amount)	\$0
Federal Tax Credit 30%	\$14,700
Net System Cost	\$34,300

[http://www.dsireusa.org/incentives/incentive.cfm?Incentive\\_Code=PA37F&re=1&ee=1](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: (Ref: The Appraisal Journal, Oct 98)	\$1,930



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### Cash Flow

Year At Install	1	2	3	4	5	6	7	8	9	10	11	12	
<b>Operating Savings</b>													
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	
SRECs Market Income	7,920	7,260	7,260	7,260	7,260	7,260	7,260	7,260	7,260	7,260	7,260	6,600	
Air Conditioning Savings													
Roof Maintenance Savings													
<b>Operating Expenses</b>													
Capital Cost after Rebates													
<b>Operating Profit (Loss)</b>													
Total System Cost	49,000												
REIP Rebate	0												
Federal Tax Credit 30%	14,700												
Annual Rate of Return	29%	27%	27%										
Annual Savings & Profit	9,850	9,277	9,369	9,465	9,566	9,670	9,780	9,895	10,015	10,140	10,271	9,748	
Cash Flow Cumulative	-34,300	-24,450	-15,173	-5,804	3,661	13,227	22,897	32,678	42,572	52,587	62,727	72,998	82,746

Year	13	14	15	16	17	18	19	20	21	22	23	24	25
<b>Operating Savings</b>													
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
SRECs Market Income	6,600	6,600	6,600										
Air Conditioning Savings													
Roof Maintenance Savings													
<b>Operating Expenses</b>													
Capital Cost after Rebates													
<b>Operating Profit (Loss)</b>													
Annual Savings & Profit	9,891	10,041	10,198	3,761	3,933	4,112	4,299	4,494	4,699	4,913	5,136	5,370	5,614
Cash Flow Cumulative	92,638	102,679	112,877	116,638	120,571	124,682	128,981	133,475	138,174	143,087	148,223	153,593	159,207

### 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 SRECs	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 SRECs	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.