

COST, RECOVERY PERIOD, & SAVINGS FOR A 10,105 WATT COMMERCIAL
SOLAR SYSTEM INSTALLED ON AN EXISTING STRUCTURE
ESTIMATE DATE: MARCH 2010

1. Cost 10,105 watts at \$7.00 per watt	\$70,735.00
2. State Grant equal \$3.50 per watt	<u>-\$35,367.50</u> \$35,367.50 (balance)
3. 30% tax credit equal \$35,367.50 X .30%	<u>-\$10,610.25</u> \$24,757.25 (balance)
4. Depreciation equals: A. base of \$24,757.25 plus half of 30% tax deduction of \$10,610.25 <u>or</u> B. \$5,305.12 added together equals \$30,062.37 X a 25% tax bracket taken over 5 years 200% declining	<u>-7,515.59</u> \$17,241.66 (balance)
5. Renewable energy credits equal \$225 per REC X 14.75 REC's per year = \$3,318.75 X 3 ½ years (payments continue until 2024 with the present figure per REC being in the \$300 dollar range)	<u>-\$11,615.62</u> \$5,626.04 (balance)
6. Savings in electricity equal 14,750 kWhs per year X .12 cents per kWh = \$1,770 divided by 12 months = \$147.50 per month divided into \$5,626.04 = 3 years 3 month	<u>-\$5,752.50</u>
Balance after approximately 3½ years	(\$126.46)

Things To Know

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- A. Estimate does not include any charges you may have on financing.
- B. Solar panels are warranted by manufacturer for 25 years and inverters for 10 years. Does not include moving parts and normal maintenance.
- C. 10,105 kilowatts will produce approximately 14,750 KWhs per year in northern Ohio.
- D. **Renewable Energy Credits:** A renewable energy credit is one megawatt hour, which is 1,000 KWhs. Ohio passed a law requiring energy companies to provide a percentage of their power from renewable energy by 2024. They will have to pay a fine if they do not reach that percentage. However, they can offset the fine by purchasing energy credits or RECs from renewable energy producers.

Consequently any person or business in the State of Ohio with a renewable energy system can sell their credit for generated electricity every time they produce 1,000 KWh's or one REC. **At 12 cents per KWH this REC income is presently worth over 1½ times as much as the value of the energy generated by a renewable energy system.**

The 10,105-watt system in this estimate would produce between 14 & 15 credits per year.

For the remainder of 2010 and 2011, the energy companies would have to pay \$400 as a penalty for 1,000 KWhs or offset the penalty by buying one REC. Obviously, they will buy RECs for a figure less than the penalty amount which is presently trading in the \$300 range. Every two years after 2011, the penalty figure drops by \$50 dollars until 2024.

- E. Edison Solar & Wind will enroll you with a broker who will register your system with the various agencies required for selling RECs and then sell your RECs as they are generated. You can sell and receive a check for every REC your system generates on a monthly basis.
- F. $14,750 \text{ KWh} \times 12 \text{ cents per KWh hour} = \$1,770$ savings in electricity per year. After deducting the 3 years 6 months of electricity production to pay off the system from the 25 year warranted life of solar panels this would leave 21½ years of free electricity, which at the current rate of .12 cents per KWh would result in a savings of \$38,055.

In addition, renewable energy credits can be sold until 2024. The total minus the 3½-year figure used in the payoff of the system estimate leaves 10½ years of RECs credits remaining. At an average price of \$100 per REC, this would amount to an additional per year of $\$1,475 \times 10\frac{1}{2} = 32,712.50$ dollars of income. **So after 25 years the solar system would be paid for and a profit of approximately \$69,767 would be realized.**

- G. If energy prices go up, the savings would be greater. Inverters may need replacing before the end of 25 years, which could reduce the savings in the first 25 years by approximately \$6,000. Although the warranty period is 25 years, the overall period of energy generation will exceed 25 years perhaps by decades, adding years to the period of free energy production which should compensate for the cost of new inverters if needed, etc.
- H. **Electricity prices will go up!**
- I. In general, every dollar of energy savings adds \$20 dollars to property value. In researching this increase in value for this area, I was told by Re/Max real estate appraiser Dale Kaufman that energy saving improvements are capitalized by taking the yearly savings times 7 to 9% times the length of the savings (in this case at least 25 years) for the **total capital improvement to be added to the value of the property**. Having a system that produces onsite electricity can be an advantage in selling a property.
- J. The 10,105 watt system in this estimate consists of 43 Sharp 235 watt panels that are 39.1" wide and 64½" high. Total installation distance in a straight line of 43 panels would be 143.33' long by 5'4½" high. Panels weigh 44 lbs. each, adding little weight to a roof.
- K. Funding from electric companies that makes up the money for Ohio grants is due to expire at the end of 2010 after which there may no longer be Ohio grants for renewable energy projects.

Payment Procedures

1. Estimates are free.
2. If you wish to continue after seeing the estimate, a non-refundable fee of \$1,000 is required. This pays for the grant application process, including all tests, compilation of technical information, and completion and submission of grant application forms. Requirement provisions apply to grant recipients.
3. If you wish to continue, a contract will be drawn requiring a 25% down payment when signed. The \$1,000 dollars already advanced counts as part of this payment.
4. A second payment of 25% of the total cost is required the day installation begins.
5. Remaining 50% must be paid when the grant money is received usually 4 to 6 weeks after the system is producing electricity.
6. From the signing date of a contract, it is normally about six weeks to two months until the system is installed and producing electricity. This means that the buyer can expect to have 50% of the cost of the system outstanding for roughly 4 months until grants are received.