

# Costs and Savings Derived from Installing a 5kW Photovoltaic Array on an Iowa business or home

EXPENSES		Cost After Deductions
Estimated Installed Cost of PV System	\$ 22,500.00	\$ 22,500.00  \$ 2,163.00 \$ 500.00 \$ 25,163.00
No Property Tax for PV in Iowa		
No Sales Tax for PV in Iowa		
Cost of Capital @ 8% for 6 Years with Iowa Energy Center paying 50% of Cost of Capital	\$ 4,326.31 - \$ 2,163.00	
25-year Maintenance Costs	\$ 500.00	
<b>Total Cost of System</b>		

SAVINGS		Cost After Deductions
Federal Tax Credit (2010 & 2011)	\$ 6,750.00	\$ 18,413.00 \$ 12,788.00 \$ 10,183.00  \$ 8,288.00
USDA Grant <i>(Agriculture-related Business - 25% of System Cost)</i>	\$ 5,625.00	
Value of Accelerated Depreciation Schedule	\$ 4,500.00	
Value of Electricity Produced <i>(25 years @ 0.012 per kWh)</i>	\$ 23,000.00	
<b>Value of Green Tags</b> <i>(Environmental component of PV generation which can be sold by owner)</i>	\$ 8,125.00	

INTRINSIC VALUE OF PV ARRAY	
<b>Potential Marketing Value of Array</b> <i>(Increased profit from sales due to green image (this will vary with type and size of business) You will need to develop a value which you believe fits your business model. (assumption for our model - \$600/year for 10 years)</i>	<b>\$ 6,000.00</b>
<b>Potential Cash Flow from Energy Savings, Green Tags and Marketing Value of Array Every Year Thereafter . . .</b>	<b>\$ 1,050.00</b>
<b>Positive Cash Flow in Year Ten . . . . .</b>	<b>\$ 317.00</b>



# The Root Cellar



*The Place to Go  
to Conserve Energy!*

- **Renewable Energy**
- **Energy Efficiency**
- **Consulting**
- **Sales**

\* Established 1981 \*



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## Did You Know?

Solar energy is particularly environmentally friendly because it is naturally produced in greatest amounts when it is needed most, during the day and during the summer months when the consumption of electricity is normally the highest.

### *There are Many Types of Solar Energy!*

- ◆ **Passive:** Windows, Sunspaces, and Solar Ovens
- ◆ **Active:** Hot Air Solar Collectors, Hot Water Solar Collectors, and Photovoltaic (PV) – The Conversion of Sunlight to Electricity

## Did You Know?

Wind power has the potential to make a major difference in addressing climate change. It is estimated that if 10% of the world's power came from wind, it would cut CO2 emissions by one billion tons a year! (source: [www.bp.com](http://www.bp.com))

## Did You Know?

Our earth's interior - like the sun - provides heat energy from nature. This heat - geothermal energy - yields warmth and power that we can use without polluting the environment.

The United States alone produces 2,700 megawatts of electricity from geothermal energy. This is comparable to burning sixty million barrels of oil each year! (source: [geothermal.marin.org](http://geothermal.marin.org))

## Did You Know?

Energy efficient choices can save families about a third on their energy bill with similar savings of greenhouse gas emissions, without sacrificing features, style or comfort. ENERGY STAR helps you



make the energy efficient choice. (source: [www.energystar.gov](http://www.energystar.gov))

## Did You Know?

There are many types of alternative fuel vehicles in use today and currently being developed and improved upon including: solar-powered, wind-powered, hydrogen-powered, flexible-fuel vehicles such as those that use ethanol,

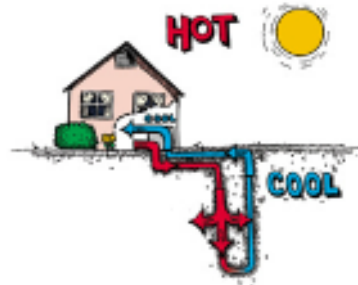
## SOLAR



## WIND



## GEO-THERMAL



## ENERGY EFFICIENCY



## ALTERNATIVE FUEL VEHICLES



## CLIENT LIST

University of Northern Iowa (UNI)  
UNI - Center for Energy and Environmental Education (CEEE)  
UNI - Center for Industrial Technology  
Cedar Falls Utilities  
Ames Municipal Utilities  
Spencer Iowa Municipal Utilities  
Muscatine Power and Water  
Allsteel Inc.  
Maquoketa Valley REC  
Illinois Renewable Energy Association  
Iowa Association of Municipal Utilities  
Iowa Renewable Energy Association  
US Army Corps of Engineers  
Eastern Iowa Community Colleges  
Muscatine Community College  
Advanced Technology Environmental Education Center (ATEEC)  
AVROM Systems

## PRESENTATIONS

Energy Conservation in Homes and Churches

◆  
Energy Efficiency in the City

◆  
Renewable Energy, Solar Cooking & Energy Audits



Solar Oven Workshop

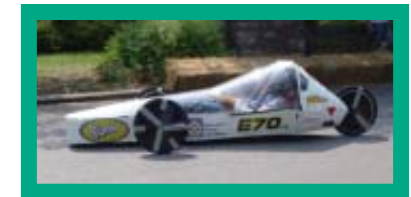
◆  
Photovoltaics (PV)

◆  
History of Wind Machines

◆  
Motor Home of the Future

◆  
Junior Solar Sprint

◆  
Electrathon



Rates: \$250/day (\$.50/mile)

Visit:

[www.mpw.org/programs\\_contests.htm](http://www.mpw.org/programs_contests.htm)  
&  
[www.mpw.org/tours\\_presentations.htm](http://www.mpw.org/tours_presentations.htm)  
*for more information!*