

Costs and Savings Derived from Installing a 2.2kW Photovoltaic Array on a Business in Muscatine

The Root Cellar



*The Place to Go
to Conserve Energy!*

- Renewable Energy
- Energy Efficiency
- Consulting
- Sales

* Established 1981 *



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EXPENSES

		Cost After Deductions
Estimated Installed Cost of PV System	\$ 20,000.00	\$ 20,000.00
No Property Tax for PV in Iowa		
No Sales Tax for PV in Iowa		
Cost of Capital @ 8% for 6 Years with Iowa	\$ 4,326.31	
Energy Center paying 50% of Cost of Capital	- \$ 2,163.00	\$ 2,163.00
10-year Maintenance Costs	\$ 500.00	\$ 500.00
Total Cost of System		\$ 22,663.00

SAVINGS

Federal Tax Credit (2006 & 2007)	\$ 6,000.00	\$ 16,663.00
USDA Grant		
<i>(Agriculture-related Business - 25% of System Cost)</i>	\$ 5,000.00	\$ 11,663.00
Value of Accelerated Depreciation Schedule	\$ 1,480.00	\$ 10,183.00
Value of Electricity Produced		
<i>(10 years @ 0.10 per kWh)</i>	\$ 3,000.00	\$ 7,183.00
Value of Green Tags		
<i>(Environmental component of PV generation which can be sold by owner)</i>	\$ 1,500.00	\$ 5,683.00

INTRINSIC VALUE OF PV ARRAY

Potential Marketing Value of Array

(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)

\$ 6,000.00	Positive Cash Flow in Year Ten	\$ 317.00
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Potential Cash Flow from Energy Savings, Green Tags and Marketing Value of Array Every Year Thereafter . . . \$ 1,050.00



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)

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)

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)

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,

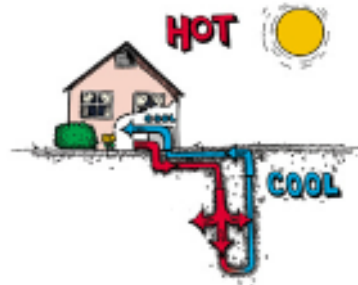
SOLAR



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

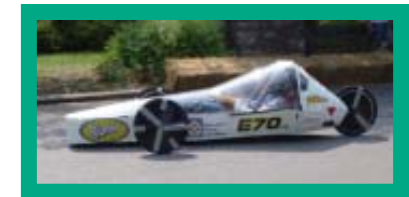
◆
Photovoltaics (PV)

◆
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
&
www.mpw.org/tours_presentations.htm
for more information!