



System Performance Analysis Using Normal Net Metering: 1802 Canyon Units #2-5 Current Power Costs by Tier with Offset From Solar

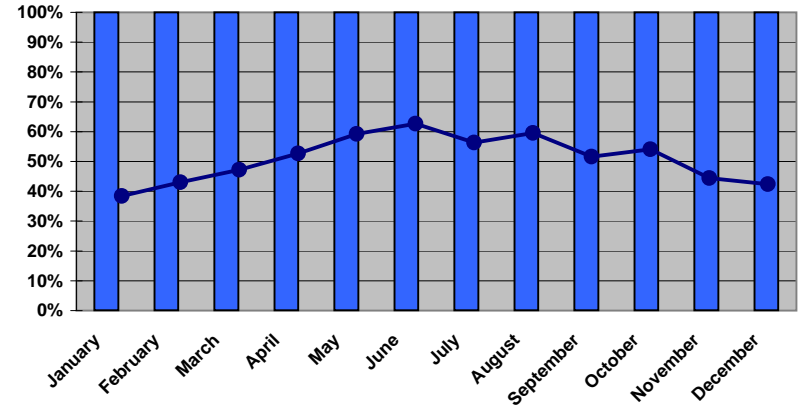
Site Location: **Boulder**
 System Size: **2,000 Watts(DC)**
 Tilt Angle: **8 in 12 (34 Deg)**
 Mounting Azimuth: **168 - 190(South)**
 Utility Rate Structure: **Xcel - Schedule R**

50%
Total Energy Bill Offset

59%
Total kWh Offset

Cost Per kWh

Winter: \$0.10 Summer: \$0.10



■ % >300% Baseline ■ % 200-300% Baseline ■ % 130-200% Baseline ■ % 100-130% Baseline ■ % <100% Baseline

● Production Level by Solar

	Current Usage (kWh)	Solar Production (kWh)	Estimated Utility Charge with Solar
January	400	178	\$28.3
February	400	197	\$25.9
March	400	219	\$24.4
April	400	243	\$21.8
May	400	275	\$18.9
June	400	289	\$17.3
July	400	261	\$20.2
August	400	276	\$18.8
September	400	238	\$22.2
October	400	251	\$21.2
November	400	205	\$25.5
December	400	197	\$26.5

Annual Solar Production (kWh): **2,830**
 Conservative calculation using 25 yr. solar chart data, panel, and inverter specifications

Estimated 1st Year Electric Bill Savings: **\$276**
 Estimated by calculating your past electricity usage and the amount we will offset from your bill

Cost per kWh of Solar Electricity: **\$0.07**
 Calculated by dividing cost of system and expected power generation

Credit Given by Utility for Electricity: **\$0.10**
 Value of Actual kWh Produced by Solar Electric System

This information is intended for discussion purposes only and should not be construed as tax or financial advice. We recommend that you contact an accountant or tax attorney for any specific financial advice.



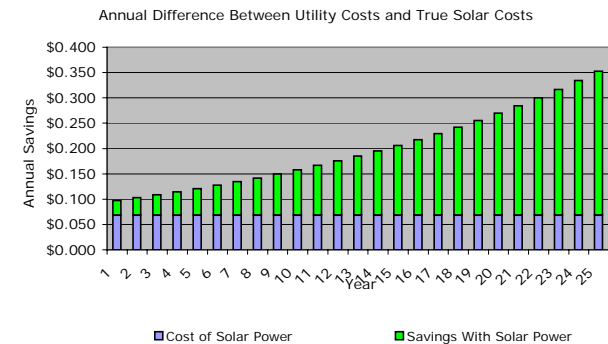
Financial Analysis for Units #2-5 at 1802 Canyon:

Tariff Trend Analysis for:

**1802 Canyon Units #2-5
Xcel - Schedule R
Non TOU**

Cost of Power:

Annual Residential Rate Escalation:	5.5%		
<small>Based on an Energy Information Administration 1970-2005 Trend Analysis</small>			
	Current	Year 10	Year 25
Average Utility Cost per kWh:	\$0.098	\$0.158	\$0.352
Fixed Price per kWh of Solar Power:	\$0.069	\$0.069	\$0.069
Savings per kWh:	\$0.029	\$0.089	\$0.284



Financial Return:

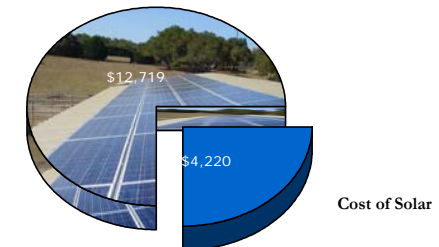
	1st Year	Year 5	Year 10
True return based on electricity bill paid with After-Tax Dollars:	\$ 276	\$ 335	\$ 428
Return on Investment post-tax:	6.5%	7.9%	10.1%
Equivalent Investment Yield with Pre-Tax Dollars	\$ 395	\$ 480	\$ 612
Return on Investment pre-tax:	9.4%	11.4%	14.5%

25-Year Lifetime Energy Costs from Utility and Savings Potential from Solar System

Cost Summary:

System Cost:	\$ 15,100
State Rebate:	\$ (9,000)
Federal Tax Credits:	\$ (1,830)
Other Tax Savings:	\$ -
Additional Savings:	\$ (50)
Net Cost:	\$ 4,220

Savings from Solar over 25-Year Lifetime of System



Definitions:

- Average Utility Cost per kWh:** Average cost of utility power offset by solar electricity
- Fixed Price of Solar Power:** The total lifetime costs, including maintenance, of the solar system divided by the lifetime kWh production of the system. The production includes 1/2% per year loss of output due to aging.

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Solar Electric Power System

ENVIRONMENTAL REVIEW

Name: 1802 Canyon #2-5 Date: 11/16/2007

System Description: 2,000 Watt, Utility Interactive Photovoltaic System

This sheet quantifies some of the environmental benefits that your system will provide by replacing electricity made from the burning of fuels.

<p>LIFETIME KWH PRODUCTION The amount of electricity your solar power system will produce over its 25-year lifetime</p>	Line a:	<u>66,664</u>
<p>BARRELS OF OIL OFFSET BY YOUR SYSTEM, LIFETIME The number of barrels of oil required to generate the same amount of electricity that your system will produce in its 25-year lifetime.</p>	= a. x .00203	<u>135</u>
<p>CAR MILES NOT DRIVEN, LIFETIME Using electricity generated from fossil fuels and driving cars are the two personal activities that have the most significant environmental impact.</p>	= a. x 1.7755	<u>118,328</u>
<p>ACID RAIN EMISSIONS REDUCTION, lbs Generating electricity from fossil fuels also releases Sulfur Oxides and Nitrogen Oxides, primary causes of acid rain, into the air. Acid rain damages lakes, streams,</p>	= a. x 0.0075	<u>500</u>
<p>SMOG EMISSIONS REDUCTION, lbs Nitrogen Oxides are a key contributor to the formation of ground level ozone, a major component of smog. Ozone irritates the eyes, and aggravates respiratory problems. It is our most widespread and intractable urban air pollution problem.</p>	= a. x 0.0036	<u>240</u>
<p>GREENHOUSE GAS REDUCTION, lbs Carbon dioxide, along with other 'greenhouse gases', causes global warming. This results in increased rainfall and violent storms, decreased snow and ice cover, and</p>	=a. x 1.42	<u>94,662</u>
<p>EQUIVALENT NUMBER OF MATURE TREES PLANTED Trees remove carbon dioxide from the atmosphere, and many environmentalists advocate tree planting as a way to offset carbon dioxide emissions into the</p>	= a. x 0.0034	<u>227</u>

System Performance – The cost savings values presented were developed using the best available “real world” factors that influence system performance. However any particular installation performance cannot be guaranteed to match performance measures stated and may vary. Data sources: Emissions data: US Environmental Protection Agency E-GRID 2000; Electricity mix and energy content: US DOE Energy Information Administration; Car miles and tree data: US EPA, Green Mountain Power.



System Performance Analysis Using Normal Net Metering: 1802 Canyon #1

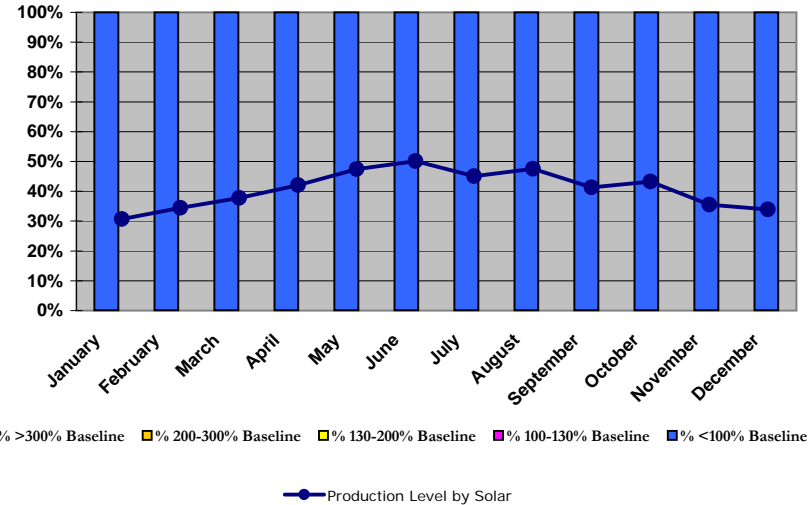
Current Power Costs by Tier with Offset From Solar

Site Location: Boulder
 System Size: 1,600 Watts(DC)
 Tilt Angle: 8 in 12 (34 Deg)
 Mounting Azimuth: 168 - 190(South)
 Utility Rate Structure: Xcel - Schedule R

40%
Total Energy Bill Offset

47%
Total kWh Offset

Cost Per kWh
 Winter: \$0.10 Summer: \$0.10



	Current Usage (kWh)	Solar Production (kWh)	Estimated Utility Charge with Solar
January	400	143	\$31.8
February	400	158	\$29.7
March	400	175	\$28.6
April	400	195	\$26.5
May	400	220	\$24.3
June	400	232	\$22.9
July	400	209	\$25.3
August	400	221	\$24.2
September	400	191	\$26.9
October	400	201	\$26.1
November	400	164	\$29.5
December	400	157	\$30.4

Annual Solar Production (kWh):	2,264
Conservative calculation using 25 yr. solar chart data, panel, and inverter specifications	
Estimated 1st Year Electric Bill Savings:	\$221
Estimated by calculating your past electricity usage and the amount we will offset from your bill	
Cost per kWh of Solar Electricity:	\$0.08
Calculated by dividing cost of system and expected power generation	
Credit Given by Utility for Electricity:	\$0.10
Value of Actual kWh Produced by Solar Electric System	

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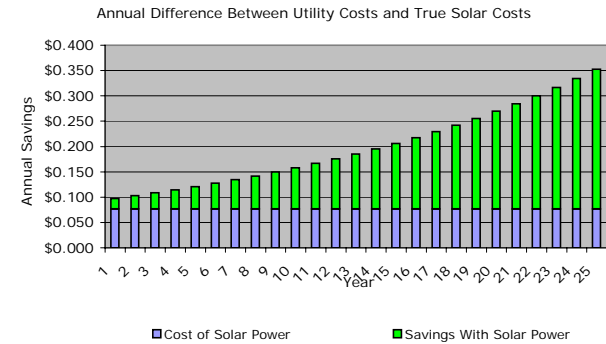
Financial Analysis Unit #1 at 1802 Canyon:

Tariff Trend Analysis for:

**1802 Canyon Unit #1
Xcel - Schedule R
Non TOU**

Cost of Power:

Annual Residential Rate Escalation:	5.5%	<small>Based on an Energy Information Administration 1970-2005 Trend Analysis</small>		
		Current	Year 10	Year 25
Average Utility Cost per kWh:		\$0.098	\$0.158	\$0.352
Fixed Price per kWh of Solar Power:		\$0.076	\$0.076	\$0.076
		\$0.021	\$0.081	\$0.276



Financial Return:

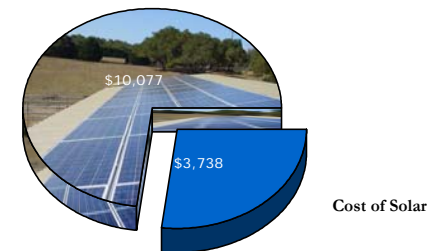
	1st Year		Year 5		Year 10
True return based on electricity bill paid with After-Tax Dollars:	\$ 221	\$	268	\$	342
Return on Investment post-tax:	5.9%		7.2%		9.2%
Equivalent Investment Yield with Pre-Tax Dollars	\$ 316	\$	384	\$	490
Return on Investment pre-tax:	8.4%		10.3%		13.1%

25-Year Lifetime Energy Costs from Utility and Savings Potential from Solar System

Cost Summary:

System Cost:	\$ 12,600
State Rebate:	\$ (7,200)
Federal Tax Credits:	\$ (1,620)
Other Tax Savings:	\$ -
Additional Savings:	\$ (42)
Net Cost:	\$ 3,738

Savings from Solar over 25-Year Lifetime of System



Definitions:

- Average Utility Cost per kWh:** Average cost of utility power offset by solar electricity
- Fixed Price of Solar Power:** The total lifetime costs, including maintenance, of the solar system divided by the lifetime kWh production of the system. The production includes 1/2% per year loss of output due to aging.



Solar Electric Power System

ENVIRONMENTAL REVIEW

Name: 1802 Canyon Unit #1 Date: 11/16/2007

System Description: 1,600 Watt, Utility Interactive Photovoltaic System

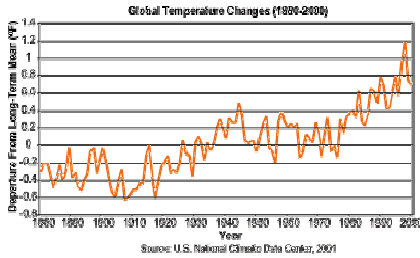
This sheet quantifies some of the environmental benefits that your system will provide by replacing electricity made from the burning of fuels.

<p>LIFETIME KWH PRODUCTION The amount of electricity your solar power system will produce over its 25-year lifetime</p>	Line a:	<u>53,331</u>
<p>BARRELS OF OIL OFFSET BY YOUR SYSTEM, LIFETIME The number of barrels of oil required to generate the same amount of electricity that your system will produce in its 25-year lifetime.</p>	= a. x .00203	<u>108</u>
<p>CAR MILES NOT DRIVEN, LIFETIME Using electricity generated from fossil fuels and driving cars are the two personal activities that have the most significant environmental impact.</p>	= a. x 1.7755	<u>94,662</u>
<p>ACID RAIN EMISSIONS REDUCTION, lbs Generating electricity from fossil fuels also releases Sulfur Oxides and Nitrogen Oxides, primary causes of acid rain, into the air. Acid rain damages lakes, streams,</p>	= a. x 0.0075	<u>400</u>
<p>SMOG EMISSIONS REDUCTION, lbs Nitrogen Oxides are a key contributor to the formation of ground level ozone, a major component of smog. Ozone irritates the eyes, and aggravates respiratory problems. It is our most widespread and intractable urban air pollution problem.</p>	= a. x 0.0036	<u>192</u>
<p>GREENHOUSE GAS REDUCTION, lbs Carbon dioxide, along with other 'greenhouse gases', causes global warming. This results in increased rainfall and violent storms, decreased snow and ice cover, and</p>	=a. x 1.42	<u>75,730</u>
<p>EQUIVALENT NUMBER OF MATURE TREES PLANTED Trees remove carbon dioxide from the atmosphere, and many environmentalists advocate tree planting as a way to offset carbon dioxide emissions into the</p>	= a. x 0.0034	<u>181</u>

System Performance – The cost savings values presented were developed using the best available “real world” factors that influence system performance. However any particular installation performance cannot be guaranteed to match performance measures stated and may vary. Data sources: Emissions data: US Environmental Protection Agency E-GRID 2000; Electricity mix and energy content: US DOE Energy Information Administration; Car miles and tree data: US EPA, Green Mountain Power.

Environmental Impact Review Background

Most of the electricity in America comes from electrical generation facilities that burn fossil fuels, such as coal and natural gas. Whenever fossil fuels are burned, some amount of pollution is released into the atmosphere. That means that everytime we use a kilowatt-hour purchased from a utility company to turn on a light or appliance, a little bit of air pollution is released on our behalf. One of the benefits of solar energy is that it does not pollute, and every kWh created by your solar power system is one that does not have to be created by burning fuel.



Scientists generally agree that as a result of the combustion of fossil fuels and other human activities, atmospheric levels of carbon dioxide have increased by nearly 30% since the beginning of the industrial revolution. Carbon dioxide, along with other 'greenhouse gases', enhances the heat-trapping properties of the Earth's atmosphere. Thus, increased levels of greenhouse gases in the atmosphere are believed to be linked to an increase in global temperature. Global temperatures have risen by about 1 deg F since the late 19th century, and are expected to rise another 1-4.5 deg F in the next 50 years. Rising global temperature has resulted in increased rainfall and violent storms, decreased snow and ice cover, and rising sea levels. In the US, 82% of greenhouse gas emissions comes from burning fossil fuels to generate electricity and power cars. Your solar electric power system can dramatically reduce the amount of carbon dioxide released into the atmosphere.

Trees remove carbon dioxide from the atmosphere, and are one of two major CO₂ 'sinks' (the other is oceans) that have helped to maintain the balance of CO₂ in the atmosphere throughout the course of time. Many environmentalists advocate tree planting as a way to offset CO₂ emissions into the atmosphere. Using solar electricity can be equated to planting trees in terms of atmospheric CO₂ reductions.



Generating electricity from fossil fuels also releases Sulfur Oxides (SO_x) and Nitrogen Oxides (NO_x) into the air. SO_x and NO_x are primary causes of acid rain. Acid rain causes acidification of lakes and streams and contributes to damage of trees at high elevation and many sensitive forest soils. In addition, acid rain accelerates the decay of building materials and paints, including irreplaceable buildings, statues, and sculptures that are part of our nation's cultural heritage. Prior to falling to the earth, SO_x and NO_x gases and their particulate matter derivatives, sulfates and nitrates, contribute to visibility degradation and harm public health.

In addition to acid rain, Nitrogen Oxides (NO_x) are a key contributor to the formation of ground level ozone, which is a major component of smog. Ozone irritates the eyes, damages the lungs, and aggravates respiratory problems. It is our most widespread and intractable urban air pollution problem. Using solar electricity reduces the amount of NO_x released into the air from power plants.

Using electricity generated from fossil fuels and driving cars are the two personal activities that have the most significant environmental impact. You can compare the amount of pollution generated by driving a car to that prevented by using solar electricity as another measure of the environmental benefits of solar.

The average American uses over 20 barrels of oil each year. You can also equate the solar energy your solar power system will save over its lifetime to equivalent barrels of oil as a measure of environmental benefits.