

# Solar Power For Your Home or Business in Crowley County



## How does it work?

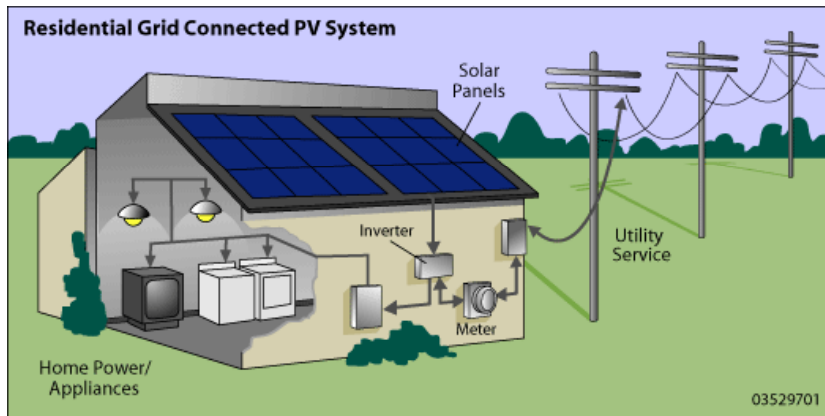
- Solar Panels are installed on the roof or in the yard. 300 to 1,000 square feet of space is needed.
- Solar panels produce DC power and your home appliances need AC power. An inverter is installed to convert power from DC to AC.
- Your house is still connected to the electric grid. When the solar panels produce more electricity than you consume, your meter spins backwards and the excess electricity is sold back to the utility company.

## How much will it cost?

An approximated cost for 5kW and 2.5kW systems is shown below.

	System Size kW	System Output kWh/yr	Avg. Usage in Crowley County kWh/yr	Est. Total Cost \$7.25/Watt	Est. Utility Incentive \$3/Watt	Est. Fed. Tax Credit 30%	<b>Net Investment</b>	Est. 10 years of Elec. Bills w/o Solar	Simple Payback Years
Inefficient Home	5.0	7,825	7,340	\$36,250	\$15,050	\$6,360	<b>\$14,840</b>	\$11,588	10 to 12
Efficient Home	2.5	3,912	7,340	\$18,125	\$7,525	\$3,180	<b>\$7,420</b>	\$11,588	8.5 to 10.5

- Solar panels cost \$6 to \$8 per Watt. The above calculation is based on a cost of \$7.25 per Watt.
- Payback will improve if grant funding is used and if energy costs rise faster than estimated.
- The solar cost can be reduced by first reducing energy use through energy efficiency upgrades.



## Will it power my entire house?

- The solar panel size needed depends on how much power your appliances need and how much you use the appliances.
- A 5kW system in Crowley County can produce 7,825 kWh/yr, which is enough to power a typical home.
- The average household energy use in Crowley County is 7,340 kWh/yr. With energy efficiency projects, this usage can be reduced and a smaller solar array can be installed.
- See other side for average appliance power consumption and typical energy efficiency projects

## How will I pay for it?

- Electrical Utility Incentives & Rebates (between \$2 and \$4.5 per Watt)
- Federal tax credit (30% of total cost)
- USDA Grants for Rural Renewable Energy Projects
- CO Department of Agriculture Grants for Renewable Energy Projects
- USDA's Guaranteed Loan Program

## Why should I consider solar at this time?

- Great utility rebates are currently offered
- There is a 30% Federal tax incentive currently offered
- It is a long term investment that protects home owner from future utility cost increases
- Grant funding for solar energy is available to rural farmers, ranchers, and small businesses at this time

# Energy Efficiency in Crowley County



## Typical Wattages of Appliances

<b>Kitchen</b>	<b>Watts</b>
Coffee Maker	900-1,200
Dishwasher	1,200-2,400
Microwave Oven	750-1,100
Toaster	800-1,400
Refrigerator	725-850
<b>Heating and Cooling</b>	<b>Watts</b>
Ceiling Fan	65-175
Window A/C	55-250
Central A/C	240-750
Furnace	750
Water Heater	4,500-5,500
<b>General</b>	<b>Watts</b>
Incandescent Light Bulb	60 to 100
CFL Light Bulb	7 to 23
Clothes Washer	350-500
Clothes Dryer	1,800-5,000
Personal Computer	250
Laptop	50
Radio	70-400
VCR/DVD	17-25
TV	110-170

## Potential Energy Savings Projects

- Install a programmable thermostat
- Replace high use incandescent lamps with compact fluorescent lamps
- When replacing your dishwasher, choose an ENERGY STAR-labeled model
- When replacing your gas water heater, choose an energy efficient model
- When replacing your clothes washer, choose an ENERGY STAR-labeled model
- Insulate basement walls to R-11
- Insulate exterior walls to at least R-11
- When replacing your windows, choose a double-pane solar-control low-E argon gas wood frame window
- Have a professional seal your home's air leaks
- When replacing your gas furnace, choose an ENERGY STAR-labeled model
- When replacing your main refrigerator, choose an ENERGY STAR-labeled model