

# SOLAR ENERGY FACTS

## General facts

- Solar Energy is better for the environment than traditional forms of energy.
- Solar energy has many uses such as electricity production and heating of water through photovoltaic cells and directly for drying clothes.
- Solar energy can also be used to heat swimming pools, power cars, for attic fans, calculators and other small appliances. It produces lighting for indoors or outdoors.
- You can even cook food with solar energy.
- Solar Energy is becoming more and more popular. The worldwide demand for Solar Energy is currently greater than supply.

## Facts about Solar Energy usage:

- Solar Energy is measured in kilowatt-hour. 1 kilowatt = 1000 watts.
- 1 kilowatt-hour (kWh) = the amount of electricity required to burn a 100 watt light bulb for 10 hours.
- According to the US Department of Energy, an average American household used approximately 866-kilowatt hours per month in 1999 costing them \$70.68.
- About 30% of our total energy consumption is used to heat water.

## Facts about Solar Energy systems:

- A home solar system is typically made up of solar panels, an inverter, a battery, a charge controller, wiring and support structure.
- A 1-kilowatt home solar system takes about 1-2 days to install and costs around US\$10,000, but can vary greatly and does not take into account any incentives offered by the government.
- A 1-kilowatt home solar system consists of about 10-12 solar panels and requires about 100 square feet of installation area.
- A 1 kilowatt home solar system will generate approximately 1,600 kilowatt hours per year in a sunny climate (receiving 5.5 hours of sunshine per day) and approximately 750 kilowatt hours per year in a cloudy climate (receiving 2.5 hours of sunshine per day).
- A 1-kilowatt home solar system will prevent approximately 170 lbs. of coal from being burned, 300 lbs of CO<sub>2</sub> from being released into the atmosphere and 105 gallons of water from being consumed each month!
- About 40 solar cells are usually combined into a solar panel and around 10-12 panels mounted in an array facing due North to receive maximum sunlight.
- The system usually comes with a 5-year warranty, although the solar panels are warranted for 20.
- Relying on the battery back up, a solar energy system can provide electricity 24x7, even on cloudy days and at night.
- Solar panels come in various colours.

- Solar energy can be collected and stored in batteries, reflected, insulated, absorbed and transmitted.

### Sun related Facts about Solar Energy:

- Sunlight travels to the earth in approximately 8 minutes from 93,000,000 miles away, at 186,282 miles per second.
- The sun is also the main source of non-renewable fossil fuels (coal, gas and petroleum), which began life as plants or animals whose energy came from the sun millions of year ago.
- Solar energy is responsible for weather patterns and ocean currents.
- Clouds, pollution and wind can prevent the sun's rays from reaching the earth.

### Other Interesting Facts about Solar Energy:

- Da Vinci predicted a solar industrialization as far back as 1447.
- **In one hour more sunlight falls on the earth than what is used by the entire population in one year.**
- A world record was set in 1990 when a solar powered aircraft flew 4060km across the USA, using no fuel.
- Fierce weather cost the world a record \$130 Billion in the first eleven months of 1998- more money than was lost from weather related disasters from 1980 to 1990 (\$82 Billion).
- Researchers from the Worldwatch Institute and Munich Re blame deforestation and climate change from Earth warming for much of the loss. The previous one-year record was \$90 Billion in 1996. Source - Associated Press, November 28,1998.
- About 2 billion people in the world are currently without electricity.
- Accounting for only 5 percent of the world's population, Americans consume 26 percent of the world's energy.
- Electric ovens consume the most amount of electricity, followed by microwaves and central air conditioning.
- Third world countries with an abundance of sunlight and a population currently without electricity, represents the fastest growing market for solar energy, with the largest domestic market being the utilities sector.
- Shell Oil predicts that 50% of the world's energy will come from renewable sources by 2040.

source: <http://facts-about-solar-energy.com/facts-about-solar-energy.html>