



**Dear Sir / Madam,**

Thank you for your interest; we appreciate your valuable thoughts to use Solar Energy.

Here we are glad to let you know about us and our work experience in solar industry.

We are a **Channel Partner of Ministry of New and Renewable Energy, Govt. of India (MNRE)** as well as in **Maharashtra Energy Development Agency, Govt. of Maharashtra (MEDA)**. Also **registered with MSME&NSIC** and achieved **ISO 9001 – 2008 certificate** and **registered with NSIC, DGS&D**.

### **COMPANY PROFILE**

#### **Introduction of Company:**

The company is established in 2002 and situated in old M.I.D.C., Satara and in business of manufacturing all types of renewable energy equipment's like Solar PV Module, Solar Water Heater, Solar Inverters, Solar Lantern, Solar Cooker, Solar Street Light, Wind-Solar Hybrid Power Generating Systems, On Grid / OFF Grid Rooftop Solar Photovoltaic (PV) System, Solar Power Pack and various other quality Solar Products.

All these equipment's are cost effective and it means best products with best features and warm regards provided by '**SUNMITRA SOLAR PVT. LTD.**' (Formerly named Salunkhe Industries) Company brings you advance solar thermal and high efficient products which offers eco-friendly energy and advice based on engineering architectural principals.

The company is based upon eco-friendly nature so company creates own identity in the market of green and clean energy and company also helps in establishing 'Green Revolution' on our planet and to carry brighter and energetic sun rays to human life by using the natural sources of energy and minimizing the use of conventional fuels.

Company plays vital role in cost control and saving energy through the solar equipment's.

### **Objectives of Company:**

- ☞ To provide renewable energy products to the society.
- ☞ To establish India as a global leader in solar energy.
- ☞ To improve morals and good public relation.
- ☞ To create awareness with respect to renewable energy sources on earth.

### **Mission Statement:**

“Transformation from traditional energy to renewable energy”

### **Vision Statement:**

“To make people independent for energy”

### **Nature of Work:**

Company is engaged in manufacturing/EPC contractor of renewable energy products, which are not only cost and energy savers but also eco-friendly based. The company produces all types of solar equipment's and domestic windmill products like Solar PV module, Solar Water Heater, Solar Inverter, Solar Lantern, Solar Home Light System, Solar Street Light, Solar Cooker, On Grid / OFF Grid Rooftop solar Photovoltaic (PV) system etc. All these are renewable products, which utilize energy from sun light and give benefits to user.

We have a vast experience of more than 17 years and are reputed in this sector to provide assured after sales services. This has helped to create good-will in the minds of our customers. We do provide assistance in various Government Schemes to our customers as and when needed. We have also achieved various Government Awards in the Solar Sector for creating awareness and betterment of our society and environment through Solar Power.

# Solar Rooftop System

Need of solar energy increased due to four developments:

- The falling cost of rooftop solar.
- The increasing price of electricity.
- Higher feed-in tariffs.
- shortage of non renewable energy sources

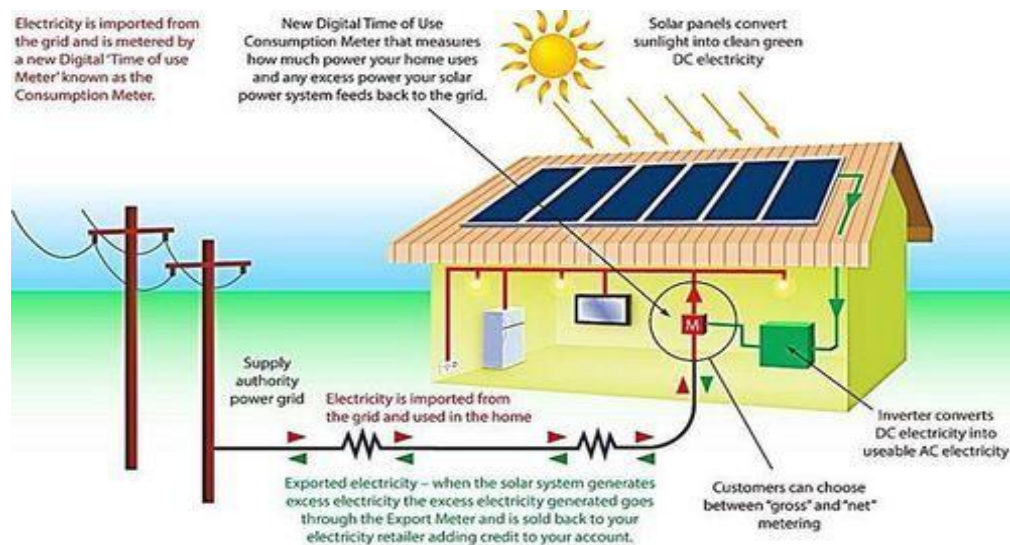
## What is a solar rooftop system?

A rooftop photovoltaic power station, or rooftop PV system, is a photovoltaic system that has its electricity-generating solar panels mounted on the rooftop of a residential or commercial building or structure.

## How does a rooftop solar system work?

Rooftop solar panels soak up the sun.

When the sunlight hits the solar cells on a rooftop solar panel, it converts particles of sunlight (photons) into electrons of direct current (DC) electricity. And inverter converts into alternative current (AC).



## Components of a rooftop solar PV plant

- PV modules (panels)
- Inverters
- Mounting structures
- Wirings
- If battery backup is required, then **Batteries**.

### **Is rooftop solar worth it in India?**

The biggest advantage of installing rooftop solar panels is that they offer cost savings. The tariff rates for rooftop solar in comparison to industrial and commercial tariff rates are cheaper by 17% and 27% respectively. Solar Rooftop installations are also attaining grid parity in many residential sectors of India.

<b>Advantages of Solar Energy</b>
Renewable Energy Source
Reduces Electricity Bills
Diverse Applications
Low Maintenance Costs
Technology Development
Pollution free

### **How many solar panels are required for 1kW?**

1 unit of electricity implies 1 kW generated/ utilized in an hour. You need to install at least 3 - 4 solar panels based on watt peak in an array for the 1 kW solar systems.

### **How many solar panels are you allowed or needed to run a house?**

<b>Household Size</b>	<b>Annual Electricity Usage</b>	<b>Number of Solar Panels</b>
1 person	850kWh	4
2 people	1,700kWh	8
3 people	2,550kWh	12
4 people	3,400kWh	16

### **Do solar panels work at night?**

As mentioned above, solar panels produce no electricity at night. But they tend to produce extra power during the day when the sun is out. In order to balance things out, and keep the electricity running after dark, solar customers use either solar battery banks to store energy or net metering.

### **Does solar panel work in winter?**

Even in the most frigid weather, solar panels turn sunlight into electricity. Solar panels create energy from our sun's abundant light, not the sun's heat. Thus, even in winter months, if sunlight is hitting a solar panel, it will generate electricity. Cold climates are actually optimal for solar panel efficiency.

### **Are solar panels bad for your roof?**

Solar panels don't damage your roof when installed properly. For most homeowners, installing solar panels will not result in roof damage as long as your solar installer is a licensed, qualified professional and your roof is in good condition.

### **How long does a solar panel last?**

How long do solar panels last? As a general solar industry rule of thumb, solar panels last about 25-30 years. However, this doesn't mean that they stop producing electricity after 25 years – it just means that energy production has declined by what manufacturers consider to be a significant amount.

### **What happens to solar panels after 25 years?**

A panel with a degradation rate of 1% per year will be 10% less efficient after 10 years. In fact, 78% of systems tested had a degradation rate of less than 1% per year. That means that after 25 years of use, about 4 out of 5 solar panels still operate at 75% efficiency or better.

### **What happens to solar panels at end of life?**

During the life of photovoltaic panels, a 20 % decrease in power capacity might occur. Between the first 10 to 12 years, the maximum decrease in efficiency is 10 %, and 20 % when reaching 25 years. The lifespan of solar panels may thus be much longer than officially stated.

### **Should I wash my solar panels?**

However, unless you live somewhere with high amounts of smog, dust, dirt or sand blowing around, solar panel cleaning is generally not necessary. In most cases, occasional rain will be enough to naturally and safely keep your solar panels clean and free of debris that could lower production.

### **Can you use a pressure washer to clean solar panels?**

If you are going to clean your solar panels yourself, use water, a gentle soap like dishwashing detergent and a soft brush to get the buildup out of the corners. Avoid harsh chemicals, abrasive scrubbers and pressure washers, which could damage your solar panels. And be careful up there.

### **How often wash solar panels?**

Unfortunately, it is often the case that the installation dates the last time a solar system owner ever looks at their panels – until something goes wrong. We recommend that panels be cleaned and inspected at a minimum once every six months.

### **Do solar panels make your roof last longer?**

If you have solar panels that will last for 20 years and a roof that will only last between 10 – 15, it increases the cost of maintenance. Try to match both projects in terms of how long they will last in order to reduce the amount of effort, time and money you will need to invest.

### **Do solar panels cool the roof?**

Solar Panel Cooling: PV Systems Reduce Heating Costs in Cold Seasons. The idea is simple: when sunlight hits your house it warms your roof and pushes heat into your home. The

researchers found that solar panels can lower a roof's temperature by 5 degrees Fahrenheit, or about 3 degrees Celsius.

### **Do solar panels extend roof life?**

Most solar companies don't offer roofing services, although there are some exceptions. Solar panels are more durable than most roofing materials. As a result, when you pair solar with a roof replacement, the panels actually extend the lifetime of the portion of the roof that they cover. And we Sunmitra Solar provide structures also.

### **Do solar panels need a lot of maintenance?**

Solar Panel Servicing

Solar panels generally require very little serving. They are very durable and should last around 25-30 years with no maintenance. The only maintenance you should need to perform is to wash them clean of dirt and dust two to four times a year, which you can easily do with a garden hose.

### **Can you turn off a solar panel?**

Solar panels cannot be turned off when exposed to light. In the event of a short circuit, fire or flood the solar panels continue to generate potentially lethal DC voltage. To stop PV is currently the only safe way to deactivate panels.

### **What does a solar inverter do?**

A **solar inverter** is one of the most important elements of the **solar** electric power system. It converts the variable direct current (DC) output of a photovoltaic (PV) **solar** panel into alternating 240V current (AC). This AC electricity then can be fed into your home to operate your appliances.

### **What is the lifespan of a solar inverter?**

About 10 years

The lifetime of inverters in household installations is about 10 years. On average, during the lifetime of solar panels, the inverter should be replaced once. The life expectancy of an inverter depends on its environment.

### **How big of a solar inverter do I need?**

As a general rule of thumb, the size of your inverter should be similar to the DC rating of your solar panel system; if you are installing a 6 kilowatt (kW) system, you can expect the proposed inverter to be around 6000 W, plus or minus a small percentage.

### **Do solar inverters need servicing?**

While most solar power inverters come with a lifespan of approximately 5 to 10 years, they do require regular maintenance in order to ensure optimal solar PV inverter efficiency.

### **How do I know if my solar inverter is working?**

A simple health check is to look at the colour of the lights shining on the box during daylight hours when the system's meant to be running. A green light on your inverter means your system

is functioning properly. A red or orange light during daylight hours means there's a system event or fault.

### **What does a solar panel inverter look like?**

A solar inverter or PV inverter, is a type of electrical converter which converts the variable direct current (DC) output of a photovoltaic (PV) solar panel into a utility frequency alternating current (AC) that can be fed into a commercial electrical grid or used by a local, off-grid electrical network.

### **Can solar inverters be repaired?**

In some cases, problem inverters only need a reboot and are not broken at all. In other cases, we may recommend inverter repair or a complete inverter replacement. Every day you spend with a faulty panel or inverter costs you money. Contact Sunmitra Solar today and continue to enjoy the benefits of solar power.

### **How many types of solar inverters are there?**

#### **Three types**

There are three types of inverters that are currently available to you for your solar energy system: string (also known as centralized) inverters, power optimizer systems (also known as string inverters + power optimizers), and micro inverters.

### **What does a 5kW inverter mean?**

The rule is that you are allowed to have your solar power system over-sized by 133%. This means that you can get an inverter with 5kW capacity and add 6.6kW of solar panels ( $5\text{kW} \times 133\% = 6.6\text{kW}$ ).

### **How much solar can I put on my roof?**

As panel capacity can be one third greater than inverter capacity, you are allowed up to 6.66 kilowatts of panels.

### **Can we run AC with solar power?**

Also, install more kW of solar panels if usage of AC is high. However, off-grid solar system will support the running of ACs even without electricity (as batteries store the excess power generated by the sun, which helps in running the appliance even when there is no supply from the grid).

### **Is solar the future?**

The Future of Solar is Bright. The Sun emits enough power onto Earth each second to satisfy the entire human energy demand for over two hours. Given that it is readily available and renewable, solar power is an attractive source of energy. However, as of 2018, less than two percent of the world's energy came from solar.

### **Is it harder to sell a house with solar panels?**

If you've leased a solar system from your local solar installer, selling your home may be a bit more difficult than if you owned panels. According to additional research by Lawrence Berkeley National Laboratory, though, leased panels probably won't impact your home's value.



### **Can a solar roof power a house?**

An average 2,000-square-foot home across the US uses approximately 1,000 kWh per month of power. This is approximately 32 kWh per day.

### **How many solar panels are needed to run a house?**

16 panels

How many solar panels to supply an average household? Garrison stated that the typical home is approximately 1,500 square feet, with electrical costs of about Rs. 7500 per month. Such a house generally needs about 16 panels to completely cover electrical power needs.

### **Is it dangerous to live near a solar farm?**

Not only can people be injured due to the high voltage produced by the system, but the expensive equipment is at risk if intruders enter the area with intent to destroy or steal items. Regular inspection and quick response to this is crucial for all solar farms.

### **What is the future of solar?**

The Current State of Solar

At 27%, solar energy systems such as solar farms and concentrating solar power (CSP) plants would become the world's most valuable energy resource, generating more energy than fossil fuels, wind, or hydroelectric systems, as well as reducing carbon emissions by 6 billion tonnes per year.

### **Are solar panels good for your health?**

The environmental benefit of solar energy

Solar energy creates clean, renewable power from the sun and benefits the environment. Alternatives to fossil fuels reduce carbon footprint at home and abroad, reducing greenhouse gases around the globe. Solar is known to have a favorable impact on the environment.

### **How do I monitor my solar output?**

Monitor Your Production

Most solar companies provide some kind of monitor for the systems they install, which may be a physical monitor at your home or an app you can access online. If your provider doesn't offer a monitoring service, you can track solar energy production through the inverter itself.

### **How do I turn on my solar system?**

Locate your electrical panel and look for the breaker labeled "PV/SOLAR BREAKER". Turn breaker on and secure the cover on your electrical panel. Once all switches AC and DC are turned on, the system should be up and running. Some systems may have two or more disconnects.

### **How many solar panels do I need for off grid?**



Since one solar panel produces about 1 kWh per day, you would use 30 solar panels to account for 80% of your average consumption. The purpose of this is to give a rough idea of how many solar panels you will need.

### **Do solar panels hurt the resale value of your home?**

The Appraisal Institute found that, for every Rs. 1 in annual electricity bill savings that solar panels provide, home resale values go up an average of Rs. 20. Even if your installation only reduces your monthly power bill by Rs 42, that still translates to a Rs. 20,000 increase in your home's ticket price.

### **How do I calculate how much solar power I need?**

You can calculate how many solar panels you need by multiplying your household's hourly energy requirement by the peak sunlight hours for your area and dividing that by a panel's wattage. Use a low-wattage (150W) and high-wattage (370W) example to establish a range (ex: 17-42 panels to generate 11,000 kWh/year).

### **How many kW of solar do I need?**

Finding the right system to meet your need

Each kW of solar you install will produce around 4 - 4.5 kWh per day (depending on the aforementioned factors). To ascertain the size of the system you need, just divide your daily consumption by this amount.

### **Do you need WIFI for solar panels?**

Although, you don't need the internet for your solar array to produce an electric current; you do need the internet if you want to monitor your panels. Typically, a modem comes with your internet subscription, but you will also want a wireless router.

### **How big is a 5kW solar system?**

400 square feet

A 5kW Solar Kit requires up to 400 square feet of space. 5kW or 5 kilowatts is 5,000 watts of DC direct current power. This could produce an estimated 350 to 850 kilowatt hours (kWh) of alternating current (AC) power per month, assuming at least 5 sun hours per day with the solar array facing South.

### **How much should a 5kW solar system cost?**

How much does it cost? Good quality 5kW solar systems range in price from Rs. 3,01,500 to Rs. 6,04,516. Although cheaper systems are available, you always get what you pay for. Sticking within this price range ensures you're purchasing a good quality solar PV system.

### **How much power does a 5kW solar system produce per day?**

Approximately 20kWh

A 5kW solar system will generate approximately 20kWh per day, depending on your location and a variety of other factors.

If you have any queries, Please contact us

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