

Before You Purchase A Solar Power System

by Anand Kumar Ashodhiya - Friday, October 05, 2018

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Solar Energy being very new and innovative technology, you must understand basics of solar energy “Before You Purchase A Solar Power System”. Due to huge growth in interest in solar energy sector and demand therein, people from all streams are swarming to buy solar energy power plant, solar system for their household / shops / malls / industry’s use.

The past year has seen an enormous progress in interest in renewable energy solutions, compelled by a series of apprehensions relating to climate change, greenhouse gas emissions, sustainability and energy independence. The uptake of renewable energy is being further stimulated by an emergent assortment of government solar subsidy, solar incentives and rebate schemes which make renewable energy solutions more attractive and affordable for households, shopkeepers, business owners equally.

Understand types of plants before your purchase a solar power system

First of all you have to understand types of Solar Power System before you purchase [a Solar](#) Power System. There are three types of solar power system in broad category i.e. On-Grid, Hybrid and Off-Grid.

- **On-Grid Rooftop Solar Power Plants.** Grid-Tied rooftop solar plants are installed in such areas where grid electricity is available for almost 24 hours a day to enable excess electricity exporting to the Grid through Net Meter. These systems are eligible for Govt Subsidy for Residence, Institutions and NGOs to the tunes of Rupees 20,000 per kW or 30% of the project, whichever is less. No batteries are installed in this kind of system, the Grid acts as the storage. The plant will not work in the absence of Grid for safety measures. This would enable users to cut their electric bills up to 90% for almost 25 years. One Kilowatt [Grid connected rooftop solar power plant](#) may generate 4 to 5 units per day subject to clear day light and availability of Grid. Solar Photo-voltaic modules may perform at least 25% of its warranted capacity even on cloudy days. Solar Photo-voltaic Modules are warranted to perform 80 to 90% for 25 years i.e 90% for first 10 years and 80% for remaining 15 years. One kilowatt solar plant may help you to reduce your electric bill up to Rupees 1000 per month for 300 clear [sunny days](#) in India. Installation of One kilowatt Solar Power plant would require 110 Square Foot (11 Square meters) shadow free empty roof space.
- **Hybrid Rooftop Solar Power Plants.** Hybrid rooftop solar plants are installed in such areas where grid electricity is available for 18 to 20 hours a day to enable excess electricity exporting to the Grid through Net Meter as well as to power the load from batteries during Grid failure. These systems are also eligible for Govt Subsidy for Residence, Institutions and NGOs to the tunes of Rs.20,000 per kW or 30% of the project, whichever is less. Batteries as per system size are installed in this kind of system, the Grid would also acts as the storage being a Grid tied system. The plant will work even in the absence of Grid, however it is quite expensive. This would enable

users to reduce their electric bills up to 80% for almost 25 years. One kilowatt Hybrid rooftop solar power plant may generate 4 to 5 units per day subject to clear day light and availability of Grid. One kilowatt solar plant may help you to cut your electric bill up to Rupees 800 per month for 300 clear sunny days in India. Installation of One kilowatt Solar Power plant would require 110 Square Foot (11 Square meters) shadow free empty roof space.

Note *On-Grid and Hybrid solar power plant equivalent to Sanctioned Load (SL) of your electric meter ranging from 1 to 500 kilowatt may be installed after obtaining prior sanction from State Nodal Agency of particular state Government. On-Grid and Hybrid Solar plant is comprised of Solar Panels, Mounting Structure, Connectors, DC Wire, Solar Batteries, On-Grid / Hybrid Inverter, Array Junction Box, Distribution Junction Box, Surge Protection Device, Earthing and Lightning Arresters along with other BOS (Balance of System). On-Grid / Hybrid solar system also includes mandatory 5 Years Annual Maintenance Contract (AMC) as per guidelines given by [MNRE, Govt of India](#) other than the individual guaranties / warranties of various [products](#) / components.*

- **Off-Grid Rooftop Solar Power Plants.** Off-Grid rooftop solar plants are installed in such areas where grid electricity is either not available during day time or very limited as in the remote areas. The load is powered from batteries. These systems are not eligible for Govt Subsidy. Batteries as per system size are installed in this kind of system. The plant will work even in the absence of Grid. This would enable users to cut their electric bills reasonably for almost 25 years. Users may not avail 30% Subsidy on Solar Power Electricity Panels since Off-grid Rooftop Solar System installed at their empty roof space are not eligible for Govt aided Solar Subsidy. Solar Photo-voltaic modules may perform at least 25% of its warranted capacity even on cloudy days. Solar Photo-voltaic Modules are warranted to perform 80 to 90% for 25 years i.e 90% for first 10 years and 80% for remaining 15 years. One kilowatt off-grid solar plant may help you to cut your electric bill up to Rupees 800 to 900 per month for 300 clear sunny days in India. One kilowatt (1000 Watt) off-grid solar power plant is sufficient enough to power up / charge your 02 batteries of 12 Volt 150 Ah. Installation of One kilowatt Solar Power plant would require 110 Square Foot (11 Square meters) shadow free empty roof space. Off-Grid solar power plant of any capacity may be installed without permission from any Government machinery. This plant is comprised of Solar Panels, Mounting Structure, Connectors, DC Wire, Solar Charge Controllers, Solar Batteries and Inverters along with other BOS (Balance of System). Off-Grid solar system normally carries standard individual guaranties / warranties of various products / components.

Calculate Load before Your Purchase a Solar Power System

Everybody want to understand the fact that how many solar panels are needed to power an average house or how do I calculate solar panels for my home. Once you have got know-how basics of Solar Power System, it is now very easy to calculate your load and assess your solar power system requirement for your dwellings, shops, malls, institutions or industry. A solar power system equivalent to your Sanctioned Load (SL) may be installed with prior permission from State Nodal Agency like HAREDA in Haryana. You may also find your daily usage of units being consumed from your electric bill. Simply divide total units by 30 / 60 days as per your billing cycle to come on to the criterion of daily unit consumption. 1 kilowatt solar power system may produce minimum 4 units to 5 units per day. This would now become very easy for you to decide the size of your solar power system.

Know Renewable Energy Sources before You Purchase A Solar Power System

Notable among the solutions currently on offer are those that derive energy either directly or indirectly from the sun. These systems are of three main types: photo-voltaic systems, wind systems and micro hydro systems. Photo-voltaic systems use [solar panels](#) to convert sunlight directly into electricity, while wind and micro hydro systems use turbines and generators to convert the energy in moving air and water (extremely driven by the sun) into electricity. In general, photo-voltaic systems are the most useful, adaptable and flexible renewable energy systems currently available today, and can be installed in almost any location with good results.

Consider Essential Questions before you purchase a Solar Power System

While photo-voltaic energy systems are proven equipment which has been around for decades, they are not yet well understood by the common public. There are a range of essential questions which must be considered before you purchase a Solar Power System, because even with subsidies and rebates such systems entail a substantial investment.

The first question is quite simple: how much energy is the system required to supply? The design of any solar power system must begin with a detailed and thorough audit of energy requirements. During the energy auditing process, it is important to identify area, load and of course the total investment. Seek an Energy Audit / consultation from Dayrise Solar Enerdy Pvt Ltd by requesting at <http://dayrisesolar.com/get-quotations>

Decide you requirement before you purchase a Solar Power System



Before You Purchase A Solar Power System

1. **Grid Connected Solar Power System for people lives in urban areas** like District Cities or Metropolitan Cities etc. Following the energy audit, the next question is what types of photovoltaic system best suits for your requirements? For anyone in an urban environment, grid-connected On-Grid / Hybrid solar power systems which feed energy directly into the power grid probably make the most sense. These systems are becoming increasingly common as more power utility companies embrace the technology and are updating their metering and accounting systems to accommodate them. Grid connected systems work on a simple principle: when your photovoltaic system produces more power than you need, the excess is fed into the grid and your meter in effect runs "backwards", creating a credit for your electricity account. At those times when your energy demands exceed your supply, extra power is drawn from the grid. At the end of each billing period, energy generated and energy consumed are reconciled and you either pay for the energy you have used or receive solar generation incentive for the energy you have supplied

2. **Off-Grid System for those living in more remote locations** like villages or small towns, where access to the public electricity grid may be either non-existent due to frequent power failures, limited grid availability or too much expensive energy. In this case, a standard Off-Grid Solar Power System with Solar Power Plant, Solar Inverter, charge Controller, Solar Batteries will be required. Such systems are different from grid-connected systems in that they must reliably supply all electrical energy requirements as there is no grid or limited grid to fall back on. Off-Grid systems also involve a greater investment because, unlike grid-connected systems, they require a battery bank and solar charge controller (regulator) for energy storage.

To summarize, 10 Tips are provided here before you purchase a solar power system

1. **Seek Recommendations** from Friends / Relatives who have already got their solar power plants installed and running successfully or at least they know a solar power system integrator / developer who is registered as a Company with Government to ensure quality, reasonable rates and After Sales Service. Before you purchase a solar power system in Sonipat, Haryana, India, look no further but immediately contact [DayRise Solar Enerdy Pvt Ltd](#) as One Stop Shop of your all Solar Energy Requirements.
2. **Check Google Star Ratings of a Solar EPC Company / Developer Company / Solar Integrator.** Always choose a local vendor in your city, area, region, State to ensure After Sales Service / AMC / Warranty / Guaranty etc.
3. **Look for the length of Manufacturer's warranty** for each component i.e. 25 years for solar panels and 5 years for Solar Inverter and Solar Batteries.
4. **Prices offered by the Vendors** has to commensurate with Benchmark Cost set by Ministry of New and Renewable Energy, Government of India. Presently Rs.65 per Watt has been fixed as benchmark cost for [Grid Connected](#) solar power system by MNRE for financial year 2018-19.
5. **Certification for Quality Assurance** is must. Always look for solar panels / modules duly approved by MNRE / NISE /BIS to ensure quality of the products along with necessary [ISO Certificates](#).
6. **Decide about type of Panels** i.e. Poly-crystalline or Mono-crystalline. Many time a question rises as can you walk on a solar panel? I say "No" but you may if you wanna damage your modules.
7. **Quality of Solar Panels Mounting Structure.** It has to be MS Dip Hot Galvanized to ensure that structure remains rust free and withstand weather conditions for a longer period. Structure must be able to withstand storm / winds pressure at 150 km per hour speed.
8. **Solar Inverter** comes in many varieties like Off-Grid, On-Grid and Hybrid as per your requirement. Further they are also classified into Pure Sine Wave, PWM or MPPT inverter.
9. **AMC / Warranty / Guaranty.** All On-Grid Rooftop Solar Power Plants aided with Government provided solar subsidy must carry a 5 years AMC / Warranty / Guaranty other than the individual component warranties.
10. **Get a Solar Quote** from various vendors / solar developer / solar EPC Company and compare the prices with respect to the quality as well as services offered. You may ask a proper quotation from DayRise Solar Enerdy Pvt Ltd by registering at <http://dayrisesolar.com/products> before you purchase a solar power system.

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