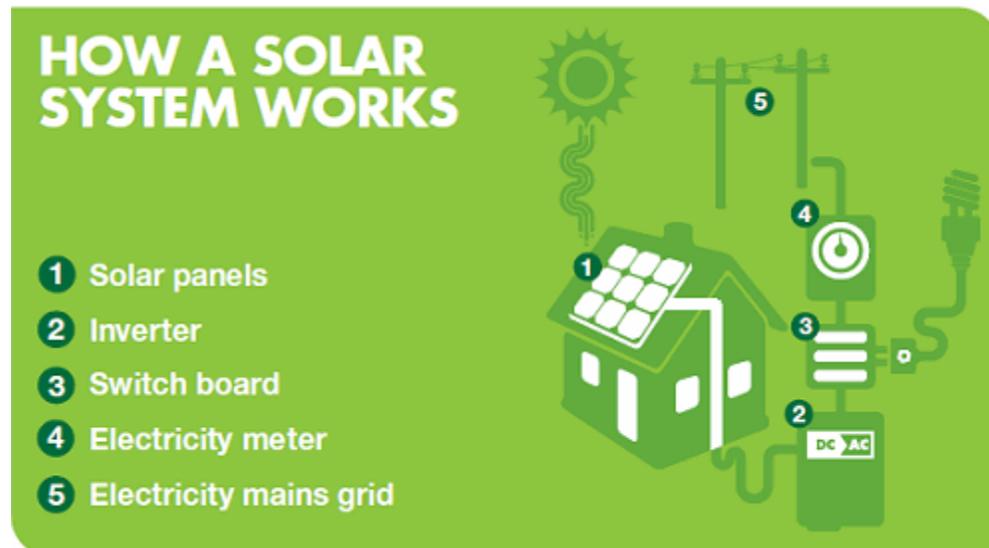




## HOW A GRID CONNECTED SOLAR POWER SYSTEM WORKS

While the technology behind solar energy may seem complex, when broken down, how solar power works is easy to understand – particularly in a grid connect scenario as it only requires a few components installed in your home or business.



- The sun shines on the [solar panels](#) generating DC electricity
- The DC electricity is fed into a [solar inverter](#) that converts it to 240V 50Hz AC electricity.
- The 240V AC electricity is used to power appliances in your home.
- Surplus electricity is fed back into the main grid.

Whenever the sun shines (and even in overcast weather), the solar cells generate electricity. The grid connect inverter converts the DC electricity produced by the solar panels into 240V AC electricity, which can then be used by the property/household.

If a grid connect system is producing more power than is being consumed, the surplus is fed into the mains power grid. Some electricity companies will meter the electricity fed into the grid by your system and provide a credit on your bill.

When the solar cells are not producing power, for example at night, your power is supplied by the mains power grid as usual. The energy retailer charges the usual rate for the power used.

As all of the components in a grid connect system have no moving parts, you can expect a long and hassle free life from your solar power system! Generous government [solar rebates](#) and incentives mean you can also save thousands on a grid connect system for a limited time!

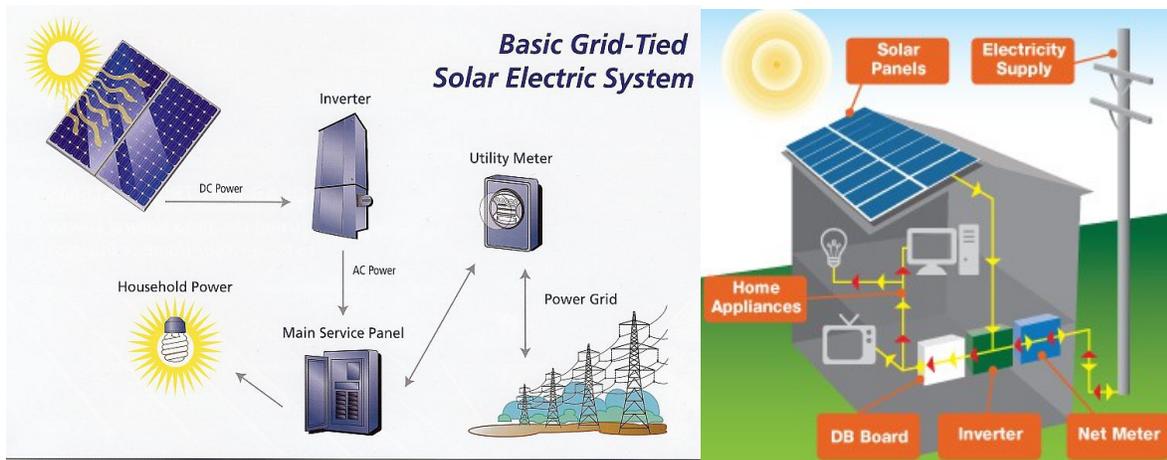
### **Installing a grid connect solar system**

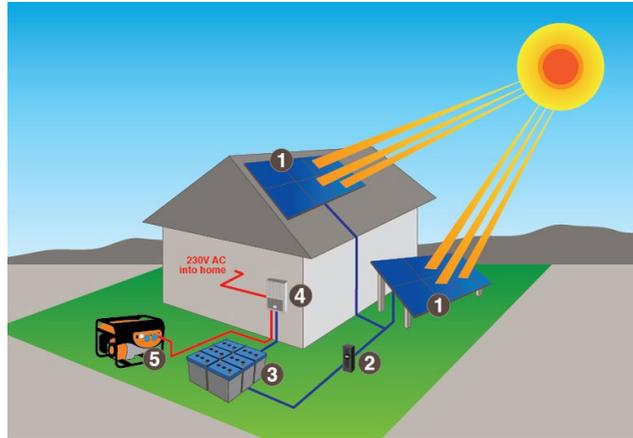
Most customers choose a roof mounted solar power system. For most of India, the modules should be installed facing south in order to take full advantage of the sun.

As an example, in Pune this angle would be approximately 19 degrees to the horizontal. Standard Maharashtra roofs usually have an angle of elevation of 19 ~22 degrees, which is acceptable. This provides a close approximation to the position in which a solar array produces its maximum output. For installations on flat roofs an elevated array frame allows the solar modules to be installed at an angle of elevation of approximately 19 degrees from the horizontal.

### **What's the right size system? How much will it cost?**

As everyone's needs are different and the generation potential of solar power differs from place to place, a quick way to get an answer to both these questions is to use our [free solar quote](#) from our team to determine the cost and estimated benefit of an installation.





## HOW DO OFF GRID POWER SYSTEMS WORK?

Advances in wind and solar power over the years has seen major improvements to off grid technology – it's now cheaper and more efficient than ever; so just because you're living in a remote location, doesn't mean you need to sacrifice creature comforts!

Here's how a remote power generation system works.

- Sun shines on the solar panel generating DC electricity
- The DC electricity is fed into a regulator which controls the amount of charge
- Deep cycle batteries are charged
- 12 volt appliances can be run directly off the batteries or the current routed through an inverter which converts it to 240V 50Hz AC electricity; suitable for running standard home appliances..

### Selecting a remote power system

Getting the right system for your needs is critical and much will depend on where you live – contact us for a good idea of the components you'll need and the cost. For tailored, no-obligation advice email or call our friendly team.

While a standalone power system (SAPS) can be quite an investment, generous government renewable energy incentives for people living in remote areas mean you can also save thousands on an off grid wind or solar power set-up for a limited time! Our team can inform you of the latest rebates and subsidies available.

You can install your remote power system from Liberty Electronics installer team, If you wish to install your own system, in the case of solar power, the optimum for solar panels is that the glass face of the modules is positioned at 90° degrees to the sun for most of the day. In India this angle would be approximately 17-35 degrees to the horizontal. In order to determine the optimum angle for your location.

Get started on your Energy Matters off grid system! Contact our team of friendly remote power experts for free, no-obligation advice.