

How to install your own solar panel

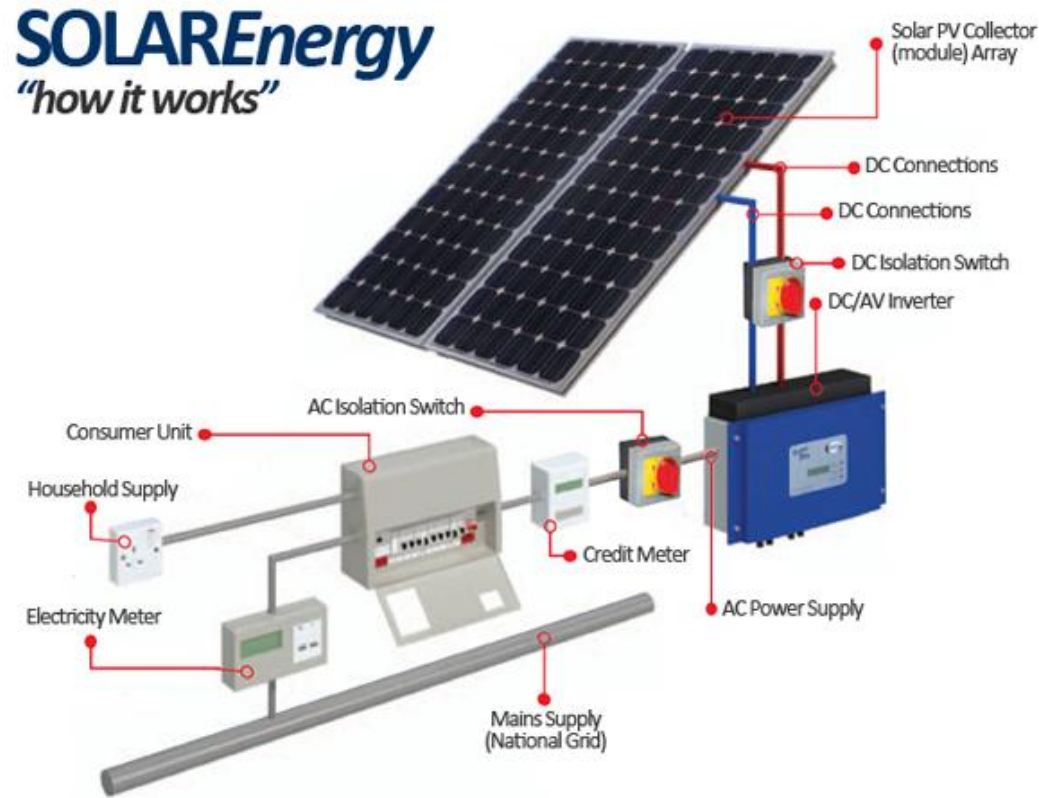


Figure 1

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¹ <http://www.mehtotal.co.uk/photovoltaic-solar-panels-facts.php>

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Introduction

The sun's energy has always been around since before the earth was created. We have always used the sun's light to our advantage in order to benefit our life. The first time civilization used the sun was as a sun dial in order to know what time of day it is. In this modern era, technology is so advanced now that we can use the sun to power our homes. Not only does it help make the environment cleaner but it also keeps money where it belongs, in your pocket.

This manual will show you how to put together your own solar panel. It is highly recommended that you do this with someone else. Make sure to read this thoroughly before you start any of the steps. Check to make sure you have all of the materials required to begin. After the panel is mounted, make sure that all of the connections are in correctly. Test to make sure that the panel.

If there is a problem, skim through the manual to make sure you didn't miss anything. If there's still an issue, call an electrician to take a look.

Materials:

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- Solar panel
- Power drill or screwdriver
- Screws
- AC Inverter
- PV wires
- Mounts
- Power optimizers
- Monitoring portal



Figure 2

² <http://www.bluepacificsolar.com/home-solar/solaredge-9800w-kit.html>

3Clean the roof

Clean your roof and make sure that it's sturdy. If it's not clean, you may slip or accidentally step on something injuring yourself. If the roof is not sturdy enough, then the part of the roof where you put the panel will cave in during the winter.



Figure 3

³ <http://johnrwhite.net/allcle1.jpg>

4 Mount the panel

1. Mark the spots where the panel will go(either straight or sideways).
 - Make sure to include a gap of at least ¼” for thermal expansion.
2. Place the mounts on those spots and use the power drill or screwdriver to drill in the screws.
 - Make sure to include at least a 1” gap for ventilation when panel is put on top of the mounts.
3. Carefully place the panel on top of the mounts, securing it in.



Figure 4



⁴ <http://www.solardude.com.au/blog/optimum-positioning-roof-mounted-solar-panels-sydney/>

⁵Connect panel to the DC Inverter

Leave gloves on, DO NOT TAKE THEM OFF!

1. Take the power optimizers outside of its box and connect the minus to its right spot and the positive on the right spot on the panel on the DC Inverter
2. Mount the DC Inverter, inside or outside, preferably close to the Breaker Box(AC supply unit)
3. Take the other end and connect it to the DC Inverter,

Be very careful and make sure inverter is shut off.



Figure 5

⁵ http://www.hopefulhill.com/public_html/images/solar/DSCN1793_512.jpg

Connect DC inverter to the Breaker Box (AC Supply Unit)

⁶ Make sure the power in the house is switched off for your safety. When you are connecting the wires, you will be removing the cover and the wire will be **live**, so even if you are wearing gloves **DO NOT TOUCH THE WIRES.**

1. Take the remaining PV wires and connect them to the Breaker box.
2. Use pliers to take off the cover for the wires if there is a cover.
3. Use pliers to bend and twist the wires until they are connected.
4. Use black tape or twist on wire connectors to cover the connected wires. Black tape, also known as electrical tape, is a good insulator for materials that conduct electricity.
5. Close everything up and turn the power back on.



Figure 6

⁶ <http://physics.dickinson.edu/~jacksond/carlislegreenbuild/SolarPanels/Pages/13.html>

Test

Check to make sure that everything is running smoothly. Use the Monitoring panel to measure the amount of energy that the panel is receiving to calculate how much electricity is being generated.

Troubleshoot

If you do not know how to work a Breaker Box, here is a website that will tell you all about it.

http://www.popularmechanics.com/home/improvement/electrical-plumbing/how_your_circuit_breaker_works