



Solar, is it for you?

New ways to harness the sun.

Through my extensive experience and knowledge of solar technology, I can safely say that it does not suit all people and their set-ups. However, with new products coming out all the time, the scope for their application is growing.

POWERTRAVELLER

Powertraveller's flagship product is the Solargorilla. This is a portable solar kit designed for using with laptops, although the kit contains many fittings and adaptors for other items including phones, satellite navigation systems, PDAs and iPods. The unit is encased in a tough, rubberised casing that's water proof when closed, and measures 264x200x19mm. The kit's used by British Army in Afghanistan. The Solargorilla has two output capacities 20V=500mAh and 5V=500mAh, and retails for \$385.

Also available from Powertraveller is the Powergorilla, which is a portable battery back up, available for your laptop, camera and various other items. This particular unit has various voltage output capacities from 5V=1000mAh to 24V=1.5Ah, including, of

course, 12V. This is a great unit, as it is small and compact. The Powergorilla retails for \$410.

Another handy item in the range is the Powermonkey, \$160, which is used for charging mobile phones and iPods.

UNI-SOLAR

There are many different types and brands of solar panels, one that's well known is the flexible, stick-on Uni-solar.

This panel comes in two sizes, which are popular with caravanners due to their dimensions: 68W 2849x394mm panel, and for commercial use, the 5m panel. They're a brilliant panel, are one of the most shade tolerant available and are made withstand the harsh Australian sun. Those who know Uni-solar are aware that the company used to make a very popular ridged frame and flexible panel. Unfortunately, the Uni-solar 64W and 32W are no longer available.

The 68W panel retails for \$740.

GLOBAL SOLAR

Global Solar's 62W Portable Power Pack with PowerFLEX solar cells incorporates unique



Above: The Powergorilla (top) can store excess charge captured with the Solargorilla panels.



The Solargorilla with a laptop in action.



Use the Powermonkey to charge your iPod or mobile phone.

capacity ranging from 2-40W. Monocrystalline panels are made from a monocrystalline silicon continuous crystal lattice structure with nearly no defects or imperfections and as a result are extremely efficient. Currently, there are a few brands selling cheaper panels like SolarKing and Powertech that are making their mark in the solar market.

Polycrystalline panels like Solarex are no longer on the market due to the multiple small silicon crystal that was used as a conducting gate material is no longer being produced. However, the panels were in a league of their own in their day.

PowerFLEX cells retails for \$1595.

MULTICRYSTALLINE PANELS

Multicrystalline panels made by Kyocera, BP Solar and Sharp are very well known among the RV and camper trailer communities around the world.

Multicrystalline panels are made up of multiple grains of monocrystalline silicon casted into ingots and then cut into wafers with a high efficiency. Kyocera makes a slim-framed panel with shadow tolerance built in. Not only do these panels fold neatly and have a suitcase-style carry handle, they also produce the most watts and amps for their size in the market. BP Solar makes a similar panel.

WHAT TO LOOK FOR IN A SOLAR PANEL

The market is getting more and more competitive with cheaper solar panels coming available. The points to look for when purchasing are

design for those awkward positions. The flexible, film-like panel can be laid out on the ground, over the bonnet, windscreen, even down a stair way, wherever you can get maximum sun.

“IT’S IMPORTANT WITH SUITCASE SYSTEMS TO CONSIDER HOW LONG THE LEAD IS AND CALCULATE WHETHER THE CABLE IS THICK ENOUGH FOR THE DISTANCE”

The 1333x762x0.76mm panels are incredibly portable due to the fact that they can be folded neatly into a small pouch, measuring 368x216x36mm.

Impressively, they are also very shade tolerant and work very well in the heat, with an operating temperature of -40 to 80°C.

The 62W, P3 Portable Power Pack with

MONOCRYSTALLINE PANELS

Monocrystalline panels like Suntech are capturing a wider share of the solar panel market as they are well made and have a





Above and below: With portable and flexible panels, you can place them in the sun while you stay cool under the shade.
Left: The flexible, film-like panel can be laid out on the ground, over the bonnet, wherever you can get maximum sun.



- How long is the warranty and who is it with?
- Will the company be around in years to come?
- Is the frame construction strong?
- Is the toughened glass rated to a standard?
- Will the laminate hang on at the rear?
- Will they produce the amps that they say?
- What will the after sales support be like?

FLEXIBLE PANELS

Portable and flexible panels are efficient as they're easier to place in the sun, and you can park your vehicle in the shade.

It's important with suitcase systems to consider how long the lead is and calculate whether the cable is thick enough for the distance. For example, a 130W portable kit uses 6mm twin (approximately 4.59sq mm) over 10m so that the voltage remains constant over that distance.

Have a look at where the regulator is mounted and whether it has enough features to suit your applications. Price will determine what you get. Also, it is important to check how the legs, handles and latches are put together. The use of quality accessories like stainless steel hinges and latches are another thing to be mindful of. These will keep your kit looking spick and span for years to come.

FIXED PANELS

Although not as flexible, it is simpler to mount panels on the roof of your van, 4WD, camper or motorhome, out of mind and out of sight. Just remember about parking under trees. You can use a digital solar regulator and this can give you readings on your voltage and amps provided from your solar as well as a load reading from what your fridge, lights, etc., draw. Some regulators can even record this.

Choosing a panel is not only just about what works, but how it works for you. The right solar set up depends on what power you consume and how you tour. Do you use permanently mounted panels, a portable kit, or both?

On a recent trip to the Kimberley, I made my solar set-up work for me. I used a panel permanently fixed to the roof of my vehicle and a portable kit, so that when we did come across some well-needed shade from under a boab tree we could park there and not have to worry about losing precious solar charge. All I had to do was fold out my kit, plug it in and continue claiming the sun's energy! ■

Dynamic Solar Solutions,
8 Allen Steet, Moffat Beach, Qld
For more information, visit
www.dynamicsolarsolutions.com.au
or phone (07) 5492 5071.