going solar
*Renewable Energy & Sustainable Living Showroom Since 1978*

# STAND ALONE POWER SYSTEMS

Details Current @ 01-01-11

Going Solar
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## LIVING OFF THE GRID

Stand alone power systems exist where there is no connection to mains electricity, or you have a preference for a self-sufficient energy system. On a country property, it is often more economical to install a SAPS system than to connect to the grid. You are then free from the usual perils and ongoing bills associated with mains electricity. And your power is clean!

## CHOOSING YOUR POWER SOURCE

When installing a SAPS system it is important to consider the range and suitability of power sources to your site. The geography and climate of your property are determining factors.

**Solar Electricity**
Solar electricity is applicable almost anywhere. There are few sites that have such low amounts of sunshine not to warrant a consideration of solar electricity. The sun is a versatile and reliable source of power despite its seasonal, and daily limitations.

**Wind & Micro-Hydro**
Wind and micro-hydro require a much more stringent site assessment to determine whether they are applicable power sources. Most coastal sites in Southern Australia experience their greatest wind speeds and rainfall in winter. If you have a windy site, or a creek, you may be able to utilise the benefits of a hybrid renewable energy system - a combination of solar, wind and/or hydro.

**Back-up Generator**
A lot of SAPS systems require a back-up diesel or petrol generator. A generator can offset the initial cost of your system and can provide for the irregular times when renewable electricity production is not possible

## SAPS EXAMPLES

Solar System sizes and costs will vary according to individual requirements. For further assistance on specific Solar SAPS Systems, please contact Going Solar. The following solar output figures are based on southern Victorian solar radiation data. * Please note: prices are indicative.

| **Daily Energy Load (kWh) | System Size (Watts) | # of Panels | Cost (inc. GST) *Excluding Rebate and Installation |
|---|---|---|---|
| 1.3 | 510 | 6 x 85W | $ 12,950 |
| 2.6 | 1000 | 10 x 100W | $ 24,840 |
| 3.7 | 2040 | 12 x 170W | $ 34,200 |

* All systems utilise Selectronic Inverters and Sonnenschien Gel Batteries
** Calculated by conducting an energy audit (see example to the right)

## ENERGY AUDIT EXAMPLE

This is a sample audit sheet for estimating how much and where you consume the most electricity. Please see the example below and use the blank audit sheet on the other side to record your own audit.

1. Make a list of all lights and appliances (and if applicable the quantity of each) in your home in column A & B. It's helpful to include the make and model of the appliance. Be sure to include all rooms, garage and workshops.
2. Locate the Wattage (W) of the appliance and place the figure in Column C.
   - *Finding Watts on Lights:* The wattage will be written on the light globe, either on the globe itself or on the base. For solar systems we recommend using energy efficient lighting (i.e. compact fluorescent bulbs).
   - *Finding Watts on Appliances:* The wattage will be written on a compliance sticker or plate on the back, usually near the power cord. Some fridges will have this information inside on the side of the door. If the power is not written in Watts, record the Volts (V) and Amperes (A) of the appliance. (Watts = Volts x Amps)
3. Estimate the hours per day the appliance or lights will be used in Column D.
4. Multiply the Qty x Watts x Hours/Day and place that figure in Column E.
5. Sum the total of Column E at the bottom to calculate your Total Daily Energy Consumption.

| *A* | *B* | | *C* | | *D* | | *E* |
|---|---|---|---|---|---|---|---|
| **Appliance / Light** | **Qty** | **X** | **Watts** | **X** | **Hrs/ Day** | **=** | **Watt Hrs/ Day** |
| **Kitchen** | | | | | | | |
| Lights | 2 | | 15 | | 2 | | 60 |
| Fridge | 1 | | 190 | | 8 | | 1520 |
| Microwave | 1 | | 1000 | | 0.25 | | 250 |
| Toaster | 1 | | 600 | | 0.1 | | 60 |
| Food Processor | 1 | | 500 | | 0.1 | | 50 |
| **Lounge room** | | | | | | | |
| Lights | 1 | | 15 | | 4 | | 60 |
| Lights | 2 | | 20 | | 1 | | 40 |
| TV | 1 | | 120 | | 2 | | 240 |
| Video | 1 | | 100 | | 1 | | 100 |
| Stereo | 1 | | 60 | | 2 | | 120 |
| **Bedroom** | | | | | | | |
| Lights | 2 | | 15 | | 1 | | 30 |
| **Study** | | | | | | | |
| Lights | 1 | | 20 | | 0.5 | | 10 |
| Computer | 1 | | 160 | | 0.5 | | 80 |
| Printer | 1 | | 100 | | 0.1 | | 10 |
| **Total Daily Energy Consumption** | | | | | | | **2630 Wh/day** |

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# YOUR AUDIT SHEET

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This is a blank audit sheet for you to use in estimating how much and where you consume the most electricity. See other side for instructions. Please fill out the contact details and audit table as completely as possible to ensure a speedy quote.

**Name:** _____

**Address:** _____

**Suburb:** _____ **Post Code:** _____

**Phone:** _____ **Alt. Phone:** _____

| Appliance / Light | Qty | X | Watts | X | Hrs/Day | = | Watt Hrs/Day |
|---|---|---|---|---|---|---|---|
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| | | | | | **Total Daily Energy Consumption** | | |