SELECTING THE CORRECT SIZE SOLAR PANEL

Solar panels can be utillised to extend battery run time when powering multiple accessories. A number of factors that can influence this include; the time of year, weather conditions, battery capacity and how long you run your appliances. Below is a guide to help you select the correct size panel.

AVERAGE AUSTRALIAN SUN HOURS

STATE CAPITAL	SUMMER (AV.)	WINTER (AV.)	ANNUAL (AV.)
Melb/NZ/Tas	6.6	2.8	4.7
Syd/Perth/Adel	6.5	3.7	5.1
Brisbane	6.3	4.5	5.4

TYPICAL CONSUMPTION LOAD

APPLIANCE	AMP DRAW	HOURS RUN	DAILY CONSUMPTION
1x Fluoro Light	1	5	5
L.E.D Lighting	0.2	5	1
Fridge	1	24	24
TOTAL			30

SOLAR PANEL OUTPUT

WATTS	AMPS
20	1.25
40	2.5
60	3.8
80	5.0
120	7.6
135	8.5

Typical example

Below are simple workings to assist with calculating your requirements.
Refer to the above tables for values:

$$\text{SOLAR PANEL SIZE} = \frac{\text{CONSUMPTION} - (\text{BATTERY CAPACITY} / \text{DAYS AWAY})}{\text{SUNLIGHT HOURS}}$$

Calculated example as follows: $4.3\ \text{Amps}^* = \dfrac{30\text{A/H} - (100\ \text{A/H} / 10\ \text{days})}{4.7\ \text{hours (Melb)}}$