What Can Solar Generators Power?

FP 2.2

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Overview

What Can Solar Generators Power?

- 3 Real-World Scenarios where Solar Generators were Deployed
- Small to Large Generators Highlighted to Demonstrate What Loads Can be Powered
- Difference in Sunny Day Usage Versus Nighttime Usage

SOLAR GENERATOR EXAMPLE 1

Small System

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Solar Generator Example 1

SOLAR PANELS &
CHARGE CONTROLLER
“THE GASOLINE”
1.5 kW

BATTERIES
“THE TANK”
2 kWh

INVERTER CHARGER
“THE ENGINE”
1.5 kW

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Solar Generator Example 1

Small System, Charging Station, Hurricane Ida Relief

New Orleans & Louisiana

Footprint Project deployed solar generators in New Orleans and the surrounding areas that were affected by Hurricane Ida. One need was for a small system that could be used for charging phones, laptops, WiFi, and other small devices. This example is focused on that scenario and was a perfect fit for a generator called the SunKit.

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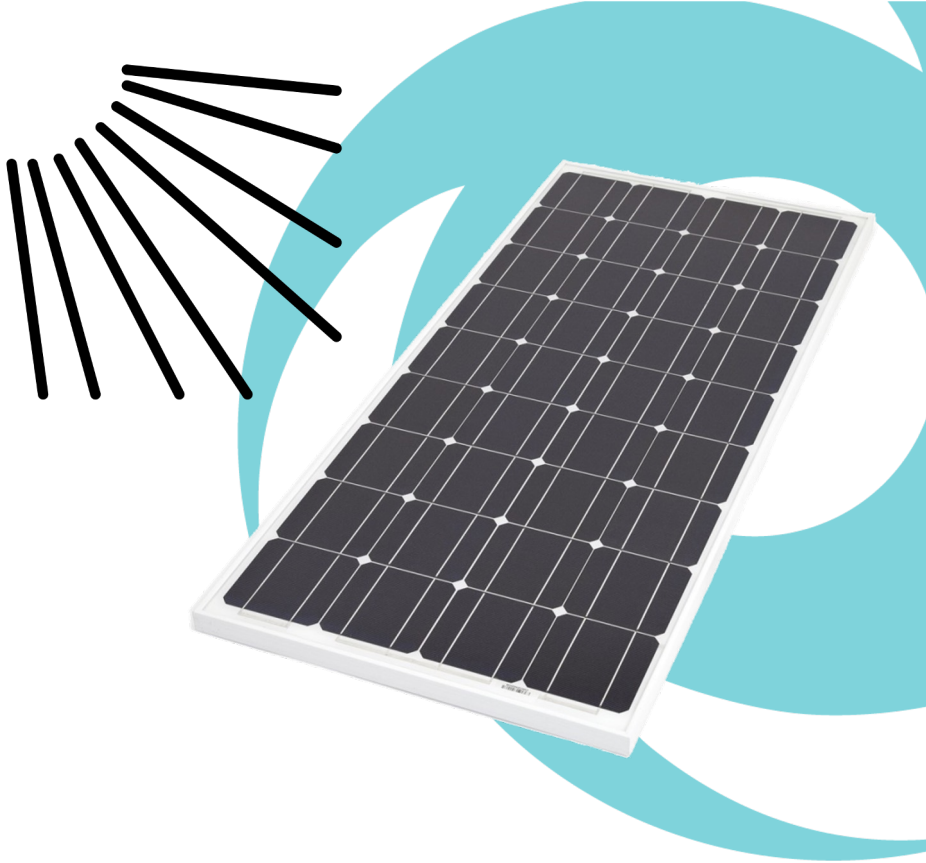
Sunny Day Capacity

100

5

1

1



1.5 kW

2 kWh

1.5 kW

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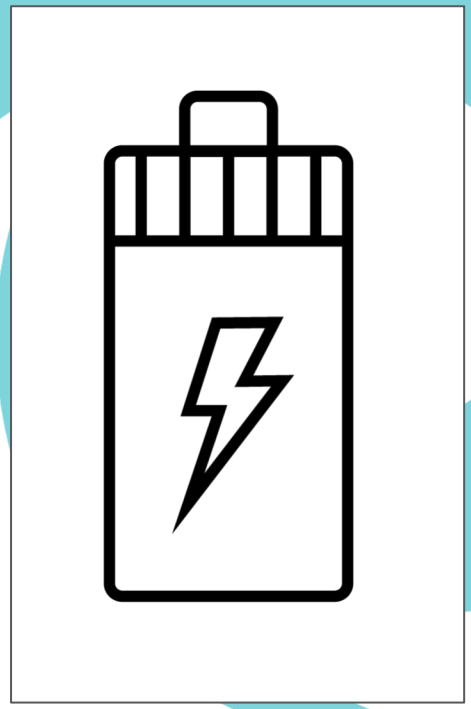
Overnight Capacity



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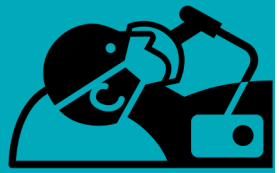

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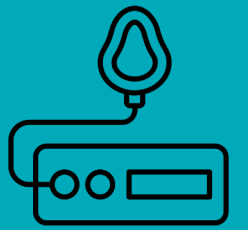

1.5 kW

2 kWh

1.5 kW

SOLAR GENERATOR EXAMPLE 2

Medium System

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Solar Generator Example 2

SOLAR PANELS &
CHARGE CONTROLLER
“THE GASOLINE”
2.5 kW

BATTERIES
“THE TANK”
10 kWh

INVERTER CHARGER
“THE ENGINE”
5 kW

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Solar Generator Example 2

Medium System, Solar Trailer, Nashville Tornado Relief

Nashville & Tennessee

Footprint Project deployed solar generators in Tennessee following some tornadoes that destroyed a lot of homes. There was a need for a medium-sized system, set up as a mobile solar trailer, that could be used for charging and also for running several appliances.

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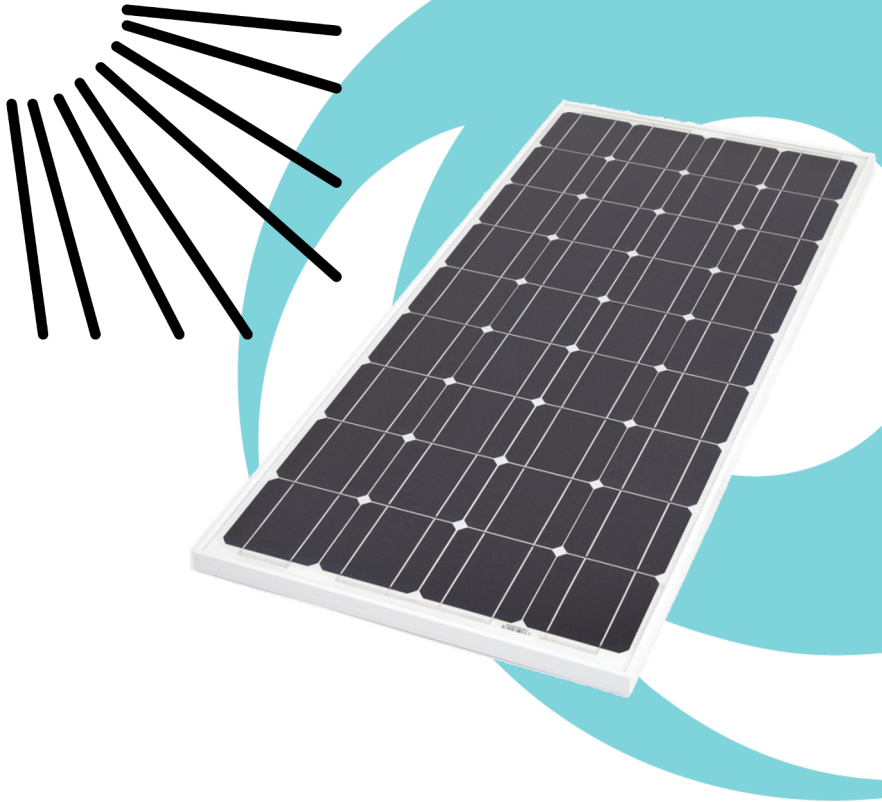
Sunny Day Capacity

1

1

2

10



2.5 kW

10 kWh

5 kW

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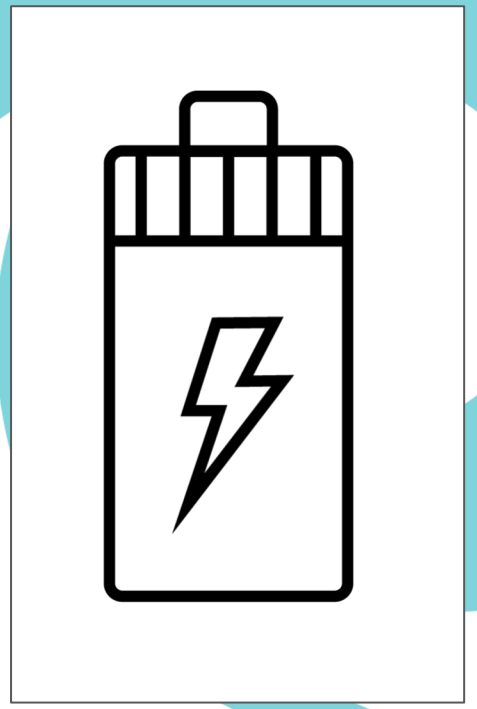
Overnight Capacity



15 

1 

2.5 kW

10 kWh

5 kW

SOLAR GENERATOR EXAMPLE 3

Large System

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Solar Generator Example 3

SOLAR PANELS &
CHARGE CONTROLLER
“THE GASOLINE”
10 kW

BATTERIES
“THE TANK”
28 kWh

INVERTER CHARGER
“THE ENGINE”
7 kW

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Solar Generator Example 3

Large System, Palletized Solar, Hurricane Idea Relief

Houma, Louisiana

Footprint Project deployed solar generators in Louisiana following Hurricane Ida. There was a need for a large solar generator at the American Legion in Houma, to help run a site that had a volunteer camp, aid distribution, and cold storage. The large amount of solar combined with 2 Tesla PowerWalls allowed them to run lights, a freezer, and other appliances, along with charging.

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Sunny Day Capacity

1

2

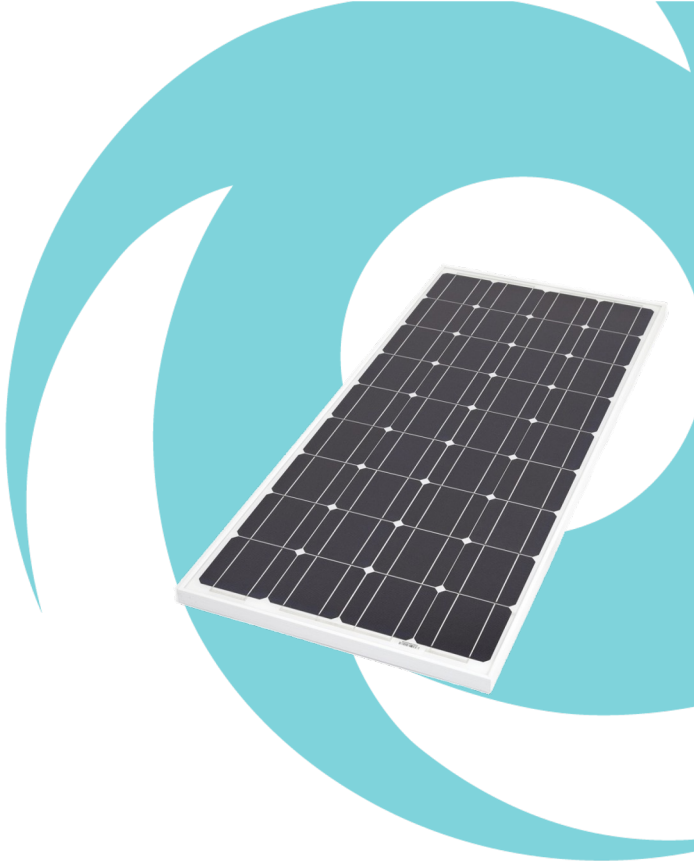
2

1

1

1

5



10 kW

28 kWh

7 kW

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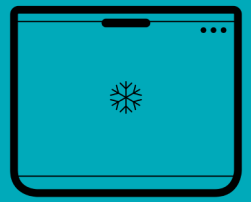
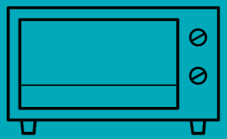
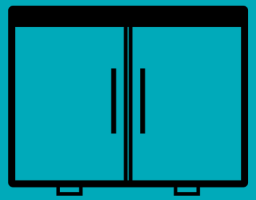
Overnight Capacity

50 

2 

2 

2 

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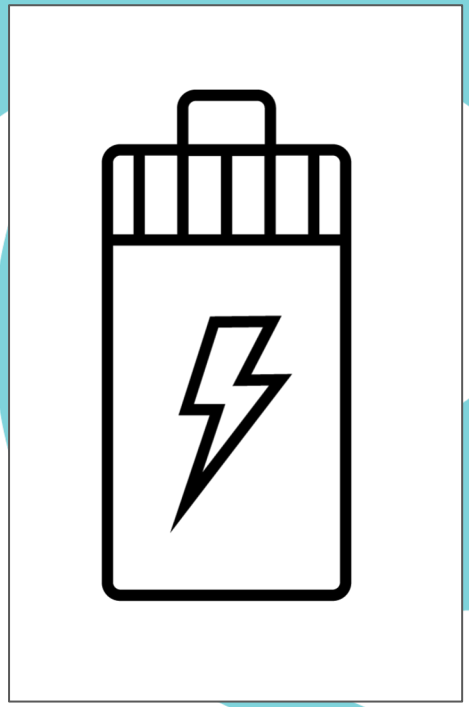

10 kW

28 kWh

7 kW

Summary

What Solar Generators Can Power...

A solar generator can power a variety of loads, depending on the size of the various components and how it is operated.

When thinking about the size of a solar generator and it's capacity, these are the components that are primarily considered :

1) Solar Modules & Solar Charge Controller (in watts or kilowatts)
2) Battery Bank Capacity / Size (in kilowatt-hours)
3) Inverter/Charger Size (in watts or kilowatts)

At night, solar generators rely on the power in the battery bank. During the day you can power more things because you can tap into the power of the sun.

Thank You!