

Solar Energy Calculator Sizing Guide

The roof area of your home will be important in determining how many and what sizes of solar panel you can install. Solar panels are installed in arrays, with the number of panels varying depending on the roof area available and the amount of power you wish to generate. Each individual panel usually has an area of 1.3-1.7m², with 1.6m² the most common size. These panels can then be lined up to cover larger areas, and therefore generate more power.

The smallest array you can have is typically 6 panels (2x3), which would cover 9.6m² and generate around 1.3kW. However, the most common installation is a larger 4kW system, which would require 18 panels and cover around 28.8m². Your installer will be able to advise you on the exact number, type (power rating and size) and arrangement of panels suitable for your home, ensuring none are placed in shaded areas which don't receive direct sunlight. However, the table below shows some typical values for different house types to give you an idea.

If you don't have a large available roof space or a south facing roof, it's also possible to have ground-based solar panels. These will need to be away from your property to avoid shading, so are only appropriate if you have a large enough garden.

House type	Typical suitable roof area (m ²)*	Appropriate number of panels	Power rating (kW)
Period mid-terrace or end terrace	16.5	10 panels (16.0m ²)	2.2
Small semi-detached house	17.0	10 panels (16.0m ²)	2.2
Modern mid terrace or end terrace	18.0	10 panels (16.0m ²)	2.2
Modern 3 storey town house	18.0	10 panels (16.0m ²)	2.2
Average semi-detached house	20.0	12 panels (19.2m ²)	2.6
Small detached house	21.5	12 panels (19.2m ²)	2.6
Old 3 storey town house	23.0	12 panels (19.2m ²)	2.6
Semi-detached bungalow	27.0	16 panels (25.6m ²)	3.5
Two bedroom top floor flat	28.0	16 panels (25.6m ²)	3.5
Average detached house	29.5	18 panels (28.8m ²)	4.0
Detached bungalow	31.0	18 panels (28.8m ²)	4.0

*This is half the typical roof area in the case of pitched roofs with a 20% allowance for unsuitable installation area