



Off grid power systems for homes

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Traditionally, UK homes have been powered by electricity generated by large, central power stations and distributed by the National Grid along transmission lines. However, more and more householders are becoming increasingly concerned about rising energy costs and the environmental damage associated with this system.

As such, savvy environmentally-friendly households are exploring ways to generate their own electricity on-site to lessen reliance on the power grid. Standard solar energy systems provide the main solution here.

You can learn all about what an off-grid solar system could mean for you in this post, including its environmental benefits, costs and savings, and whether off-grid systems are a realistic option for you.

Solar power is an infinite, renewable source of energy that produces no damaging greenhouse gas emissions. Besides reducing your carbon footprint, it also cuts energy bills. If you opt for off grid living, then your electricity bill would be cut to 70%.

They're made from silicon or another semiconductor that produces an electric charge when exposed to tiny packets of energy - photons of sunlight. The resulting direct current (DC) is converted by a solar inverter into the alternating current (AC) needed to power homes and domestic appliances.

Off-grid solar remains permanently disconnected from the grid. It therefore needs to work differently than an on-grid installation. With an on-grid system, the inverter sends energy into your home, which also connects to the grid via a meter.

With an off-grid system, the inverter also provides your home with power but is connected to a battery bank that stores solar energy for maximum power generation and the storage of excess energy. A power generator may also be used as a backup.

On-grid solar energy systems - also known as grid-tied systems - provide a reliable power supply that reduces dependence on the National Grid. But they remain connected to the grid so they can draw energy from it in addition to the power they generate themselves when required.

Grid access can provide power when solar panels aren't producing enough energy or when storage batteries need time to recharge. A grid-tied system also gives you the opportunity to get paid for electricity you feed back to the grid under the Smart Export Guarantee (SEG).

Living off-grid has become increasingly popular in the UK over the past few years, with some estimates suggesting as many as 150,000 households are now embracing this lifestyle. With off-grid solar, you get



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energy independence and will still have electricity during a power cut.

Solar panels will likely produce more electricity than needed as they capture sunlight during the day. Storing this excess electricity in a solar battery is optional with an on-grid system, but it's essential with off-grid solar.

It will be the only source of power when solar panels aren't generating enough electricity during the hours of darkness, or when there's heavy cloud cover that is reducing solar production levels.

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