

Feed-in tariffs: how they work

The feed-in tariffs are designed to encourage investment in small-scale renewable energy. This leaflet shows **the kind of calculation** you need to make to see if it's worth it for you.

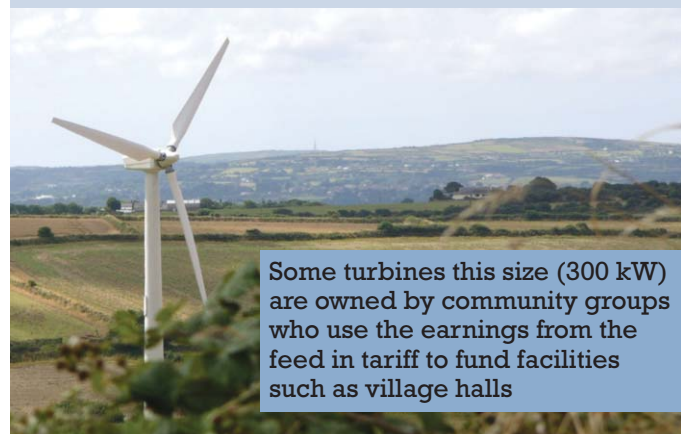
The example below uses **solar photovoltaics (PV)**, but the principle applies equally to other renewable energy technologies that produce electricity, like wind or hydro.

It's impossible to give precise figures on a short leaflet like this because the tariffs are reviewed periodically by the government and may be reduced, and are also index-linked which means that they will increase or decrease with inflation. The most up-to-date figures can be found on-line at www.ofgem.gov.uk/fits.

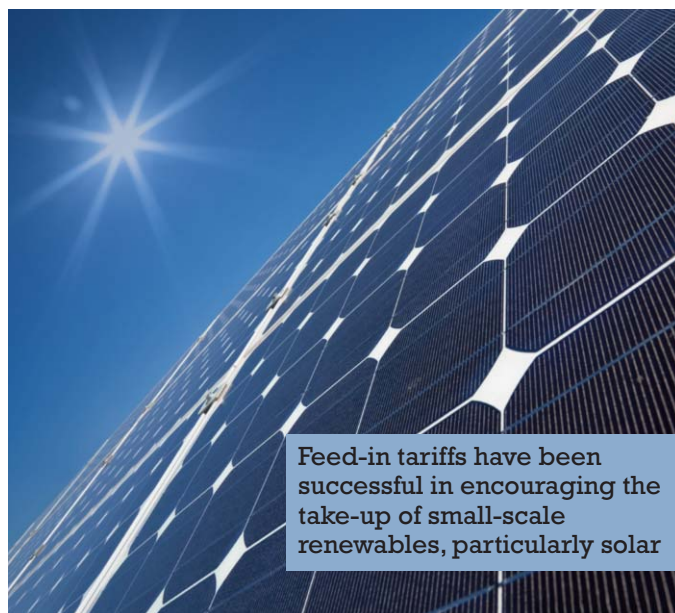
Furthermore, the amount you get will vary depending on the type of technology you install, the size of the installation and what year you enter the scheme (though once you're in, you stay on the same tariff for 20 years).

Before you go any further, two more points to consider ...

- 1) To be eligible for the feed-in tariff, your installers, and the product they fit (e.g. the solar panels, wind turbine etc), must be accredited with the Microgeneration Certification Scheme. See www.microgenerationcertification.org for more details.
- 2) For solar power, the generation tariff will only be paid at the upper rate (currently 16p/kWh) where the relevant property has an **Energy Performance Certificate** of band D or above. If not, the rate is just 7.1p/kWh. This is designed to encourage energy efficiency before energy generation.



Some turbines this size (300 kW) are owned by community groups who use the earnings from the feed in tariff to fund facilities such as village halls



Feed-in tariffs have been successful in encouraging the take-up of small-scale renewables, particularly solar

So, let's say a family installs solar PV panels on the roof of the home. They'll be able to benefit from the electricity they produce in three ways:

- 1) A **generation tariff**. This is a set rate paid to the household for each unit of electricity that the solar panels generate, measured in kilowatt-hours, or kWh. In the case of solar PV this is 16p per kWh, (15.44p from 1 November 2012). The owner of the PV panels will receive the generation tariff, whether they use the electricity themselves or not.
- 2) **Lower electricity bills**. Some, but not all, of the household's electricity demand (lighting and appliances) will be met by the solar panels – free electricity! How much they save depends on how much electricity they use during the day when the solar panels are 'active'.
- 3) An **export tariff**. Any electricity the household generates but doesn't use is sold to the grid for a fixed rate of 4.5p per kWh for PV (3.2p per kWh for non-PV). This figure will not change on 1 November. The export rate is the same for all renewable energy technologies.

continued overleaf ▶



"Feed-in tariffs are index-linked and the income from them is tax free."

'Communities' rate

There is also a separate rate of 14.4p/kWh which is paid to those who have more than 25 different PV installations (13.9p on 1 November 2012) – though this is likely to affect communities like housing associations rather than individual householders.

Now for the figures ...

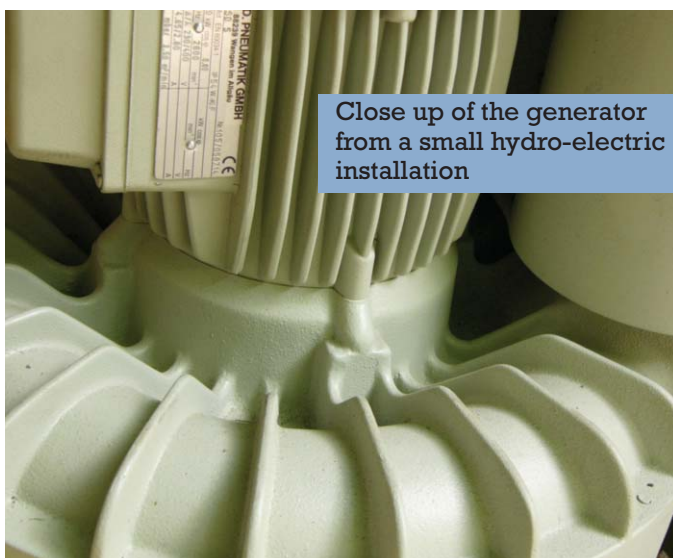
Let's assume the solar panels generate **1275kWh** of electricity a year. Our family is getting a generation tariff of 16p for each kWh so they will be paid about **£204** (i.e. 1275×0.16) a year.

Say they use 600kWh of this themselves (just under half). This is free electricity, and will reduce their annual bill by **£72** (assuming they pay 12p per kWh). Of course, if the family used **more** of what they generated – for example by using their washing machine during the day when the solar panels were working – their bill would go down further and they'd save more money.

Under the export tariff, the other 675kWh (the electricity that they don't use) is sold to the grid at 4.5p per kWh earning a further **£30** (i.e. 675×0.045).

The total benefit to the family in this illustration is therefore **£306**, but of course they have to buy the solar panels first. An array that would generate 1275kWh a year starts at around £7,000.

The figures in this simple illustration should be treated as a guideline only and bear in mind that the generation tariff will go down from 16p per kWh to 15.44p per kWh from 1 November 2012. If investing in renewable energy is something you wish to explore further, you should seek more information, starting at www.decc.gov.uk/fits.



Close up of the generator from a small hydro-electric installation

Tips for lower energy bills

Happy paying more for your electricity and gas than you need to? Course not. So here's how you can cut your bills:

Give your clothes a day in the sun and give your tumble drier a break. Clothes dried in the fresh air feel great, and there are drying days in winter, too.



Catch 'em young. Encourage your children to switch off electric toys and lights that they're not using. They'll soon get the hang of saving energy.



Be a friend to your freezer. Defrost it regularly to help it run more efficiently.

Buying a new washing machine, TV or dishwasher? Look out for the Energy Saving Trust logo.



Don't over-fill the kettle (but do make sure you cover the metal element at the base).



Dodge the draught! Fit draught-excluders to your front door, letter box and key hole, and draw your curtains at dusk to keep the heat in.

Turn your heating down by 1 degree. You'll hardly notice the change in temperature, but it'll make a big difference to your heating bill.

Sleep tight. Make sure all the lights are turned off when you go to bed. If you want to light a child's room or a landing, use a low-wattage night light.



The Centre for Sustainable Energy's **Home Energy Team** offers free advice on domestic energy use to householders in Bristol and Somerset (including the unitary authorities of North Somerset and Bath & North East Somerset).

Call us free on **0800 082 2234**, email home.energy@cse.org.uk or follow us on twitter [@cse_homeenergy](https://twitter.com/cse_homeenergy)

More energy advice leaflets at www.cse.org.uk/advice-leaflets



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Charity 298740
Founded 1979

We are a national charity that helps people change the way they think and act on energy



See also our leaflet 'How to get the most out of your solar panels', available at www.cse.org.uk/advice-leaflets