

# 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 quarterly 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](http://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 in kW and what year you enter the scheme (though once you're in, you stay on the same tariff for 20 years). So, let's say a householder installs solar PV panels on the roof of their home. They'll be able to benefit from

## 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](http://www.microgenerationcertification.org) for more details.
- 2) For solar power, the generation tariff will only be paid at the upper rate (currently 14.38p/kWh) where the relevant property has an Energy Performance Certificate (EPC) of band D or above. If not, the rate is just 6.61p/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

Photos: (left) Fernando alonso herrero; (below and overleaf) CSE

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. From April 2014, in the case of solar PV this is 14.38p per kWh. The householder receives 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 will be met by the solar panels. How much they save on bills will depend on how much they can reduce their need for electricity from the grid by using their appliances when the solar panels are producing electricity during the day.
- 3) An **export tariff**. Any electricity the household generates but doesn't use is sold to the grid for a fixed rate of 4.77p per kWh for PV. The export rate is the same for all renewable energy technologies.

## Process for registering

Although FIT money is available, purchasers of generators should be aware they are required to then make an application to receive FIT payments, the processing of this application can take a few months and after this is

continued overleaf ▶



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

complete they can only generate payments by submitting a meter reading in set quarterly windows, after which a payment should be made within approximately 2 months. This may mean that you do not receive your first FIT payment until 6-9 months after the generator is installed. This will be a bulk payment for all generation to date and provided meter readings are submitted every quarter, you should receive quarterly payments from that point onwards.

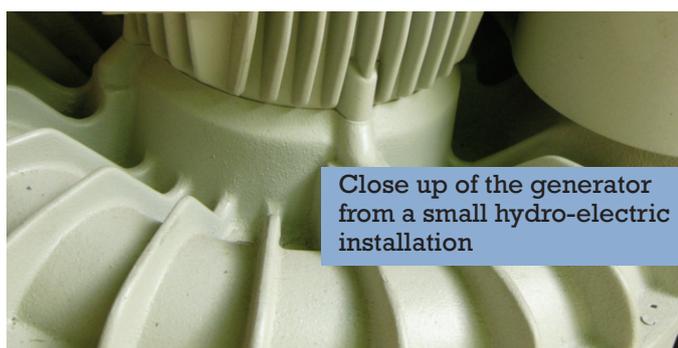
Be aware that you do not just install panels and then magically receive money - there is some admin involved and installers do not always make this clear. At first this may seem a burden but most people get on top of it after a few months and find it quite easy - if it goes wrong this will delay payment however.

### Deemed or metered export?

Although the FIT incorporates an export payment it is not cost effective to accurately meter how much energy is exported. This means for some systems you will be paid a deemed export of 50% of the generated electricity. This means it is in your interests to use as much of the produced electricity possible. Note: Deemed exports for Hydro and Anaerobic Digesters are typically 75%.

For systems above 15kWp solar or 5kWp wind you may wish to choose to record your export with an export meter (this is compulsory with systems over 30kWp). The advantages of this are that if you export more than 50% you will be paid for the full amount you have exported. Also you may be able to negotiate a higher rate for the exported electricity from your FIT supplier.

However the fees for installing and running an export meter (~£80 for installation and £60 a year for upkeep - more expensive for systems above 30kW) mean you have to be sure you are exporting significantly more than 50% before opting for this. In addition to receive the higher export tariff rate your FIT provider may ask you to register to claim LECS and REGO certificates so that they can sell the energy you produce as certified renewable energy. This



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

See also our leaflet 'How to get the most out of your solar panels', at [www.cse.org.uk/making-the-most-of-pv](http://www.cse.org.uk/making-the-most-of-pv)

is another level of admin and although not difficult it may be an extra strain you do not want to take on. All in all if you export more than 50% it may be more cost effective to look at ways to use this electricity rather than meter its export.

### Now for the figures...

Let's assume the solar panels generate 1275kWh of electricity a year. Our householder is getting a generation tariff of 14.38p for each kWh so they will be paid about **£183** (i.e.  $1275 \times 0.1438$ ) a year.

Say they use 600kWh of this themselves (just under half). This will reduce their annual bill by **£90** (assuming they pay 15p per kWh). Of course, if the householder 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 4.77p per kWh earning a further **£32** (i.e.  $675 \times 0.0477$ ).

The total benefit to the family in this illustration is therefore **£305**, but of course they have to buy the solar panels first. An array that would generate 1275kWh a year starts at around £5,000. Given these figures the system would pay for itself in just under 16.5 years. The householder would continue to receive their FIT payments, index linked and tax free for a further three and a half years and reap the benefits of free electricity produced by the panels for the remaining lifetime of the solar PV system.

The figures in this simple illustration should be treated as a guideline only. If investing in renewable energy is something you wish to explore further, you should seek more information, starting at [www.decc.gov.uk/fits](http://www.decc.gov.uk/fits).

The **Centre for Sustainable Energy** is a national charity that helps people change the way they think and act on energy.

Our 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).

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