



Feed-in Tariffs



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Introduction

Feed-in Tariffs have revolutionised the economics of renewable energy and have transformed wind, solar, hydro and anaerobic digestion into attractive long term investments.

Opportunities are especially good for farmers as they often have the room, skills and planning freedom to allow them to take advantage of the extra income renewables can deliver.

Energy suppliers are now obliged to pay an enhanced published price to renewable energy producers for each unit of electricity they generate. This includes all energy whether used on the site or exported.

In addition, energy generated can be used to displace energy which would otherwise have to be bought by the farm, or can be exported and sold.

More information

More information on Feed-in Tariffs can be obtained from the OFGEM website

<http://www.ofgem.gov.uk/Sustainability/Environment/fits/Pages/fits.aspx>

or from your electricity supplier.



Technology	Rate (p/kWh) (April 2011 to March 2012)	Tariff Lifetime (Years)
Anaerobic digestion		
<250 kW	14.0p	20
>250 to <500 kW	13.0p	20
>500 kW	9.4p	20
Hydro		
< 15 kW	20.9p	20
15 kW to 100 kW	18.7p	20
100 kW to 2 MW	11.5p	20
2 MW +	4.7p	20
CHP		
<2 kW	10.5p	
Solar Voltaic		
<4 kW	43.3p	25
4 kW to 10 kW	37.8p	25
10 kW to 50 kW	32.9p	25
50 kW to 150 kW	19.0p	25
150 kW to 250 kW	15.0p	25
250 kW to 5 MW	8.5p	25
Wind		
<1.5 kW	36.2p	20
1.5 kW to 15 kW	28p	20
15 kW to 100 kW	25.3p	20
100 kW to 500 kW	19.7p	20
500 kW to 1.5 MW	9.9p	20
1.5 MW to 5 MW	4.7p	20

The feed-in tariff rates for each kWh generated are shown on the left.

Note that the rates go up each year with inflation.

Exported energy can be sold at a flat rate of 3.1p/kWh or, for larger installations, can be covered by a power purchase agreement where the rate is negotiable with the buyer.

Feed-in Tariffs are even payable for off-grid applications where all energy is used on the site, although clearly there are no benefits from export payments.

Future payments are guaranteed through the Energy Act - Government is legally obliged to meet the EU's 15% target for renewable energy use by 2020 and Feed-in Tariffs are an important means for achieving that.

Before installing any renewable energy source it's important to do your research. You must know:

- How much energy your generator will produce.
- How much of the generated energy you will export and how much you will use yourself.
- What are the capital and maintenance costs of the generator.

Estimates of energy production are sometimes hard to nail down. For instance, with wind, small changes in average wind speed will dramatically affect the output. Also installation costs will include more than just the generation hardware - for example the cost of electrical connection, including the cost of any distribution equipment reinforcement, may have to be covered.

Metering and payments

A meter has to be installed to measure the energy produced by the renewable generator. Also an export meter may be needed to determine the amount going into the Grid. For smaller installations the latter is sometimes not required as the exported energy is deemed as being 50% of that generated.

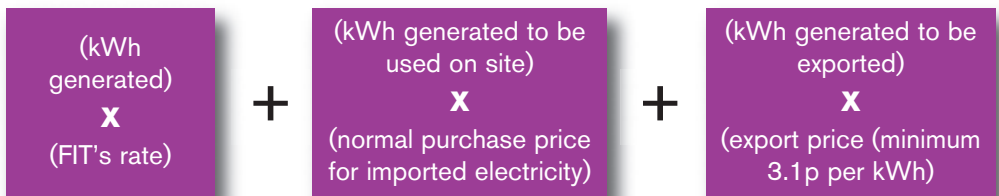
With less electricity being imported from the Grid, you are protecting yourself to some extent from energy price inflation.

You will have a contract with your electricity supplier for the Feed-in Tariffs payment, any energy you export and the balance of the energy that you use will be settled typically once per quarter. Payments can be income tax exempt when the electricity connection is to a domestic meter.



When investigating the economics of renewable energy you'll need to go through the following steps:

- Think about the technology that might suit you best:
 - If you have high wind speeds and there is unlikely to be planning opposition to a wind turbine, you might choose wind.
 - if you have an area of unshaded and sound south-facing roof, you might choose solar.
 - A local stream could provide you with hydro power.
- Obtain feasibility studies and quotes for the equipment, taking care to assess the true generation potential and what proportion of the energy you are likely to use yourself.
- Don't forget to factor in connection costs from the network company and any planning costs required.
- Once you've decided which technology to choose, your income can be calculated as follows:



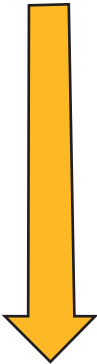
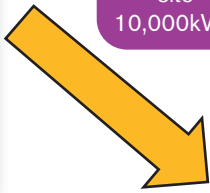
- If you're happy with the economics, set the wheels in motion to get the installation done.
- For installations under 50kW, the installation will be covered by the Microgeneration Approval Scheme (MCS) and your equipment supplier should be able to give you the necessary certificate to register with your electricity supplier.
- For installations over 50kW the installation has to be registered with Ofgem's ROO-Fit scheme.
- Once you have registered you can approach your supplier or meter operator to arrange for the metering to be updated if necessary. For larger installations you may also wish to approach an independent energy buyer to set up a power purchase agreement.

Diagrammatic representation of how the scheme works



11kW Turbine
Generate
25,000kWh FIT paid
on energy generated.

Used on
site
10,000kWh



Export to
mains
15,000kWh
with Export
payment made
on this.

Mains
import
reduced by
10,000kWh
making saving
on energy
bought in.

