



Centre for
Alternative
Technology

FEED-IN TARIFFS

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Introduction

The government is now supporting the small-scale generation of electricity from renewable sources through a mechanism known as the Feed-in Tariff (FiT) scheme.

Despite the name, the new FiT is actually a generation tariff: generators are paid for every unit of renewable electricity they produce, whether they use it themselves or sell it to the national grid. Even off-grid homes with no connection to mains electricity are eligible for FiT income.

As our examples overleaf illustrate, the scheme includes three ways to benefit, from income or savings:

- Generation tariff income for all the electricity produced
- Export tariff income for any electricity that is exported to the national grid
- Electricity bill savings from using your own electricity instead of buying mains electricity

Who is eligible?

The scheme is open to all major forms of renewable electricity generation: wind, hydro, photovoltaic (PV) solar, and biomass combustion or anaerobic digestion. Schemes up to 5000kW (5MW) capacity are covered.

Projects are eligible if installed since July 2009. For generation installed before then, there will be a low generation tariff if they currently receive money through the Renewables Obligation (RO) scheme – but no Feed-in Tariff income for those who don't currently receive RO income.

Another important point is that to be eligible for FiT income, you have to use equipment and installers accredited under the Microgeneration Certification Scheme (MCS). This means that you cannot build your own equipment or install a system yourself, and that it is very important that your installer and equipment are accredited or else you lose out on a lot of money.

Lists of MCS accredited installers and equipment can be found online at <http://www.microgenerationcertification.org>

Domestic or community scale?

While the FiT scheme is attractive for domestic projects, such as a solar photovoltaic (PV) roof on a private home, community scale projects stand to benefit most. In the right location, wind or hydro projects of between 15 and 500 kW can provide excellent financial returns from FiTs.

With price tags between a few £10,000s and £1,000,000 such projects are out of reach for most private individuals – but too small for the big power companies. They are ideal for local groups to get together, raise the money and make sure that the benefits from local resources such as the wind or rivers flow directly into the local economy!

How high are the tariffs?

Tariff levels are banded by technology and by scale (generation capacity).

For example, electricity from a domestic photovoltaic roof (below 4kW) receives a subsidy of 41.3 pence per kWh (unit) of electricity, whereas the same amount of electricity from a 500kW wind turbine will receive 18.8p/kWh. The export tariff is 3p/kWh for all technologies. Generation tariff payments are index-linked (so will increase with inflation) and guaranteed for 20 years (or 25 years for PV).

Technology (band)	p/kWh
Solar PV (4 kW or less, new build)	36.1
Solar PV (4 kW or less, retrofit)	41.3
Solar PV (over 4kW, up to 10kW)	36.1
Solar PV (over 10kW, to 100kW)	31.4
Wind (1.5kW or less)	34.5
Wind (over 1.5kW, up to 15kW)	26.7
Wind (over 15kW, up to 100kW)	24.1
Wind (over 100kW, up to 500kW)	18.8
Hydro (15 kW or less)	19.9
Hydro (over 15kW, up to 100kW)	17.8
Anaerobic digestion (to 500kW)	11.5

Example 1: Domestic PV

A family installs a solar PV array with a maximum output of 2.5 kW on their existing unshaded south-facing roof. The system costs £14,500 - this includes a 25-year warranty extension for the inverter (bear in mind that inverters are unlikely to last 25 years without replacement or repairs).

The roof produces around 2,000 kWh of electricity per year. They use 50% of the electricity directly at the time when it is produced and sell the other 50% on to the grid. They can expect to receive:

Generation tariff: 2,000kWh x £0.413/kWh	£826
Export tariff: 1,000kWh x £0.03/kWh	£30
Electricity savings: 1,000kWh x 0.12/kWh	£120
Total annual income	£976

The scheme will pay back costs in 15 years and generate income for at least 25 years.

To read more about installing domestic renewable electricity systems, see our free information sheets 'Solar Photovoltaics', 'Domestic Wind Turbines' and 'Micro Hydro Systems'. These sheets give initial advice, including likely costs and where to find installers, and give details of further reading.

Example 2: Community wind turbine

A community group purchases a large wind turbine (33 metre rotor diameter, 50 metre tower) with a rated capacity of 330 kW. Including planning, installation and connection, a new turbine of this type will cost around £700,000 (refurbished turbines are cheaper but not eligible for FiT income!).

Installed in an exposed location with strong wind speeds, a turbine of this type can produce 700,000 kWh per year. All the electricity is exported to the grid; the generation tariff for wind power at this scale is 18.8 pence per kWh. The community can expect to receive:

Generation tariff: 700,000kWh x £0.188/kWh	£131,600
Export tariff: 700,000kWh x £0.03/kWh	£21,000
Less annual maintenance expense (5% of capital cost)	-£35,000
Total annual income	£117,600

The turbine will have paid off its cost in less than 6 years, and will generate profits of around £1.6 million over a 20-year lifespan.

For more advice on community renewables, see our free information sheet 'Investing in Renewables' and our 'Community Wind Turbine' case study.

Further Information

Microgeneration Certification Scheme

<http://www.microgenerationcertification.org>

Department of Energy and Climate Change FiT page

<http://www.decc.gov.uk/fits>

Related CAT services

We run several **residential courses** on domestic renewable energy systems

Web: www.cat.org.uk/shortcourses

Tel: 01654 704952

We can give in-depth advice on a particular project through **CAT Consultancy**

consultancy@cat.org.uk or 01654 705991

CAT Mail Order stock many books about energy conservation & renewable energy

<http://store.cat.org.uk> or 01654 705959.

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