



The Simple Guide to the Renewable Energy Tariffs

Simplifying the provision of renewable energy systems for the feed-in tariffs & renewable heat incentive

What will this Guide tell me?

This Guide will tell you all about the renewable energy tariffs. It will describe in a simple and easily-digestible way what they are, how they work and how you could benefit.

We have written it because an enormous amount of people are interested in the tariffs and want to be able to understand them quickly and easily. It is designed so that once you have read it, you will be able to decide whether this is something you want to pursue further.

To entice you to read on, here are 5 compelling things this Guide will tell you:

- 1. The average household will be £2,000+ better off a year through the renewable energy tariffs
- 2. The tariffs are for virtually everyone with a property householders, businesses, landlords, schools, hospitals, entire communities, the list is endless...
- 3. The tariffs put you in control of your energy
- 4. By installing renewable energy systems and benefiting from the tariffs, you will make a significant contribution to environmental sustainability in the UK
- 5. It's a lot easier to benefit from the tariffs than you might think!

Surely that's enough to make you interested?

If so, read on and we'll tell you a bit about the tariffs themselves.



What are the tariffs?

To start with, there are two renewable energy tariffs:

The first is for electricity and is known as the Feed-In Tariffs and this went live on April 1st 2010.

The second is for heat and is known as the Renewable Heat Incentive and this goes live on April 1st 2011. Any system installed between now and then will be eligible and you will be saving on your heating bill in the meantime.

Collectively, some people call the tariffs the Clean Energy Cashback scheme but it's all the same thing.

The purpose of the two tariffs is to pay people a decent and guaranteed amount for the renewable energy they generate themselves, calculated at a minimum 8% annual return on your investment all income tax free. They are designed for normal energy users, such as households and businesses, and have three main benefits:

- 1. You get paid for the energy you produce and use in your property or sell back to the grid
- 2. You save money by reducing the amount of energy you buy from your energy supplier
- 3. You contribute to the aim of producing 8% of the UK's energy through the tariffs

Why were they introduced?

They were introduced by the Government with cross-party support to encourage the installation of renewable energy systems in properties. By legislating on what you get paid for the energy you generate, you are guaranteed to recoup your costs far quicker than was previously possible. In fact, because the Government waived income tax on tariff revenues, high income earners could see their rate of return be as high as 12% or more per annum.

The reason the Government was so keen to get people to install renewable energy systems is because there is a legally

binding EU target of producing 15% of the UK's energy from renewables by 2020. At the start of 2010 we were only producing about 2% of our energy from renewables and whilst offshore wind farms and other big energy generation projects will make a significant contribution, it simply will not be enough on its own.

Official estimates calculate that the tariffs should produce 8% of the UK's energy from renewables. That will make a massive difference not just to meeting artificial targets but to the more important issue of climate change. If this country produces 8% of our energy at the point of consumption – i.e. your home or office – that means less power stations will be needed and less oil and gas burnt for heating.

Who are they for?

They are designed for anyone who wants to generate their own energy onsite – in other words at their own property. The maximum amount you are allowed to generate under the Feed-In Tariffs is 5MW although this is likely to be doubled by the new Government, which has shown that it is very supportive of the scheme. That is the sort of levels that a large factory would require by the way! There is no upper limit for the Renewable Heat Incentive.

They are also designed with any property in mind. So it does not matter whether you are a householder, business, landlord, school, hospital, care home, church, farmer, hotelier, shopkeeper or anyone else for that matter, you could benefit from the tariffs.



What are the tariffs?

The Feed-In Tariffs

Let's start with the Feed-In Tariffs which covers electricity generation.

Step One: you install renewable power systems in your property such as solar photovoltaic (PV) panels, wind turbines or maybe even hydro power if you have access to water (see page 8 for more details)

Step Two: you generate electricity and three things will be happening without you having to do a thing:

- 1. Most of that electricity you will use yourself
- 2. Any electricity that you don't use yourself when it is generated is automatically exported back to the National Grid (it goes back up your existing cable)
- 3. Any additional electricity that you need (for example if it's night time when your solar panels won't work or simply because you need more power than you are generating) is automatically imported into your property in exactly the same way that you get your electricity from the National Grid today

Step Three: payment! The payments also happen in three ways:

- 1. You get paid for all the electricity that you generated and used yourself
- 2. You get paid for all the surplus electricity that you exported back to the National Grid
- 3. You pay your energy supplier for the additional electricity you needed to import BUT as this will be considerably less than what you imported before you installed your renewable energy system, you will make a decent saving on your old bills

Usually at this stage everyone wants to know who makes the payment so let's cover that quickly. Even though you are generating your own electricity, you will still have a contract with an electricity supplier (e.g. nPower, e.On and the like) mainly because they will supply any additional power that you need. It is your energy supplier who will pay you, typically once a quarter, for point one (the electricity you generated and used yourself) and point two (the electricity you exported to the grid). You will pay them for the electricity you needed to import as explained in point three.

Before we look at the financial benefits of the Feed-In Tariffs, let's quickly look at the Renewable Heat Incentive.

The Renewable Heat Incentive

The Renewable Heat Incentive is very similar to the Feed-In Tariffs but there are some important differences due to the fact that pretty much every single property in the UK generates its own heat from a gas or oil boiler. In other words, there is no 'National Grid for Heat' and so importing and exporting heat is not relevant, unless you live in a community with a district heat network but these are, unfortunately, rare.

There are still three steps though:

Step One: you install renewable heat systems in your property such as solar thermal panels, heat pumps or a biomass (wood burning) boiler (see page 8 for more details)

Step Two: an estimate is made about how much heat your renewable energy systems will produce

Step Three: you get paid a fixed amount based on that estimate which will be made by OFGEM, although the Government has not yet stated what the source of the funding will be.

Read on and we will tell you what this all means financially.



How will I benefit?



These systems would provide annual financial benefits as follows:

Make money from making energy

You will be paid for the energy you generate AND you will save money from your current energy bills. For the owner of the property in our example above, this means an excellent annual return of 7.9%. However, because it is Income Tax exempt, this means that if the property owner is paying at the highest 50% rate of tax, the tariff income could actually be worth up to 18.3% per year. This is Government-backed and guaranteed for up to 25 years! As an investment opportunity it is up there amongst the best available.

The energy system and costs quoted above are for a fairly ordinary four bedroom house, installing about 2.5kW of solar PV panels, a solar thermal unit and a ground source heat pump. Between them, the homeowner will generate 40% of all the electricity needed and be able to heat and provide the hot water for the entire home for the year – calculated at 16,000kW of heat. No other heating system will be required.

Our experience has shown that over 95% of all properties can install one or more of the renewable energy systems that are eligible under the tariffs with the vast majority of those systems recouping over twice the initial investment over the lifetime of the tariffs. This does not take into account the fact that the tariff income is Income Tax exempt, nor the effect of rising energy costs which will have far less impact on those who have installed renewable energy systems. This will mean that the savings will actually be greater over time, with additional benefit coming from the fact that the income is inflation linked.

Brief guide to the financial benefits

Income Tax exempt

Both tariff schemes are Income Tax exempt for anyone using the majority of the energy in their own home. Therefore, if your annual rate of return was going to be 8% but you were going to be paying 40% in tax, as you would on other income, then it is in effect worth 15% to you. This is because to actually end up with, say, £1,000 in your pocket after tax, you would have normally had to have earned £1,670.

Rate of return vs. payback

Don't just evaluate the tariffs based on which year the income will have paid back your initial costs. We talk about 'rate of return' because it shows how well your initial investment is working for you. An annual return of 5-8% is good and double that because you don't have to pay

Energy savings & energy inflation

Energy will only get more expensive over the next decade. With no gas or oil boiler and far less electricity being imported from the Grid, you are protecting yourself to a considerable extent from such price rises.

Surplus energy payments

Under the Feed-In Tariffs scheme, you get an additional 3p/kWh for the surplus electricity you generate and export. You do have the option to negotiate a higher rate if you can. Some companies, like us, will make this easier by negotiating on behalf of all our customers.

What systems can I install?

There are several types of system you can install.

Each one is governed by different tariff levels which we have not included here as they can be confusing at first glance.

If you go to our website www.ownergy.co.uk

- you will find them all listed within the 'energy options' pages.

Electricity systems for the Feed-In Tariffs



Solar photovoltaics (PV)

Known commonly as solar panels, or just PV in the industry, they are the large flat, black glass panels that are usually put on roofs to convert sunlight into electricity. PV cells come in a variety of shapes and colours, from roof and wall mounting panels to grey "solar tiles" that can look like roof slates. There are even panels available with the solar cells spaced apart to allow some sunshine through for conservatory roofing, for example. The technology behind them is improving at an impressive rate, allowing them to become more and more efficient and effective at generating electricity regardless of what you might think about the UK weather!

Wind turbines

Wind turbines work through the wind turning the blades which are linked to an internal generator which produces electricity. The stronger the wind, the more electricity is produced. The most effective domestic-sized wind turbines are mast mounted units. These are free standing machines, typically 2.5kW to 6kW, which are usually erected on 10 to 25-metre masts in suitably exposed positions. Roof mounted designs around 1kW to 2kW have also been developed to be installed on the roof of a home where there is a suitable wind resource. Please note that wind turbines are generally only effective in exposed rural locations.



Hydro power

Basically, hydro power is any system that generates electricity from water. On a commercial scale, the UK has had hydro dams in Scotland and Wales for many, many years. For the purposes of the tariffs, the most common technology will involve turbines placed in running water to generate electricity. Recently the Environment Agency identified 26,000 sites in England and Wales that are suitable for small-scale hydro power schemes that are suitable for the Feed-In Tariffs. Collectively these sites would generate 1% of the UK's energy.

Heat systems for the Renewable Heat Incentive







Solar heating

Solar thermal systems are large, flat, black panels that you stick on your roof and at first glance look quite similar to solar PV panels – indeed, you can buy designs that look identical aesthetically. Their job is to provide a property with hot water by using the sun's rays to heat water flowing through pipes on the panel. This is then passed through a coil in the household hot water cylinder or heat store, where it heats the domestic hot water supply. A back-up conventional boiler, heat pump or immersion heater is normally used to provide hot water when solar energy is unavailable.

Heat pumps

Ground source, air source and water source heat pumps are three different ways of extracting ambient temperature and using that heat in your property. Think of them as working like fridges...only in reverse. In other words, the heat pumps take heat from a source (the ground, the air or the water) and pump it into the hot water system in your house.

The heat pump uses electricity to extract the heat, but delivers typically $2\frac{1}{2}$ to 4 kW of heat for every kW of electricity used. They also work effectively when the outside temperature is freezing.

Biomass heating

Simply put, biomass boilers are just big boilers that burn wood rather than gas or oil. Biomass heating systems generally burn wood pellets, chips or logs to power central heating and hot water boilers. As such, you can install a boiler and connect it to your existing central heating and hot water system. For a wood fuelled system, you will need a large dry area close to the boiler to store your fuel. Ideally this should be close to where the fuel arrives to simplify delivery - both pellets and wood chips can be piped directly into the store. Many boilers also have mechanisms to refuel chips and pellets automatically. If you are heating the whole house with a biomass boiler, the internal space you needed is typically rather larger than a domestic boiler, and should be close to the fuel store which can be housed internally or externally.

Systems that generate both heat and power and can be used for both tariffs



CHP (Combined Heat & Power)

The Feed-In Tariffs provide for a 'pilot' of up to 30,000 installations of micro-CHP installations up to 2kW each. This will be reviewed after the first 12,000 have been installed. The Renewable Heat Incentive will fully support CHP. These will include the newer biomass boilers that generate electricity from the heat of the boiler, as well as boilers that burn biogas. However, the gas comes from anaerobic digesters and are really only suitable for farms as you need a constant and steady supply of food or animal waste.



Anaerobic Digestion

Anaerobic digestion (AD) is a way of producing biogas from various biomass sources, such as energy crops, farmyard residues or food waste. In addition to producing biogas, the process also leaves a solid residue, which is a form of bio-fertiliser. It can be used for combined heat and power or even be fed into the natural gas grid as biomethane. This technology is particularly suitable for users with access to a suitable biomass resource, such as farms and the food-processing or retail industries.

Frequently asked questions



Are the tariffs guaranteed?

Yes, they were introduced through and protected by the Energy Act. You must also remember that the Government is legally obliged to hit the EU's 15% renewable energy commitment by 2020 and the tariffs are an important means for achieving that.

Who pays for the tariffs?

The Feed-In Tariffs will be paid for by everyone who doesn't do it. In other words, the energy suppliers will pass on the additional cost within electricity bills. The Government is still to announce the details of how the Renewable Heat Incentive will be paid for.

Would we be able to apply for the Feed-In Tariffs if we are not connected to grid?

The Feed-In Tariffs are payable for off-grid applications (though they obviously can't get the export bonus).

Will the FITs apply in Northern Ireland?

No, the enabling powers in the Energy Act didn't extend to Northern Ireland. The Assembly is considering doing something similar - you'll need to lobby them.

Will my existing renewable energy system qualify?

As it stands, only systems installed after July 15th 2009 will qualify for the full Feed-In Tariffs and Renewable Heat Incentive rates. A reduced rate of 9p/kWh is available for those with renewable electricity systems that were on the Renewables Obligation scheme. Nothing is currently available for anyone with a renewable heating system. However, the Conservatives pledged before the election to allow everyone to qualify for the full rates and we wait to see if they fulfil this promise.

I am a tenant, can I still benefit?

Yes you can. Many landlords allow tenants to make superficial alterations to buildings and this could include the installation of renewable energy systems, especially if you are a long-term leaseholder. If this is not possible then ask your landlord to consider installing renewable energy systems as you would save considerable amounts of money on your energy bill and your landlord would be paid for the energy you generate so you both win.

What do I do if my house is listed or has other planning restrictions?

If you are listed or have other planning restrictions on your property such as being in an Area of Outstanding Natural Beauty you will have to seek permission for many of the systems. It really depends on your local authority and other third parties as to how easy you are going to find this.

What if I move home?

The tariff income will transfer over to the new owner. Many people are concerned that they will lose out on their investment but we believe that in the same way that a new kitchen or bathroom adds value, so will renewable energy systems... except unlike a new kitchen or bathroom, the new owner will actually earn money.

Are there grants available?

All central Government grants have ceased. Some grants are available at a regional or local level but there are many restrictions about how these can be used.

What should I do next?

To learn more about the renewable energy tariffs, please go to our two online information sites:

www.fitariffs.co.uk www.rhincentive.co.uk



These explain each tariff in more detail, provide more context and legal information as well as answering the many frequently asked questions we receive. You will also be able to consult our tariff experts through an online enquiry service.

If you would like to proceed straight to an assessment of your property to find out how you could individually benefit and which systems you should consider installing, then complete the online Ownergy Energy Selector. Go to www.ownergy.co.uk/selector

The Ownergy service:

We select, design, install and manage renewable energy systems in any property enabling our customers to make money from the new renewable energy tariffs:



select

We help you understand what renewable options are best for you so that you can take maximum advantage of the tariffs. Go online to www.ownergy.co.uk/selector



design

We survey your property and manage all the design work to guarantee the highest quality of workmanship. We will also provide advice on how to manage any planning considerations (most systems are covered by permitted development rights)

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install

We install all types of eligible renewable energy systems and ensure that you are connected and set up to claim the tariffs



manage

We maintain the system to optimise its earnings and collect the tariff on your behalf, sending you a quarterly payment in return



finance

In addition, we have partners that help finance your renewable energy system so you avoid a lot of the upfront expense, using the tariff payments to repay the funding

Make your energy make you money, go to www.ownergy.co.uk



Get started, complete our Energy Selector and find out how your property could benefit from the Feed-In Tariffs and Renewable Heat Incentive.

Go to www.ownergy.co.uk and click on Energy Selector.

