How Green Is a Green Electricity Tariff?

An overview of the types, standards and limits of green tariffs

Green energy sources

Increasing public awareness and concern for the environment has led many businesses to change their energy consumption and to look for 'greener' sources, to reduce their impact. One popular option is to purchase green energy tariffs. The main concept of green tariffs is that tangible environmental benefits come with their purchase. However, the measure of 'greenness' depends on the energy source and amount of investment in renewable energy delivered by purchasing a green tariff.

By purchasing a green tariff, in theory, some or all the energy you are consuming is matched by renewable energy, either directly purchased by the supplier or through investment, therefore increasing renewable energy generation. It does not mean that the energy you directly consume is generated from renewable energy, as all energy comes from the National Grid, but the overall proportion of renewable energy in the Grid should increase. The only way to ensure you use 100% renewable energy is to directly connect generation to supply, typically on site.

Energy suppliers are required to publish their 'fuel mix' to publicly disclose their impact, allowing customers to choose their supplier based on the percentage of renewable energy generation. However, even 100% renewable energy suppliers can supply non-renewable energy and pass it off as being green. A Which? Investigation of 400 energy suppliers found that over 40 suppliers that were offering 100% renewable tariffs were not actually supplying or investing in 100% renewable energy.

Choosing a tariff

The greatest challenge when it comes to green tariffs is distinguishing between the type of tariffs, as some are 'greener' than others. Those from direct purchasing of or investment in renewable energy, have a far greater positive environmental impact than those solely backed by certificates called **Renewable Energy Guarantee of Origins (REGOs)** which do not supply/invest in green energy. Currently, there is little to inform customers of the type of green tariff they are purchasing, and the onus is on the customer to do their research and to choose which tariff to purchase, which is often difficult as they have to wade through opaque marketing content produced by each provider.

USwitch have tried to address this though their Green Accreditation scheme. USwitch surveyed energy suppliers about their green energy tariffs and have categorised each company to reflect the key differences in tariff types they sell:

- The Bronze standard is awarded to tariffs that match electricity supply with REGOs.
- The Silver standard is awarded to tariffs with at least 42.9% of electricity bought from renewable generators under power purchase agreements (PPAs).
- The Silver standard is also awarded if at least a third of electricity is bought via PPAs, if they include some green gas (biomethane) or the gas is carbon offset to a world-class quality standard.
- Gold standards are awarded to tariffs with 100% of electricity bought from renewable generators under PPAs and at least 10% of green gas, with all emissions from gas being offset, and must provide a meaningful contribution towards increasing and/or promoting renewable energy.

This accreditation scheme has the potential to aid customers in deciding which green tariffs to purchase, but arguably does not do enough to distinguish certificate-backed tariffs from the rest.

What are the benefits?

Green tariffs are often chosen by business owners who wish to reduce the amount of fossil-fuel energy generation in the UK and in turn their carbon emissions.

The intention of a green tariff is to increase renewable energy generation in the UK, either by directly supplying green energy to customers; purchasing green energy from renewable generators to supply to customers, or by directly investing in renewable energy generation.

However, certificate-backed green tariffs undermine this concept and are potentially slowing the decarbonisation of the UK's energy sector. They are being sold to customers as a 'green' energy option, whilst they may provide little environmental benefit. By 2050, to reach the UKs net-zero

target, an additional 3GW of renewably generated electricity is required. Achieving this increased capacity requires significant investment and financial support, as such the companies providing green tariffs solely or partly backed by REGOs are slowing the transition of the sector to low carbon and is not reflecting the demand of the consumers for reduced impact. Such tariffs benefit from renewable energy, but do not invest in or necessarily expand its capacity.

What are green tariffs?

Suppliers advertising their tariffs as green must support renewable generation, however there are different methods of achieving this and some are 'greener' than others. There are four main types of green tariffs:

1. **Own generation tariffs** – the suppliers own renewable energy generation – e.g., solar or wind farms - and directly supply this energy.
2. **Investment tariffs** – the suppliers directly invest the payment for the green tariff into new renewable energy generation sites.
3. **Partnership tariffs** – the suppliers directly purchase the renewable power from renewable generators using contracts called Power Purchase Agreements (PPAs). These should be bought at a fair price, as part of community of renewable energy developers, to provide a route for smaller generators to sell their power and directly increasing the amount of renewable energy in the mix.

4. **Certificate-backed tariffs** -suppliers buy from the wholesaler and purchase certificates called Renewable Energy Guarantee of Origins (REGO). These tariffs are the most problematic, as the supplier can purchase these without purchasing or investing in renewable energy.

Only the first three types can arguably be defined as green, as they deliver tangible environmental benefits by increasing the supply of renewable energy and by investing in renewable infrastructure and innovation.

Do these tariffs deliver?

A study by Which? determined that out of the companies providing green tariffs in the UK, only four owned renewable energy generation, and another six had parent companies that owned renewable energy generation. Fifteen companies were found to directly purchase energy from generators, which provides income for the generators and increases the supply of green energy. The others used certificates to demonstrate that their tariffs were 'green'.

REGOs certificates are issued to renewable generators to indicate that the power was generated through renewable sources. They were designed to record and report what proportion of electricity consumption was from renewable sources, to meet EU requirements. For every megawatt hour (MWh) of renewable power generated, a REGO certificate is issued. Renewable energy generators can sell them alongside renewable power, or separately. Energy suppliers buy them to demonstrate the proportion of renewable electricity they sell. REGOs can be bought alongside renewable power directly from a generator, or bought separately, after the suppliers have purchased the electricity for their customers. In the UK, Ofgem requires energy suppliers to use REGOs to prove the source of their electricity each year.

Companies using REGOs to sell green tariffs have been accused of greenwashing, as they are not buying the renewable power the certificates relate to. This can also lead to renewable energy being double counted as the renewable energy generator can sell its energy to one supplier using a PPA, without including the REGO and then sell the REGO to another supplier. The use of REGO green tariffs is problematic, as these are not necessarily accompanying green energy and purchasing these tariffs is not supporting the growth of renewable energy in the UK.

Additionally, green tariffs tend to be more expensive than non-green tariffs, to support investment and infrastructure development. However, REGOs can be purchased for very little, meaning that the energy supplier company is making money from selling its product and from not supporting renewable energy generation. Although some have argued that the sale of REGOs provides additional funds to generators, their very low price provides minimal income. Currently it costs on average £1.50 to buy one REGOs of a megawatt, whilst each megawatt of installed capacity at a solar farm costs £1 million, meaning that the renewable energy generator makes very little income from REGOs.

Ofgem's research into green tariffs in 2019, led them to conclude that they 'do not believe that a 100% REGO-backed tariff offers substantial environmental benefits'.

Summary

Currently, green tariffs provide an imperfect way of meeting the demand for renewable energy generation and reduced environmental impact. Many businesses and consumers want to do the right thing by reducing their impact, but are not actually making the positive impact they are led to believe they are. Green tariffs differ in their level of 'greenness', with own generation and investment tariffs conferring the greatest environmental benefits. Whilst green tariffs that genuinely increase renewable energy generation are producing tangible environmental benefits, reduction of energy use through demand or efficiency, remain the most direct path for businesses to reduce carbon impact.