reality or rhetoric?

green tariffs for domestic consumers

by Virginia Graham

NCC National Consumer Council
Making all consumers matter

About the author

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Our work on sustainable energy

One of the NCC's strategic objectives is to promote and achieve more sustainable consumption. In this context the NCC is working on sustainable energy. The main aim of the project is to promote policies and practices that make sustainable energy choices easier for consumers.

This report on green tariffs is the first publication under the sustainable energy project. A separate NCC project aims to promote the availability of an affordable and sustainable energy supply.

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Summary

In 2004, the average household emitted around six tonnes of carbon dioxide (CO_2): 1.7 tonnes from electricity and 4.3 tonnes from gas. Electricity from renewable sources is vital in reducing the CO_2 put into the atmosphere, by both households and other users. Domestic consumers can reduce their CO_2 emissions by signing up to a green tariff, but according to the research informing this report, less than one per cent of households in Great Britain – some 200,000 – have done so.

A recent poll suggests that there is considerable interest: 64 per cent of respondents said they would consider switching to a green energy company. But to fulfill this potential, consumers must have clear, unambiguous information about what is on offer, and confidence that green tariffs will deliver what they promise. Only then will consumer confidence levels rise to a point where the market for greener energy can succeed.

This report explores the options for consumers who want a green tariff. In it, we look at the green tariffs on offer and assess whether they meet their suppliers' environmental claims.

Key findings

- Many green tariffs are not delivering the environmental benefits they claim to. As a result, consumers may not be making the positive contribution they think they are.
- Many suppliers are doing little more than meeting legal requirements. There is scope in the system to count the 'greenness' of electricity more than once.
- Even the better tariffs on offer will only reduce CO_2 emissions by around 100 kg a year – just six per cent of an average household's CO_2 emissions.
- In most cases, tariffs with premiums deliver greater environmental benefits than those without.
- There is too little clear and accurate information available on most green tariffs, and it is difficult for consumers to compare, as it is not in a standard format.
- Given the complex legislative and regulatory framework surrounding green electricity, it is easy for consumers to be misled by suppliers' claims.
- Suppliers are not making it clear to consumers that their electricity bills are already supporting increased renewable electricity – by around £7 per household (in 2005/6).

These findings are worrying. There is a danger that consumers will be alienated from the behaviour change agenda. This, in turn, could threaten the succes of the government's sustainability strategy.

Key recommendations

All energy suppliers should:

- sign up to a Consumer Code based on Ofgem's revised Green Supply Guidelines; undertake to provide full and accurate information about the tariffs they offer; and not make claims that cannot be substantiated.
- have their tariffs independently audited against a benchmark, and to inform consumers of their household's likely CO_2 reductions if they switch to a green tariff.

For a full list of conclusions and recommendations, see section five.

1 Introduction

The domestic sector is responsible for just under a third of total UK CO_2 emissions. Each year, the average household emits around six tonnes of CO_2, the equivalent of filling 34 double decker buses[1]. If the government is to meet its target to cut CO_2 emissions by 20 per cent by 2010 over 1990 levels, households must reduce the energy they use, and there has to be a reduction in the amount of CO_2 emitted by the electricity generation process.

This message has been underlined several times this year in a series of high-level government reviews and reports. The Energy Review Report stressed the importance of meeting the climate change challenge and set out a policy context for doing this[2]. It will be followed up by a white paper in March 2007. The Climate Change Programme outlined the individual measures and instruments that will deliver the government's CO_2 target[3]. The Stern Review estimated for the first time the costs of not reducing global warming to safe limits and underlined the importance of decarbonising the energy supply[4]. The Review has provided a new context, not only for the UK's energy policy, but also for the global response to climate change. Taking account of all of these, the government announced in the Queen's Speech in November, that it will bring forward a Climate Change Bill in 2007.

The UK Sustainable Development Strategy highlights sustainable consumption and climate change as two of the key priorities for a more sustainable future. In the strategy, the government sets out a commitment to focus on measures that will enable and encourage behaviour change and build on people's growing awareness of environmental concerns[5].

With the Sustainable Development Commission, NCC was a partner in the Sustainable Consumption Roundtable. Its final report in May 2006, *I will if you will*, made a range of recommendations to government, regulators, business and other stakeholders.

According to the report, switching to a green tariff should be one of the simplest ways for households to reduce their environmental impact[6]. However, according to NCC's research, only some 200,000 households in Great Britain, or less than one per cent of the total, have already chosen to sign up to such a tariff. In a poll carried out for the *Observer* in October 2006[7], 64 per cent of those questioned said they would consider switching to a green company for their gas and electricity, which suggests that there is considerable unfulfilled potential.

2 What is green electricity?

Figure one: the principal sources of the UK electricity supply, 2005
DTI, 2006

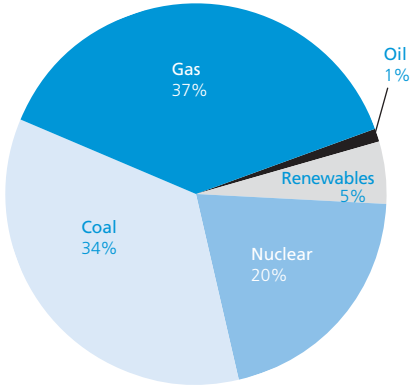
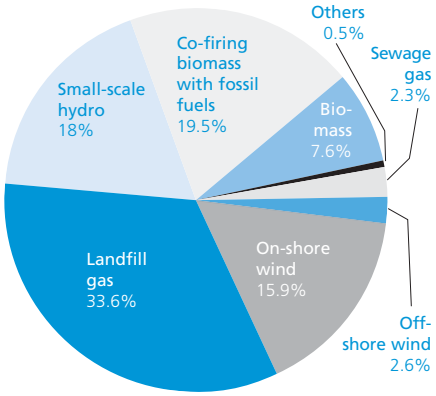


Figure two: accredited renewable electricity generation by technology, 2004/05
Ofgem, Renewables Obligation Review, 2006



Green electricity is generated from renewable sources using natural energy flows of the earth that will never be depleted. This is opposed to 'brown' electricity, which is generated from fossil fuels (such as coal, oil and natural gas) and from nuclear fission.

Figure one sets out the fuel sources of the UK's electricity supply, with renewable sources making up less than five per cent in 2005. Although every electricity generation source will have some form of environmental impact, renewable sources do not cause CO_2 to be emitted into the atmosphere or lead to the creation of toxic wastes.

The principal renewable electricity sources are wind, solar, wave, tidal and geothermal. These sources of energy are sometimes described as 'dark green', since they do not involve any burning in the generation process. Electricity from large-scale hydro plants is generally considered to be 'pale green', as most of the plants were constructed in the middle of the last century and so do not constitute new renewable capacity. Nonetheless, electricity generated from large-scale hydro does not result in the emission of CO_2. Small-scale new and refurbished hydro plants are considered to be 'dark green'.

Electricity generated from biomass does involve some form of burning, or 'combustion'. However, the emissions from this are considered to be offset by the CO_2 that the biomass absorbed during its lifetime. Therefore it is considered to be carbon neutral and so 'dark green'. Electricity generated from sewage and landfill gas is also generally included within the definition of renewable electricity for most government programmes.

Electricity generated from waste is generally not considered green at all, since the waste could have been avoided, reused or recycled in the first place. Burning harmful substances can cause toxic emissions. However, if the waste can be shown to contain high amounts of biomass, it will generally be included in the definition of renewable sources. Figure two sets out the different sources of accredited renewable electricity output in 2004/5. Landfill gas accounted for one-third of the total, with on-shore wind accounting for just one-sixth.

Due to the complex physical nature of electricity it is not possible for suppliers to guarantee that a unit of renewable electricity they buy from a generating plant actually reaches the customer's home. All a supplier can reasonably be expected to do is to ensure that the renewable electricity it sells is equivalent to the renewable electricity it buys. The term 'green electricity' therefore generally refers to a contract for the purchase or sale of electricity from renewable sources, rather than the electrons themselves. Only if consumers generate the electricity themselves from renewable sources can they be sure that the actual electrons used are green.

3 Regulatory environment

Green electricity has been available to some domestic consumers since the mid-1990s, but green tariff options have only been available to all consumers since the introduction of competition in 2000. Shortly after this, the government introduced new instruments to promote renewable electricity. In 2002 the Renewables Obligation was introduced; in 2001 the EU Renewables Directive was agreed by Member States and the Climate Change Levy exemption for renewables was introduced. The legislative and regulatory framework surrounding green tariffs is complex.

Legislative framework

Renewables Obligation

The Renewables Obligation obliges licensed electricity suppliers to source a specified and growing proportion of the electricity they supply from renewable sources[8]. It is paid for by domestic as well as industrial and commercial consumers through their electricity bills. In 2005/6 the cost of this was £600 million and by 2010 it will be £1 billion. This equates to a contribution of £7 from each household in 2005/6 rising to £20 in 2010/11[9]. Suppliers can meet their obligation either through acquiring Renewables Obligation Certificates, or by 'buying out' their obligation.

Generators sell the Renewables Obligation Certificates to suppliers, usually with the associated electricity. Renewables Obligation Certificates can also be traded between suppliers and other parties. Suppliers must present the required number of Renewables Obligation Certificates to Ofgem to comply with their obligation. Since the obligation is set at a higher level than available supply, it will not be possible for all suppliers to comply using Renewables Obligation Certificates. Some will have to 'buy out' instead. The cost of buying out of the obligation is set by government. The proceeds of the 'buy out' fund are redistributed among those suppliers who have presented Renewables Obligation Certificates. The energy regulator, Ofgem, is responsible for administering the scheme.

Climate Change Levy Exemption for Renewables

The Climate Change Levy is a tax on non-domestic electricity consumers, requiring them to pay 0.43 pence for every kilowatt (kWh) of electricity they consume[10]. If they can prove that they have bought green electricity then they are exempted from the tax. The way they can prove this is by buying Levy Exemption Certificates from eligible generators, usually with the associated electricity. The scheme is administered by Ofgem.

EU Renewables Directive

The EU Renewables Directive aims to promote electricity generation from renewable sources across the EU[11]. It sets an indicative target of 10 per cent for renewable electricity for Member States to achieve by 2010. How they meet the target is left to Member States to decide. The Directive also requires Member States to ensure that a mutually recognisable guarantee of origin is issued on request in respect to all electricity generated from renewable energy sources. The purpose of these Renewable Energy Guarantees of Origin is to increase transparency for the consumer when buying electricity from renewable sources. Ofgem administers the scheme.

Table one: technologies qualifying as renewable sources under different government policies

Technology	Renewables Obligation	Climate Change Levy Exemption for Renewables	EU Renewables Directive
Large-scale hydro	✗(1)	✗	✓
Small-scale hydro	✓(2)	✓(3)	✓
Waste	✗(4)	✓(5)	✓(6)
Biomass	✓	✓	✓
Co-firing of biomass	✓(7)	✓	✓
Geothermal	✓	✓	✓
Wind	✓	✓	✓
Tidal and wave	✓	✓	✓
Landfill gas	✓	✓	✓
Sewage gas	✓	✓	✓
Energy crops	✓	✓	✓
Solar PV	✓	✓	✓
Coal mine methane	✗	✓	✗

(1) Other than those plants commissioned after 1 April 2002.
(2) Up to 20 MW capacity.
(3) Up to 10 MW capacity.
(4) Other than biomass and waste gassified or liquefied using advanced conversion techniques.
(5) So long as it is not waste with an energy content 90% or more of which is derived from fossil fuel.
(6) Biodegradable fraction of industrial and municipal waste.
(7) Limits apply.

Source: Relevant Government Statutory Instruments

Fuel mix disclosure

The EU Internal Market in Electricity Directive requires electricity suppliers to disclose the average composition of the sources from which the electricity they sell is derived. They must hold a Renewable Energy Guarantees of Origin for each kWh that they claim as renewable in their fuel mix. The DTI and Ofgem jointly issued guidance for suppliers on how they should calculate and disclose their fuel mix[12]. The guidance states that suppliers may disclose the fuel mix of an individual green tariff they offer, so long as the company's total fuel mix is also presented.

Renewable sources

Table one, left, sets out the different definitions of renewable electricity used in the various government policy instruments.

Regulating green tariffs

During the past ten years the NCC has worked with the government on the issue of green claims for products. The 1996 report, *Green claims*, showed many of these claims to be vague and misleading. In 1998 the government launched the Green Claims Code, a voluntary code of practice that sets out clearly what a green claim should be: specific, accurate and verifiable and not vague, irrelevant or misleading[13].

Ofgem's Green Supply Guidelines

In 2002, Ofgem developed a set of good practice guidelines for suppliers offering green tariffs in the domestic market. These were based on the principles developed by the NCC and the government and set out the features of green tariffs, and the claims that may be made about them. According to the guidelines, green tariffs must be transparent and offer consumers additional

environmental benefits. Any claims made must be transparent and verifiable. The 2002 guidelines are being revised and a new version is expected shortly. The Ofgem guidelines stipulate the following:

Transparency: suppliers' claims for renewable electricity should be accompanied by a clear definition of its sources and an explanation of how any premium customers are paying is accounted for.

Additionality: suppliers who claim that a green tariff is providing an environmental benefit must be able to prove that their offer goes beyond what is already required by law.

Verifiability: suppliers need to be prepared to produce evidence for the claims they make to any accreditation scheme or enforcement agency. This could include, for example, details of transactions they have made in the electricity marketplace or contracts with renewable generators.

Enforcement of the Guidelines

Ofgem does not enforce its Green Supply Guidelines. Rather, it designed them as a means for setting out minimum levels of good practice which can be used by Trading Standards or the Advertising Standards Authority (ASA). In practice, action against misleading claims in this area has been very patchy, since the ASA's rulings depend on the nature of the complaints they receive from the public. Nonetheless, they have made a number of helpful rulings in this area. For example, in October 2006, the ASA ruled that Scottish and Southern Energy must not give the impression in its marketing that planting one tree will effectively offset the CO_2 emissions from a household's annual gas supply[14].

Accrediting green tariffs

The Energy Saving Trust ran an accreditation scheme for green tariffs called Future Energy. Funded by the DTI and participating suppliers, the scheme accredited green tariffs against set criteria. The scheme was discontinued in 2002 after the introduction of the Renewables Obligation. Since then, the suppliers have regulated their own green tariffs.

Friends of the Earth also developed a league table for green tariffs to help consumers distinguish between the various products on offer. The major focus was on additionality. The price-comparison website, uswitch.com, also sought to provide this information. Both found it too complex and time-consuming to assess the different offers without dedicated funding. energywatch has now started to list all green tariffs on its website, but does not rank or accredit them. Other websites that provide information on green tariffs and renewable electricity are listed in the appendix.

Throughout the past five years there have been calls for more systematic regulation of green tariffs. A report by the Environmental Change Institute at the University of Oxford, published in June 2006[15], called for a Code of Practice to be developed, backed by an independent accreditation scheme. It cited as justification examples of where this had been implemented successfully in other countries.

4 Green tariffs on offer

NCC's initial research took place over four weeks in May 2006, with follow-up work in October and November 2006. It involved several stages:

- desk research looking at the information available on a range of websites;
- anonymous telephone calls to supply companies using real electricity bills as a basis for gleaning information about the tariffs on offer[16];
- follow-up telephone calls and emails to suppliers to check the information from the mystery shopping exercise;
- a series of meetings with the key government, regulatory, consumer protection and environmental group representatives; and
- updating, verification and peer review.

The research findings are set out according to the following framework:

Type of product

There are three distinct types of green tariff:

- a green electricity supply tariff, where the supplier guarantees that the electricity it sells to customers is covered by the electricity it buys from renewable sources, backed by the necessary contractual evidence;
- a green energy fund tariff, where the supplier invests the premium consumers pay into new renewable energy, or other environemental projects. In some cases the company matches the customers' contributions. Some green funds are administered through an independent body established by the supplier or through an unrelated charity; and
- a carbon offset tariff, where suppliers offer to offset the CO_2 emitted by the consumers' electricity and gas supply – by planting trees or by investing in other CO_2-reducing projects in the UK or in developing countries. These are becoming more common.

Many tariffs are a hybrid of two or more of these types, as the table on page ten shows.

Premium

There is a cost to suppliers for providing consumers with 'additional' environmental benefits. To reflect this, suppliers will usually charge a premium for their green tariffs over the standard credit tariff. Consumers may also forego certain discounts that other customers enjoy. Some suppliers will guarantee to match any premium consumers are paying. In general, green tariffs with premiums can be expected to offer greater environmental benefits than those without.

Number of customers

The numbers of customers subscribing to green tariffs are still relatively low. We have given the numbers where suppliers provided them. In other cases, suppliers preferred to keep the figures confidential, and we have indicated this. This is one reason it is difficult to estimate the total number of consumers who have signed up to a green tariff.

Information

The principal source of information for consumers is the supplier's website, its marketing materials and its call centre staff. We assessed:

- how readily available product information was; and
- how complete the product information was.

Box one: additionality and green electricity supply tariffs

Suppliers who claim they are offering additional environmental benefit through their green tariff must hold the relevant certificates to back up their claim. Selling the certificates separately from the electricity can result in the 'greenness' in renewable electricity being sold twice or even three times. It is hard to prove additional environmental benefits under these circumstances.

First, suppliers must hold the requisite number of Renewable Energy Guarantees of Origins to match the amount of electricity being sold, though these alone do not prove additionality. They should also retire from the system the Levy Exemption Certificates associated with the electricity. This way, they prove that they are not selling them again to non-domestic consumers who use them to claim exemption from the Climate Change Levy. For a supplier to retire the Levy Exemption Certificates for an average domestic consumer's electricity use would cost around £17 per year. However, retiring Levy Exemption Certificates is not sufficient to prove that a tariff is additional. Suppliers should also retire out of the system the Renewables Obligation Certificates associated with the electricity. This way, they show that they are not being sold on to other suppliers and the 'greenness' in the electricity counted again.

Retiring Renewables Obligation Certificates has the effect of obliging other suppliers to pay more into the 'buy out' fund to comply with the Renewables Obligation. As a result, there will be more money to redistribute. All other things being equal, this should drive further investment in renewable energy. However, each Renewables Obligation Certificate has a value of around £45, while an average household uses 4000 kWhs, or 4 MWhs, of electricity each year. This means it would cost suppliers around £200 to retire the Renewables Obligation Certificates associated with each household who had signed up to their green tariff. Very few consumers would be prepared to pay a premium of this size on their tariff. This is the most difficult aspect of additionality. Suppliers have to strike a reasonable balance, for example, by retiring a proportion of Renewables Obligation Certificates[17]. However, CO_2 savings from these types of tariffs are still relatively modest[18].

Additionality and green fund / carbon offset tariffs

Suppliers offering a fund-type tariff will often claim that the additionality lies within it. For example, many funds are used to finance community-based renewable projects. This can lead to reduced CO_2 emissions, though it is very hard to quantify this objectively.

Suppliers offering an offset-type tariff need to be clear what proportion of CO_2 from their energy use is being offset through the tariff, and what value is being placed on each tonne of CO_2. In CO_2 terms, there is no equivalence between the amount of emissions reduced by the planting of one tree and the amount of CO_2 emitted by a household for heating, cooking and lighting. There are also questions over how far such tree-planting schemes are truly additional as opposed to 'business as usual'.

We also looked at how much general information was available about renewable electricity and the legislative framework. Suppliers are required by licence to provide their domestic customers with information on energy efficiency, so we did not include this in our assessment.

Additional environmental benefits

One of the key requirements of a green tariff is that it should offer consumers additional environmental benefits. If any claimed environmental benefits would have occurred anyhow, consumers are being misled. By environmental benefit, we usually mean a reduction in CO_2 emissions. For the purposes of this assessment, a green supply tariff will not be considered additional purely on the basis of Levy Exemption Certificates being retired and Renewable Energy Guarantees of Origins being held.

See box one, left, for more details about how additionality can be proved and some of the problems associated with it.

Overall assessment

Taking all of these criteria into account, we have assessed what the available green tariffs really offer consumers.

What we found

This section provides a summary of the key characteristics of each green tariff, categorised by supplier according to the framework described on pages seven and eight. Where a supplier offers more than one tariff, these are listed jointly.

The information on each tariff is summarised in tables two and three. Table two shows whether tariffs are based on green supply, a green fund or carbon offset, or a combination of these. It also shows whether or not each tariff attracts a premium over and above the standard credit tariff.

Table three lists only those tariffs that have a green supply element to them, and sets out the contractual evidence suppliers use to back up the tariff. This evidence is in the form of certificates issued under the various government instruments explained on page four. The more unqualified ticks a tariff has, the more it will generally be offering in terms of additional environmental benefits.

Table two: green tariffs by type and premiums for green tariffs (over and above the standard credit tariff)

	Green supply	Green fund	Carbon offset	Premium?
British Gas – Climate Aware			✓	✓
British Gas – Green Electricity	✓		✓	
EBICo - Equiclimate			✓	✓
Ecotricity – New Energy	✓	✓		
Ecotricity – Old Energy	✓			✓
EDF Energy – Climate Balance			✓	✓
EDF Energy – Green Tariff	✓	✓		✓
Good Energy	✓			✓
Green Energy – UK 100	✓			✓
Green Energy – UK 10	✓			
Npower – Juice	✓	✓		
Powergen – GreenPlan	✓	✓		✓
Scottish and Southern Energy – Power 2	✓		✓	
Scottish and Southern Energy – RSPB Energy	✓	✓		✓
Scottish Power – Green Energy Fund		✓		✓
Scottish Power – Green Energy H20	✓			

Table three: guarantees offered by each supplier to back up their green tariff

	Backed by Renewable Electricity Guarantee of Origin (REGOs) (100 per cent unless specified otherwise)	Backed by retired Levy Exemption Certificates (LECs) (100 per cent unless specified otherwise)	Backed by retired Renewables Obligation Certificate (ROCs) (at least 5 per cent over and above the statutory requirement) (5)
British Gas – Green Electricity	✓		
Ecotricity – New Energy	✓(1)		
Ecotricity – Old Energy	✓	✓	
EDF Energy – Green Tariff	✓	✓	
Good Energy	✓	✓	✓
Green Energy – UK 100	✓	✓	
Green Energy – UK 10	✓(2)	✓(2)	
Npower – Juice	✓	✓(3)	
Powergen – GreenPlan	✓	✓	
Scottish and Southern Energy – Power 2	✓		
Scottish and Southern Energy – RSPB Energy	✓	✓(4)	✓
Scottish Power – Green Energy H_20	✓		

Please note that this table only includes the suppliers that offer a green electricity supply as all or part of their green tariff. As such this table does not include green energy fund and carbon offset offerings that make up all or part of some green tariffs.

The more unqualified ticks a tariff has, the more it will offer in terms of CO_2 reductions.

(1) 22% - estimated figure for 2005/6.
(2) 16.7% - estimated figure for 2005/6.
(3) 84% - estimated figure for 2005/6.
(4) 10% - estimated figure for 2005/6.
(5) The Renewables Obligation target for 2005/6 was 5.5%. In 2006/7, it is 6.7%.

Green tariffs by supplier

'The Green Electricity tariff is additional because we provide trees – for every ten customers that sign up to Green Electricity we plant a tree in native forests in the UK.'[19]

British Gas

British Gas is owned by Centrica and is one of the big six energy companies. It offers two green tariffs.

The Climate Aware tariff is a carbon offset product which does not include green electricity supply. It is available to gas only or dual fuel customers who pay a premium above the standard credit tariff. British Gas pays this to the carbon offset company, Climate Care, who invests the money in carbon reducing-projects in developing countries.

The Green Electricity tariff guarantees to supply consumers '100 per cent renewable electricity'. It is available to electricity-only or dual fuel customers. British Gas will plant one tree for every 10 customers who sign up to the tariff, up to a maximum of 25,000 trees, through an agreement with the CarbonNeutral offset company.

Premium

Climate Aware tariff: £30 a year.

Green Electricity tariff: none.

Number of customers

Climate Aware tariff: around 500.

Green Electricity tariff: around 80,000.

Information

On the British Gas consumer website there is no general information on climate change, renewable energy or the legislative context. To find specific information about the green tariffs, you have to find your way to the energy efficiency section of the website. From this there are links to rather brief descriptions about both tariffs.

Additional environmental benefits

The amount of additional environmental benefits offered by the Climate Aware tariff will depend on how much of consumers' household energy use is being offset and the value attributed to each tonne of CO_2 emissions. Neither of these details are provided by British Gas.

The additional environmental benefits offered by the Green Electricity tariff are very unclear. Five per cent of British Gas's electricity supply came from renewable sources in 2005/6 so British Gas was not going beyond its legal obligation to supply 5.5 per cent.

The renewable electricity supplied by British Gas is sold partly to domestic customers through the Green Electricity tariff and partly to business customers seeking exemption from the Climate Change Levy. This is backed by Renewable Energy Guarantees of Origin and declared in British Gas' fuel mix disclosure. However, all the Levy Exemption Certificates associated with the electricity are sold on to business customers: none are retired. This means that the 'greenness' in the electricity supplied to domestic customers is being sold twice to two different sets of consumers. No Renewables Obligation Certificates are retired.

British Gas considers that the Green Electricity tariff does offer additional environmental benefits on account of tree-planting.

Overall assessment

It is clear how much consumers are paying for the Climate Aware tariff, but it is not clear exactly what they are getting in return. British Gas should specify how much of consumers' household energy use is being offset by the tariff and the value being attributed to each tonne of CO_2 emissions.

The Green Electricity tariff does not offer additional environmental benefits according to the definition set out in this report. The only aspect of the tariff that is additional is the commitment by British Gas to plant a tree for every ten customers who sign up to it. Given that there is no premium for this tariff, consumers may be happy to sign up on this basis. However, the amount of CO_2 emissions reduced by the planting of one tenth of a tree is not equivalent to the amount of CO_2 emitted by an average household's gas and electricity use.

EBICo

'We offer our customers the opportunity to calculate the CO_2 impact of their domestic energy use and to offset part of this via our offsetting service.'[20]

EBICo is a not-for-profit company which aims to 'harness the power of the market to tackle real issues of social concern'. EBICo offers two standard tariffs, Equipower and Equigas, through its partnership with Scottish and Southern Energy. These are not green tariffs, but EBICo offers their customers a carbon-offsetting option, Equiclimate, with either of these tariffs. Equiclimate is now also available to those who are not tariff customers and can be extended to cover travel-related emissions.

Equiclimate offers consumers the option of offsetting a proportion of their household CO_2 emissions. Consumers are asked to answer a few questions about how much CO_2 they are currently responsible for – for example, from heating, lighting and cooking. EBICo guarantees to offset 20 per cent of these emissions by buying and retiring allowances from the EU's Emissions Trading Scheme.

Premium

£7.28 per tonne of CO_2 offset. This charge changes from day to day based on the prevailing cost of allowances in the market. The Equigas and Equipower tariffs are charged at a single flat rate with no standing charge.

Number of customers

Around 2,000.

Information

The EBICo website provides a useful overview on climate change, the Renewables Obligation and the EU Emissions Trading Scheme. It also provides simple, but brief, information on the Equiclimate carbon offset option.

Additional environmental benefits

EBICo uses a recognised currency to back its Equiclimate carbon offset option. Although only 20 per cent of the total household emissions are offset, the methodology it uses is transparent and robust. In the current round of the EU Emissions Trading Scheme the value of allowances may not correspond very closely to the cost of climate change abatement. However, the Scheme provides an internationally recognised CO_2 price.

Overall assessment

If consumers are interested in offsetting some of their household's CO_2 emissions, this product is a straightforward way to do it. The amount they are paying corresponds directly to the cost of buying allowances in the market.

Ecotricity

'Our customers are buying into a company that will never build polluting forms of generation… Ultimately our customers are helping to contribute to new green build, way above Ecotricity's actual Renewables Obligation.'[21]

Ecotricity is a small company that has an electricity supply arm as well being a windfarm owner and developer. Ecotricity offers two green tariffs.

The New Energy tariff is principally a green fund product. It also has a green supply element as customers are offered 'about 25 per cent renewable energy'. Ecotricity buys renewable electricity equivalent to 25 per cent of all the electricity it supplies, mainly from its own windfarms. The remaining 75 per cent of the electricity Ecotricity supplies comes from coal, gas and nuclear sources in line with the average national fuel mix. Any profits from Ecotricity's supply arm are invested back into its windfarm generation business. Ecotricity also plants a tree for each new customer, to create new woodland near one of their wind turbines, and contributes £15 to WWF and the Soil Association for each new customer referred by them. The company is also investing in research into 'microgeneration and personal carbon management systems'.

The Old Energy tariff is based on green supply, and provides customers with '100 per cent renewable energy'. This is part of the total of 25 per cent renewable energy supplied by Ecotricity. Ecotricity is not actively seeking new customers for this tariff.

Premium

New Energy tariff: none.

Old Energy tariff: a small premium.

Number of customers

New Energy tariff: 20,700.

Old Energy tariff: 300.

Information

Ecotricity's website provides clear, easy-to-understand information on climate change, renewable energy sources and the distinction between 'dark green' and 'pale green' renewables. It also provides information on each of Ecotricity's windfarms. However, the website does not make it very clear that New Energy customers will not receive 100 per cent renewable energy as part of the tariff.

Additional environmental benefits

Ecotricity supplies around 25 per cent of its total supply from renewable sources. This is going beyond its current legal obligation to supply 6.7 per cent from renewable sources. Almost all of this goes to its New Energy customers. Ecotricity holds Renewable Energy Guarantees of Origin in respect of this electricity. However, the Levy Exemption Certificates associated with it are sold on to non-domestic consumers; and the Renewables Obligation Certificates, over and above what is required by law, are sold on to other suppliers. In this respect New Energy performs less well than many of the other tariffs in our survey.

Where the New Energy tariff could offer some additional environmental benefits is through Ecotricity's commitment to invest any profits into its windfarm business, and through its planting a tree for each new customer. However, these are long-term and hard to quantify objectively.

Overall assessment

Ecotricity's New Energy tariff is not providing customers with 100 per cent renewable electricity. Of the 25 per cent of electricity from renewable sources, some of the 'greenness' is being sold three times. The supply aspect of the tariff is therefore not offering any additional environmental benefits according to the definition set out in this report.

Ecotricity's commitment to invest any profits back into its windfarm business and other research could offer some additional environmental benefits. Consumers may like this aspect, particularly given that there is no premium. However, Ecotricity does not state in advance how much it will invest on behalf of each customer each year. It is therefore very difficult for consumers to evaluate the environmental benefits of the tariff objectively. It is good practice for suppliers who offer green fund tariffs to have them managed independently. Ecotricity does not do this.

Consumers may also be attracted by Ecotricity's commitment to plant a tree for each of its New Energy customers. However, the amount of CO_2 emissions reduced by the planting of one tree is not equivalent to the amount of CO_2 emitted by an average household's gas and electricity use.

EDF Energy

'The contribution made by our customers is matched pound for pound by EDF Energy... Without this support these [community-based renewable] projects are unlikely to have occurred. [The fund] therefore supports the growth of renewable generation.'[22]

EDF Energy, one of the big six energy suppliers, offers two green tariffs.

The Green Tariff is a green fund-based tariff that also has a green supply element. EDF Energy matches the premium paid by consumers and the whole sum is paid into a Green Energy Fund that supports community-based and educational renewable projects. A committee within the company assesses applications and the fund is externally audited. EDF also supplies customers with '100 per cent renewable electricity'.

The new Climate Balance tariff funds UK and global projects that 'result in reduced CO_2 being emitted into the atmosphere'. Examples of the type of project being funded are the promotion of energy efficient appliances and reforestation.

Premium

Green Tariff: around £15 per year.

Climate Balance tariff: 0.4 p/kWh electricity consumed and 0.12p/kWh gas consumed (excluding VAT). For average consumption rates this equates to £16 for electricity and £24 for gas.

Number of customers

Green Tariff: 12,000.

Climate Balance: This tariff is too new to have customer numbers available.

Information

EDF Energy's website provides limited information on renewable energy sources, climate change or the Renewables Obligation. It does provide basic details about the Green Fund Tariff but no information on the actual projects it funds.

Additional environmental benefits

The electricity supplied to EDF Energy's Green Tariff customers comes from renewable sources, including onshore and offshore wind, landfill gas, biomass, and small scale hydro. EDF Energy holds the Renewable Energy Guarantees of Origins in respect of 100 per cent of this, and retires 100 per cent of the associated Levy Exemption Certificates out of the system. This is good practice and means that the 'greenness' is not being sold to consumers twice. No Renewables Obligation Certificates are retired out of the system.

Overall, EDF Energy does not go beyond its legal obligation, supplying around 4.5 per cent of its total supply from renewable sources in 2005/6. The electricity supplied to Green Tariff customers comes out of this rather than being additional to it.

As regards the Green Fund, EDF Energy reports that £2.6 million has been raised so far, with £2.1 million having already been awarded for either feasibility or installation projects. EDF estimates that the amount of additional installed renewable capacity is fairly modest to date at around 600KW, with more expected to follow.

Overall Assessment

The Green Fund Tariff offers consumers the chance to contribute to a Green Fund that is independently overseen. The proceeds are invested in community-based renewables projects. EDF Energy matches customers' contributions. This type of fund will appeal to consumers who wish to support community-based renewables projects. EDF Energy makes it clear how much consumers are paying and publishes information on the projects supported. While the CO_2 emissions reductions from these investments are hard to quantify, it is clear that they have some impact.

The supply aspect of the tariff does not offer additional environmental benefits according to the definition set out in this report. EDF Energy follows basic good practice but does not go beyond its legal obligations. The tariff would be better if it concentrated on the Green Fund, making it fully independent from EDF Energy and increasing the amount invested.

The new Climate Balance tariff could prove attractive. Again, consumers' contributions are clear. However, to really understand its environmental value, EDF Energy should explain what proportion of CO_2 emissions from consumers' household energy use is being offset and the value being put on a tonne of CO_2.

Good Energy

'Good Energy's supply is additional. We comply with the Renewables Obligation using Renewables Obligation Certificates and we go beyond this to an equivalent to ten percent of our supply. This is an ongoing long-term commitment and it is like making a forward commitment to renewable energy in the future.'[23]

Good Energy is a small independent company that offers its customers '100 per cent renewable electricity' sourced from wind farms, small hydro and solar power generators. Their major selling point is that they support small independent, renewable generators by paying them a fixed price for their electricity.

Good Energy offers a green supply tariff with no green fund or carbon offset element.

Premium

Around 12 per cent over the average standard credit tariff.

Number of customers

20,000.

Information

Good Energy's website is an excellent source of information and explains relatively complex issues in simple terms. It provides a clear explanation of the Renewables Obligation and the Climate Change Levy, and provides a useful overview on climate change. The website provides a photo and information on each of the generating plants it buys its electricity from. The website also provides specific information on its renewable energy tariff, including its individual fuel mix and its own calculation of the CO_2 saved by switching to the tariff.

Additional environmental benefits

Good Energy's green tariff is based on 100 per cent renewable electricity. Good Energy holds Renewable Energy Guarantees of Origin in respect of this, and it retires out of the system all the associated Levy Exemption Certificates. This is good practice and means that the 'greenness' in the electricity is not being sold to consumers twice.

Good Energy also buys and retires Renewables Obligation Certificates equivalent to five per cent of their total supply over and above what is required by the Renewables Obligation. So, in 2005/6, Good Energy supplied 5.5 per cent of its supply as renewable to fulfil its legal obligations, and then retired Renewables Obligation Certificates in respect of a further five per cent. Good Energy sells the remaining Renewables Obligation Certificates to other suppliers and so the 'greenness' in this part can be counted more than once. Good Energy commissions an independent auditor to verify the contractual basis of its green tariff.

Overall assessment

Good Energy is making a serious attempt to provide additional environmental benefits. By retiring out of the system Renewables Obligation Certificates equivalent to five per cent of the electricity it supplies, it ensures that this electricity is clearly additional to its legal requirements, and is dedicated to Good Energy's customers. Good Energy is the only supplier to receive three unqualified ticks for its green supply tariff out of those listed in table three. These additional environmental benefits are tangible and account for the premium Good Energy charges.

For those consumers who want a green electricity supply, pure and simple, this is probably the closest they will get to it.

Green Energy

'There are many definitions of additional, but as the electricity is renewably generated, the Levy Exemption Certificates and the Renewable Energy Guarantee of Origins stay with the electricity, and we as a company supply 58 per cent renewable against a target of 6.7 per cent, we [therefore] believe it is additional. We also support small scale generators assisting them in bringing projects to fruition, both with advice and offering flexible and competitively priced power contracts, hence developing the additional renewable power.'[24]

Green Energy is a small company specialising in providing green electricity in partnership with the supplier, Opus Energy. It offers two green tariffs.

The UK 10 tariff is a green supply tariff that offers '10 per cent renewable electricity above the Renewables Obligation'. It is available to domestic and non-domestic consumers. The balance is made up of electricity generated from conventional sources, including coal, gas and nuclear.

The UK 100 tariff offers '100 per cent renewable electricity' generated from small-scale hydro, wind, biomass and solar sources. It is also available to domestic and non-domestic consumers.

Green Energy is offering the first 100,000 UK 10 customers the chance to become a company shareholder. Each customer, domestic and small commercial, receives 400 shares.

Green Energy has made a commitment to invest 50 per cent of its company profits in new renewable projects but it has not yet managed to carry this out.

Premium

UK 100 tariff: around six per cent over the average standard credit tariff.

UK 10 tariff: none.

Number of customers

Confidential. Domestic customers are fairly evenly split between UK 100 and UK 10.

Information

Green Energy's website provides a good overview on climate change, but limited information on different renewable energy sources and nothing on the Renewables Obligation. The website provides very little information about the actual tariffs themselves.

Additional environmental benefits

Over both tariffs, Green Energy is supplying 58 per cent of its electricity from renewable sources. It holds Renewable Energy Guarantees of Origin in respect of this renewable electricity. This is comprised of 16.7 per cent in 2006/7 for UK 10, and 100 per cent for UK 100. It also retires all Levy Exemption Certificates, other than those in respect of the electricity sold to non-domestic customers. This is good practice and means that the 'greenness' in the electricity is not being sold to consumers twice. Green Energy commissions an independent auditor to verify this.

However, Green Energy does not retire Renewables Obligation Certificates above its legal obligation, but sells them on to other suppliers. The 'greenness' in this element of the electricity is therefore being sold twice.

Overall assessment

Green Energy is making a serious attempt at a green tariff with its UK 100. However, while one of the better tariffs in our survey, UK 100 is not offering its customers significant additional environmental benefits according to the definition set out in this report.

With its UK 10, Green Energy is only supplying 16.7 per cent renewable electricity. This is considerably less than many other tariffs on offer. However, consumers may well be attracted by the opportunity to become shareholders in Green Energy, which could provide them with additional financial, as well as environmental benefits in the future.

Npower

'As Juice is a non-premium green tariff, and it is Npower that funds the £10 per customer per year and not the customer, which is subsequently used to support the research and development of new renewable energy projects, it is clear that Npower Juice is additional.'[25]

Npower is owned by the German utility group RWE and is one of the big six energy suppliers. It offers one green tariff.

Juice is a hybrid green supply and a green fund-based tariff. It provides its customers with '100 per cent renewable electricity'.

Once a customer has been signed up to Juice for a year Npower promises to donate £10 for each additional year (up to a maximum of £500,000) to its renewables fund. The fund supports research and development into new and emerging renewable technology projects, mainly wave and tidal. The Renewable Fund is managed by independent experts.

Premium

None.

Number of customers

53,000.

Information

Npower's website does not provide any information about different renewable energy sources or the Renewables Obligation. It provides basic information on the Juice tariff and the projects it has funded through its renewables fund.

Additional environmental benefits

Npower aims to purchase sufficient electricity to supply all Juice customers from its North Hoyle off-shore wind farm. Where there is a shortfall this is made up from either on-shore wind or large-scale hydro. Currently, around 16 per cent of the supply comes from 'pale green' large-scale hydro sources.

Npower holds Renewable Energy Guarantees of Origin in respect of the 84 per cent renewable electricity it supplies, and retires all the associated Levy Exemption Certificates. (Large-scale hydro is not eligible for Levy Exemption Certificates.) This is good practice and means that the 'greenness' in the electricity is not being sold to consumers twice. However, Npower does not retire any Renewables Obligation Certificates out of the system over and above the legal requirement. Npower has the contractual basis of Juice independently audited.

As a company, Npower does not exceed its legal obligations, supplying only around five per cent of its electricity from renewable sources. This means that, while Juice customers are receiving electricity from renewable sources, this is part of the overall five per cent. The supply aspect of the Juice tariff therefore does not offer any additional environmental benefits according to the definition set out in this report.

Npower's Renewables Fund might contribute to some additional environmental benefits from new renewable capacity in the long term. However, this will depend on the future viability of wave and tidal technologies. This is very hard to quantify objectively at the present time.

Overall assessment

The supply element of Juice does not offer consumers any additional environmental benefits. Npower does not go further than its legal obligations under the Renewables Obligation supplying a total of just five per cent of its total electricity supply from renewable sources. Part of this five per cent is supplied to its Juice customers; the rest is sold to business customers. Npower needs to make it very clear to consumers what additional environmental benefits Juice is offering.

The fund element of Juice might offer some additional benefits, though these are long-term and difficult to quantify objectively. Since there is no premium, consumers may well be happy to sign up to Juice – for example, if they want to be associated with the North Hoyle off-shore wind farm. Npower makes it very clear exactly how much it will invest in the Renewable Fund for each consumer each year, and has the offering audited. This aspect of the tariff is transparent.

Powergen

Powergen is part of the German utility company E.ON and one of the big six energy suppliers. Powergen has one green tariff.

GreenPlan is a hybrid green supply and green-fund based tariff. It offers consumers '100 per cent renewable electricity from small-scale hydro and some wind'.

For each GreenPlan customer, Powergen invests £18 per year into a trust fund to support new community-level renewable energy projects. In addition, for every customer who signs up to GreenPlan, Powergen donates £3 to the WWF Climate Change Campaign.

Premium

Around £24.60 a year more than the standard credit tariff.

Number of customers

5,000.

Information

Powergen's website provides limited general information about renewable energy sources or the Renewables Obligation. It only provides brief information about the environmental projects that the GreenPlan Trust Fund supports. It would be useful to know how the Fund is administered and which projects are supported.

Additional environmental benefits

Powergen holds Renewable Energy Guarantees of Origin for all the electricity supplied to GreenPlan customers. It also retires all the Levy Exemption Certificates associated with it. This is good practice and means that the 'greenness' in the electricity is not being sold to consumers twice. Powergen does not retire any Renewables Obligation Certificates out of the system.

Overall, Powergen currently supplies around four per cent of the electricity it supplies from renewable sources. The electricity supplied to GreenPlan customers comes out of this. Powergen is therefore not going beyond its legal obligations. The supply aspect of GreenPlan therefore does not offer additional environmental benefits according to the definition set out in this report.

The GreenPlan Trust Fund could be said to offer additional environmental benefits to GreenPlan customers, since the funds are used to invest in new renewable capacity at the community level. The extent of this is hard to quantify objectively. The donation to WWF is additional, although the environmental benefits of this are hard to quantify objectively.

Overall assessment

The fund-based element of GreenPlan gives consumers the chance to invest in community-based renewables projects through its trust fund. Powergen makes it very clear how much it is investing on behalf of consumers each year, and how much is being donated to WWF. It could, however, provide more information on how the Fund is administered and which projects are being supported. While emissions reductions from these funds are hard to quantify objectively, they will certainly have some impact.

The supply-based element follows good practice in holding Renewable Energy Guarantees of Origin and Levy Exemption Certificates in respect of 100 per cent of the electricity supplied to GreenPlan customers. However, this element of the tariff does not offer additional environmental benefits, over and above Powergen's legal obligations. Consumers may well decide that this tariff offers them something worth paying a premium for on the basis of Powergen's investment in the trust fund and its donation to WWF. On the other hand, the premium more than covers the investment in the fund and the donation to WWF, and they may prefer to donate to WWF directly.

Scottish and Southern Energy

'The energy is generated from our large-scale hydroelectric plants.'[26]

Scottish and Southern Energy is one of the big six energy suppliers. It offers two green tariffs.

RSPB Energy is a hybrid tariff comprised of a fund-based element, along with '100 per cent renewable electricity' for those who are signed up. For each new customer, Scottish and Southern Energy donates £10 to the RSPB. For each year that a customer remains with the scheme, Scottish and Southern Energy donates a further £5. For customers who buy both gas and electricity from Scottish and Southern Energy the contributions are doubled, and customers forego any 'dual fuel discount'. Proceeds are used to help buy and manage land for nature reserves.

The Power 2 tariff guarantees its customers '100 per cent renewable electricity generated from large-scale hydro electric plants'. Scottish and Southern Energy also plants six trees annually for each customer signed up to Power 2. The aim of this is to absorb the CO_2 created by an average household for a year.

Premium

RSPB Energy: around five per cent over the standard credit tariff.

Power 2: none.

Number of customers

Confidential.

Information

Scottish and Southern Energy's website provides very little information about renewable energy sources or the Renewables Obligation. Through its Southern Energy and Scottish Hydro websites there are links to a specific RSPB Energy website. This is useful, although it does not provide any information on how the Climate Change Fund is managed. The link to the RSPB brochure gives details of the projects already in place. There are also links to the Power 2 website. This clearly explains that Scottish and Southern Energy cannot guarantee that the actual electrons it generates will reach an individual customer's home.

Additional environmental benefits

Scottish and Southern Energy holds Renewable Energy Guarantees of Origin in respect of the electricity supplied to its RSPB customers. Ninety per cent of the supply is made up of 'pale green' electricity from large-scale hydro which does not qualify for Renewables Obligation Certificates or Levy Exemption Certificates. So these cannot be retired. However, Scottish and Southern Energy has committed to retiring ten per cent of the Levy Exemption Certificates and Renewables Obligation Certificates associated with the other ten per cent of the electricity.

Scottish and Southern Energy holds Renewable Energy Guarantees of Origin in respect of the electricity it supplies to Power 2 customers. As this is entirely comprised of 'pale green' electricity from large-scale hydro, it does not qualify for Renewables Obligation Certificates or Levy Exemption Certificates, so none of these can be retired.

The tree-planting element of the Power 2 tariff is an additional element of the tariff.

Overall appraisal

Scottish and Southern Energy's RSPB tariff is a genuine attempt to offer something different to consumers. For a premium, consumers can contribute to the RSPB's renewable energy and environmental activities. In addition, ten per cent of Renewables Obligation Certificates are retired over and above Scottish and Southern Energy's legal obligations. Retiring additional Renewables Obligation Certificates ensures that this part of the 'greenness' cannot be double or triple-counted. On the other hand, consumers might decide to contribute directly to the RSPB.

Scottish and Southern Energy's Power2 tariff does not offer consumers additional environmental benefits, other than its commitment to plant trees. Consumers may be quite happy to sign up, knowing that large-scale hydro generation emits no CO_2. They need to be made aware of the distinction. Consumers may well also be attracted by the tree-planting element of Power 2. It is important to recognise, however, that the amount of CO_2 emissions reduced by the planting of six trees is not equivalent to the amount of CO_2 emitted by an average household's gas and electricity use.

Scottish Power

Scottish Power is one of the big six energy suppliers. It offers two green tariffs.

The Green Energy Fund is a fund-based tariff. It is only available to dual fuel gas and electricity customers. Foregoing the 'dual fuel discount' of £10.50, customers instead see this amount invested by Scottish Power in its Green Energy Trust, an independent charity that supports community-based renewable energy projects with an educational element.

Projects supported range from wind turbines, solar PV, thermal energy, biomass and landfill gas. The Board of Trustees includes four external trustees and environmental experts. They meet three times a year to decide on the applications. The electricity supplied on this tariff is in line with Scottish Power's average fuel mix.

The Green Energy H_20 tariff guarantees customers '100 per cent renewable electricity'. This electricity is mainly sourced from existing large-scale hydro plants.

Premium

Green Energy Fund: £10.50 per customer per each year. This takes the form of the dual fuel discount foregone.

H2O tariff: none.

Number of customers

Confidential.

Information

Scottish Power's website provides no information on renewable energy or anything about the Renewables Obligation. The website provides links to the Green Energy Fund and the H_2O tariffs, as well as offering to set up a 'carbon account' for customers. It provides links to Green News, a newsletter which provides information on each of the projects supported by the Green Energy Trust Fund. In particular, it should be made clearer that Green Energy Fund customers do not receive electricity from renewable sources.

Additional environmental benefits

The Green Energy Fund could be said to offer additional environmental benefits to GreenPlan customers, since the contributions are used to invest in new renewable capacity at the community level. However, the extent of these are hard to quantify objectively.

Scottish Power holds Renewable Energy Guarantees of Origin in respect of its H_2O tariff. Since the electricity supplied does not qualify for Renewables Obligation Certificates or Levy Exemption Certificates, these are not retired out of the system. Scottish Power does not go beyond its legal obligations under the Renewables Obligation. Therefore the H_2O tariff does not offer additional benefits according to the definition set out in this report.

Overall appraisal

Scottish Power's Green Energy Fund is a serious attempt to run a green trust fund, and to invest in some independently-assessed, community-based renewable energy projects. Consumers can decide whether they consider this investment to be a good use of their money. Scottish Power's website could provide more details of the activities of the Fund. The website could also make it clear that this is a fund-based tariff that does not offer renewable electricity to its customers.

Scottish Power's Green Energy H_20 tariff does not offer customers additional environmental benefits. The information on the website could make this much clearer. However, since there is no premium, consumers may still be quite happy to sign up to the tariff, knowing that that electricity from large-scale hydro does not cause CO_2 to be emitted into the atmosphere.

5 Conclusion and recommendations

Signing up to a green tariff is one way consumers can take responsibility for reducing some of the CO_2 emissions from their home. However, the main finding from our research is that many of the green tariffs offered by suppliers are not delivering the environmental benefits they claim to. While there are some innovative tariffs on offer, many suppliers are doing little more than repackaging their legal obligations. Of the twelve green supply-based tariffs listed in table three, only two are actually going further than they are required to by law. The only tariff with three unqualified ticks is Good Energy's green supply tariff.

Of the green tariffs with a fund element, a good example is EDF Energy's Green Tariff. EDF Energy matches the premium paid by consumers and the whole sum is paid into its Green Energy Fund, which is externally audited and supports community-based and educational renewable projects.

Of the new breed of carbon offset products, EBICo's Equiclimate uses a methodology that is transparent and robust.

The debate on climate change and global warming has reached tipping point. Individual households are well aware of the need to reduce CO_2 emissions, but they look to government and industry to provide them with a framework within which they can act. Energy suppliers are well-placed to take advantage of consumers' willingness to change their behaviour. The bottom line for consumers now is the amount of CO_2 they can save. Yet our research shows that even the tariffs that go beyond their legal obligations will only save a relatively small proportion of an average household's CO_2 emissions – six per cent.

For the word 'organic' to be used in relation to food, the supplier has to be accredited against one of the recognised schemes. Otherwise consumers have no way of knowing whether or not the food has been produced organically. The same principles apply to green electricity. Many consumers are keen to reduce their CO_2 emissions and help combat global warming. Yet they have no way of knowing whether they are buying additional renewable electricity or not. In order for them to have certainty, there needs to be a more objective standard against which green tariffs can be judged.

In conclusion, consumers must have clear, unambiguous information about what is on offer, and confidence that the tariffs will deliver what they promise. Only then will consumers have confidence that switching to a green tariff will make a real difference, allowing the market for greener energy to take off.

The way forward

For the past five years, green electricity tariffs have been left to suppliers as part of the competitive supply market. The result is that consumers are being misled about what environmental benefits green tariffs bring. This risks alienating them from the behaviour change agenda and will not be helpful for achieving the government's long-term policy targets.

The government and Ofgem should recognise that green tariffs have a role to play in reducing household CO_2 emissions, and in increasing the amount of renewables in the overall generation mix.

Benchmarking tariffs

Ofgem's Green Supply Guidelines should continue to be the basis for regulating green tariffs. They form a good basis against which suppliers can benchmark their tariffs in terms of transparency, additionality and verifiability. Ofgem will shortly be issuing revised Green Supply Guidelines. These will need to take account of developments in the market over the past three years and set out clear minimum standards of good practice for green tariffs. On their own, however, the guidelines are not enough to ensure good practice, since they are not rigorously enforced. Over the past five years, self-regulation has not delivered an effective market in green tariffs. The guidelines should therefore form the basis of a consumer code which suppliers are required to actively sign up to.

Transparency

Suppliers are not making it clear that consumers are already supporting increased renewable electricity through their electricity bills, by around £7 per household in 2005/6, rising to £20 in 2010/11. Consumers should be made aware of this. This will make the situation far clearer for suppliers who design green tariffs and for consumers who sign up to them. Suppliers should also produce an individual fuel mix disclosure chart for each of their green tariffs, within the context of the supplier's overall fuel mix. Both charts therefore need to be shown. The official guidance on fuel mix disclosure provides for this, and it could be helpful for consumers to have visual representation of the green tariff and total fuel mix in this way.

Auditing

Suppliers should be required to have their green tariffs independently audited each year against an agreed benchmark. This is a low-cost option for suppliers that would provide reassurance for consumers. The audit report should confirm the contractual basis for any environmental claims made for the tariff in question. Information should be provided for each aspect of a tariff when there is more than one, including green funds and carbon offset-type tariffs. The requirement should be contained in the electricity supply licence, and the benchmark set out in Ofgem's revised guidelines. The audit reports should be made publicly available and posted on the suppliers' websites.

Environmental benefits

Suppliers should also be required to calculate the amount of reduced CO_2 emissions they will provide to an average household, for each green tariff they offer. They should publish this figure on their website, on all marketing materials and on the contract they sign with customers. In this way, consumers will have an objective basis on which to compare the various tariffs on offer.

The figure for reduced CO_2 emissions should be calculated in a standardised way using a methodology agreed by government and a panel of stakeholders and contained in Ofgem's revised guidelines. Any assumptions made in the calculation need to be made clear. The figure should make reference to total household CO_2 emissions from electricity for comparison purposes and should be independently audited.

Finally, suppliers must provide clear, detailed information on their tariffs. The principal place for this will be their website. They need to explain the sources and amount of renewable electricity being supplied across the piece, and how this is verified. They should also provide more general information on renewable electricity and the various policy instruments that exist to fund it, particularly those paid for by consumers through their bills.

Suppliers must ensure that sales and marketing materials contain clear and accurate information, and that all claims are substantiated and verifiable. Our research found it particularly difficult to obtain accurate and complete information from call centre staff. As the first port of call for many consumers, call centre staff need to be provided with sufficient information on the green tariffs on offer so that they can advise callers accurately.

Looking further ahead, there is increasing interest in the potential for home generation, whether powered by wind, solar, ground or air-source heat, or combined heat and power. Some of these can export electricity back onto the distribution system. There is potential here for suppliers to think more innovatively about the role of green electricity in the packages they offer consumers. For example, they could combine green tariffs with home generation and energy efficiency into low-carbon packages.

Recommendations

Energy suppliers need to:

- Sign up to the Consumer Code based on Ofgem's Green Supply Guidelines and abide by its terms, undertaking to:
  - provide full and accurate information about environmental benefits from the green tariffs they offer.
  - guarantee not to make claims that cannot be substantiated.
- Agree to a supply licence condition on green tariffs.
- Provide individual fuel mix disclosure charts for each green tariff they offer, as well as for their total fuel mix.
- Develop innovative packages that assist consumers in reducing their household CO_2 emissions.

Ofgem needs to:

- Set out minimum standards in its revised Green Supply Guidelines, with particular reference to guaranteeing transparency and additionality.
- Require suppliers through a condition in the supply licence to:
  - sign up to a consumer code based on its revised Green Supply Guidelines.
  - have any green tariffs they offer independently audited by accredited auditors against a benchmark.
  - calculate the CO_2 reductions a household will achieve by switching to their green tariff, according to an agreed methodology, and have this independently audited.

Appendix Sources of information about green tariffs

Our research found that it is not always easy for consumers to obtain information about green tariffs, or to assess their overall contribution to the environment. Company sales assistants are not always well enough informed to help consumers make a proper decision. We found that the smaller, niche suppliers were better at directing us to one person who knew enough to help us.

Our researcher summarised the situation as follows:

'Those we spoke to, while very friendly for the most part, knew the absolute basics but not much more. In some cases they would even contradict what had been said by someone elsewhere in the company. In one particular case we were passed around to four different people and still did not manage to gain sufficient information on the product.'

Before deciding to switch to a green tariff, it is very important to check the company website, and to follow this up with a telephone call. Consumers need to make sure all their questions have been answered, and that they understand exactly what they are signing up to.

Web-based sources of information

As well as individual company websites, there are a variety of other web-based sources of information available. They aim to help consumers make better choices when switching to a green tariff. They are a useful first stop in researching what is on offer. It is important that consumers check that the source used is objective, and not linked to any of the supply companies.

energywatch

The energywatch website has a complete listing and explanation of all available green tariffs for domestic consumers on its website. It also provides some general information about green tariffs, and some guidance on what to look out for, but it leaves consumers to make the choice as to which is the best tariff for them (www.energywatch.org.uk).

Green Electricity Marketplace

Green Electricity Marketplace is an independent website with no indirect links to energy supply companies. We found that it provides good basic information on each of the green tariffs on offer, particularly focusing on price and the sources of renewable energy. The site is recommended by Friends of the Earth (www.greenelectricity.org).

Electricityinfo.org

Electricityinfo.org is a website owned and operated by IT Power. It has capitalised on the legal requirement on UK electricity suppliers to disclose their fuel mix, by reproducing each company's fuel mix. In this way, consumers can get an overall, big-picture view of each company's supply activities. It also allows consumers to calculate their annual household CO_2 emissions and nuclear waste on the basis of their electricity supply company's published fuel mix (http://electricityinfo.org).

uswitch.com and unravelit.com

uswitch.com and unravelit.com are comparative websites. They are primarily engaged in providing comparative energy prices for electricity and gas suppliers for switching purposes. They do not concentrate specifically on green tariffs, though they do provide

details in a roundabout way. Consumers must input their electricity and gas consumption details before being able to access details of the various green tariffs on offer.

WhichGreen?

The WhichGreen? comparison website is sponsored by Ecotricity, though this is not immediately obvious at the outset. Its recommendations need to be seen in that light (www.whichgreen.com).

Suppliers' websites

British Gas
www.house.co.uk

EBICo
www.ebico.co.uk

Ecotricity
www.ecotricity.co.uk

EDF Energy
www.edfenergy.com

Good Energy
www.good-energy.co.uk

Green Energy
www.greenenergy.uk.com

Npower
www.npower.com

Powergen
www.powergen.co.uk

Scottish and Southern Energy
www.scottish-southern.co.uk
www.rspbenergy.co.uk
www.power2.co.uk

Scottish Power
www.scottishpower.com

Notes and references

1. Energy Saving Trust: www.est.org.uk.
2. HM Government, *The Energy Challenge: Energy Review Report*, 2006, Cm 6887.
3. HM Government, *Climate Change: The UK Programme*, 2006, Cm 6764, SE/2006/43.
4. Cabinet Office and HM Treasury, *Stern Review on the Economics of Climate Change*, 30 October, 2006.
5. HM Government, *Securing the Future: Delivering the UK's Sustainable Development Strategy*, 2005.
6. Sustainable Consumption Roundtable, *I will if you will*, 2006. The report uses the term green tariffs to describe the range of green electricity supply, green energy fund and carbon offset tariffs currently on offer by energy suppliers. We use the same definition here.
7. A poll carried out by ICM Research for the *Observer* on 6-8 October 2006 questioned a fully-weighted sample of 1,013 people.
8. The Renewables Obligation Order 2002, SI 2002 No 914, based on the Electricity Act 1997, as amended by the Utilities Act in 2000. In Scotland it is known as the Renewables in Scotland Obligation (ROS) and in Northern Ireland as the Northern Ireland Renewables Obligation (NIRO).
9. Ofgem Factsheet 66, *Household energy bills explained*, 08.11.2006.
10. As set out in Regulation 47 of the Climate Change Levy (General) Regulations 2001, SI 2001/838, based on the Finance Act 2000. (The Energy Review Report this year announced that the buy-out price would be frozen in the future.)
11. Directive 2001/77/EC of the European Parliament and the Council of 27 September 2001 on the promotion of electricity from renewable energy sources in the internal electricity market [OJ L283 of 27.10.2001].
12. DTI, *Guarantees of Origin of Electricity Produced from Renewable Energy Sources* (REGOs), 2005.
13. NCC, *The Green Claims Code: Is it working?*, 1999.
14. Advertising Standards Authority: www.asa.org.uk/asa/adjudications/Public/TF_ADJ_41817.htm.
15. Environmental Change Unit, University of Oxford, *Green electricity accreditation scoping study*, 2006.
16. NCC's research covers companies operating in Great Britain. As there is no competition in the domestic electricity supply market in Northern Ireland, we did not include Northern Ireland Electricity in our research.
17. Two suppliers have decided to do this by retiring a proportion of Renewables Obligation Certificates equivalent to at least five per cent of their supply in addition to the 5.5 per cent they were already obliged to submit under the Renewables Obligation in 2005/6.
18. The simplest way to quantify CO_2 savings is that, for every kWh used that is offset by retired Renewables Obligation Certificates (over and above the prevailing Renewables Obligation limit), assume that these are zero carbon. Then multiply by the average electricity emission factor: 0.44kg CO2/kWh. So, someone using 4000kWh a year on a tariff that retires five per cent Renewables Obligation Certificates above the legal obligation would save 88 kg CO_2 a year.

    Given that a household emits 1.7 tonnes of CO_2 from the electricity it uses, even this is a relatively modest saving of less than six per cent of the total CO_2 emitted by an average household.
19. E-mail correspondence with British Gas, October 2006.
20. E-mail correspondence with EBICo, November 2006.
21. E-mail correspondence with Ecotricity, September 2006.
22. E-mail correspondence with EDF Energy, October 2006.
23. E-mail correspondence with Good Energy, October 2006.
24. E-mail correspondence with Green Energy, September 2006.
25. E-mail correspondence with NPower, November 2006.
26. E-mail correspondence with Scottish and Southern Energy, November 2006.

Other publications

The following publications on the subject of sustainable consumption can be downloaded at the NCC website (www.ncc.org.uk/responsibleconsumption/publications.htm).

Hard copies are also available on request from the NCC offices:

- 020 7730 3469
- pubs@ncc.org.uk
- National Consumer Council
  20 Grosvenor Gardens
  London SW1W 0DH
  United Kingdom

Sustainable consumption publications from the NCC

- *Greening supermarkets* (2006)
- *Desperately seeking sustainability?* (2005)
- *16 pain-free ways to help save the planet* (2005)
- *Green choice: what choice?* (2003)

Publications from the Sustainable Consumption Roundtable (NCC and Sustainable Development Commission)

- *I will if you will: towards sustainable consumption* (2006)
- *Business Dialogue report* (2006)
- *Looking back, looking forward: lessons in choice-editing for sustainability* (2006)
- *Double dividend? Promoting good nutrition and sustainable consumption through healthy school meals* (2005)
- *Seeing the light: microgeneration brings energy to life* (2005)