APPENDIX G: THE UK GREEN ELECTRICITY MARKET – IS IT SPROUTING?

Judith Lipp

This document is supporting material for Lower Carbon Futures
The UK Green Electricity Market: Is It Sprouting?

1 INTRODUCTION

Green Electricity (GE) is a generic term for electricity generated from clean, environmentally preferable energy sources such as wind, water, solar, energy-from-waste and energy-from-crops (biomass), collectively known as renewable energy. Green electricity as a product has been available to some customers in the UK since 1997, but only since complete liberalisation of the electricity market in May 1999 has every consumer had the option of signing up for the special GE tariffs offered by most electricity suppliers. Able to pick and choose their supplier, consumers for the first time are able to make a conscious choice about their electricity consumption.

Green electricity is, in many cases, more expensive to produce than ‘brown’ or conventional electricity produced from coal, oil and natural gas, and consumers are usually charged a premium to cover the higher generation cost of renewable energy. Because of its low-to-zero carbon content however, renewable energy, and consequently green electricity, are seen by many as desirable and important options for the UK’s carbon reducing strategy. But just how much can and will GE contribute? And who are the major drivers in this market?

Developments of the green electricity market in the UK, as it responds to the above questions, are traced in this report. The initial intent of the research authors was to view the market from the consumer perspective, evaluating the role played by the domestic consumer in encouraging the growth of GE. This perspective was appropriate when research began in October 1999, as consumers appeared to be the main source pulling this market. Six months on however (March 2000), major new developments need to be integrated into the discussion. In particular, the newly introduced Utilities Bill will shift the onus for GE support from the consumer to the electricity suppliers. The Climate Change Levy, on the other hand, which exempts renewable sources, is expected to cause GE demand to rise in the non-domestic sector. This paper begins by exploring the market from a consumer point of view, and then moves further to include speculation on the implications the new policies will have for other actors in the GE sector: suppliers, generators, government and commercial energy users.

1.1 Setting the Context

The ECI’s Lower Carbon Futures report forms the platform for this research. It examines, among other things, the role of fuel switching as a means of reducing carbon dioxide emissions in Europe. Carbon savings through fuel-switching from electricity to gas are calculated and policy recommendations developed. As GE represents another form of fuel-switching, this qualitative research was undertaken to understand the potential implications of this market and how it can be expanded. The following issues are addressed:

- Current situation – overview of the market;
- What choice of GE products do people currently have?
- How easy/difficult is it for them to access green electricity products?
- Suppliers role – how are suppliers marketing their products?
- Government role - review of past and present policy; what effect does UK government policy have on growth of the GE market?

Direct interview with representatives of the UK’s Public Electricity Suppliers (PES), combined with a literature review, form the basis of research for this paper. PES research was conducted on two levels: contact was first made on the pretence of being a customer - requesting company brochures and...
information packs on their GE schemes. Once these had been received and read, company call-centres were contacted and questions posed to clarify sign-up procedures and to obtain more detail about the specific schemes; the second level was through interviews with management representatives. Identifying themselves as ECI researchers, the interviewers asked a variety of questions regarding the company’s GE product, views on policy and market trends.

A brief history of renewable energy, showing how the market has evolved, launches the discussion in the next section. An explanation of green electricity and a summary of the types of products on the market follow in Section 3. Section 4 presents the results of the interviews, introducing the main arising issues. In the ‘Policy Debate’ section, policy options for the promotion of GE are explored. The market transformation approach is used as a basis for this analysis. The final section brings together the issues, presenting possible options for the future development of this sector.

2 RENEWABLE ENERGY AND GREEN ELECTRICITY DEVELOPMENTS IN THE UK

Most new technologies go through a number of stages of development on their way to market maturity. The level of institutional support can often mean the difference between success and failure for an innovative product. This support usually begins by way of tax breaks, grants for research and development (R and D), subsidies, etc. Green electricity, which has evolved from renewable energy, is a case in point. Following Government R and D support for renewable energy technologies in the early 90s, fiscal support was applied to introduce these technologies commercially. This section outlines the support programmes for renewables and traces the development of green electricity.

2.1 NFFO

The Non Fossil Fuel Obligation (NFFO) was established to ensure diversity in electricity generating capacity. Established under the 1989 Electricity Act, which privatised the UK electricity industry, NFFO aims to promote electricity generation methods which do not increase atmospheric carbon dioxide and encourage diversity of supply by offering premium prices for power produced from nuclear and renewable energy sources (Boyle, 1996). Moreover, NFFO requires electricity companies to secure specified amounts of electricity from renewable energy sources (Dukes, 1999). Subsidies to support electricity generation from nuclear and renewable sources were provided from the Fossil Fuel Levy as part of the NFFO programme. NFFO applies to England and Wales, with similar, but not identical, obligations made for Scotland and Northern Ireland made later.

Since inception there have been five NFFO rounds. In the initial rounds, 99% of the subsidies were paid to nuclear power generators, with only 1% supporting renewables. Support to the nuclear sector has diminished over time. The scale of the Fossil Fuel Levy varied to reflect the level of subsidy supporting renewables. Initially, consumers were charged around 10% of their electricity bill, but by 1999 this was down to 0.3% (DTI, 1999). NFFO5, which was announced in September 1998, designates 100% support to renewables (as no further subsidies are allowed for nuclear under European Union rules) (Fouguet, 1998).

The arrangement of NFFO was such that it guaranteed renewable energy generators a fixed price per kWh until the capital cost of the plant had been recovered (Boyle, 1996). NFFO 1 and 2 projects, beginning in 1990 and 1991 respectively, ran for eight years. In England and Wales the renewables capacity that became available at the end of the NFFO1 and 2 contracts were entirely integrated into the competitive electricity system, and formed the major capacity which initiated GE tariffs (Mitchell, pers. comm., 2000). Much of this capacity is now sold at premium prices. Charging a premium for these may be considered double charging as it has already been subsidised, but it is beyond the scope of this paper to explore the implications of these arrangements. Presently, only renewable generation still supported by
NFFO (i.e., NFFO 3, 4 and 5 contracts) cannot be sold as GE, but can be when the contracts end (Mitchell, pers. comm., 2000).

Under NFFO, electricity providers are obliged to purchase the electricity from renewables generated in their region. The Levy is applied to all electricity consumers to compensate the electricity industry for the extra cost of purchasing energy from non-fossil fuel sources. The Levy is collected by all PESs and redistributed to those purchasing renewable energy. Although there has been a convergence between prices paid to renewables and prices for conventional electricity, for example wind and energy-from waste, other sources of renewable generation are not yet competitive with ‘brown’ fuel sources. Furthermore, the liberalisation process is expected to cause the price of brown electricity to fall, thereby maintaining, or even increasing, the price differential between green and brown electricity.

The five NFFO orders have between them contracted a total of 3639 MW from renewable energy sources. In 1998 only 706 MW of renewable energy capacity were operational (DTI, 1999). Many plants that were commissioned in the 3rd, 4th and 5th NFFO rounds have not yet been built. This is due in part to planning constraints and planning refusal (EA, 2000).

2.2 Green electricity accreditation

There are various interpretations of the phrase renewable energy, and consequently what electricity is to be called ‘green’. In order to provide clarity and consistency an accreditation scheme called ‘Future Energy’ was launched in July 1999. Criteria for GE products were developed, in consultation, by the Energy Saving Trust (EST, 1999a). ‘Future Energy’ accreditation covers all non-fossil and non-nuclear sources, including: solar, wind, hydro (limited to 50% energy content), energy from crops, and energy from waste (EST, 1999a).

Disagreement remains on the inclusion of some of these sources, for instance, energy-from-waste, which is sold as a green electricity product in the UK. Many environmentalists, some PESs and others, feel energy generated from waste does not strictly come from a renewable source and should therefore not be sold as green electricity (FOE, 1996; Brass pers. comm., 1999).

GE tariffs that meet the criteria are endorsed by the EST and are allowed to carry a Future Energy logo (a purple wind turbine depicted as part of a flower). Backed by the Government, the scheme aims to raise consumer confidence in suppliers’ claims about their green electricity products, thereby stimulating the market for renewable energy (EST, 1999a). The EST also acts as a regulator, auditing accounts to ensure green electricity contracts are fulfilled. The Future Energy accreditation is anticipated to be the basis for identifying which electricity is to be exempt from the Climate Change Levy (EST, 1999a).

2.3 Old vs. new renewables

In 1998, 9350 GWh of electricity was generated from renewable sources, representing 2.5% of total UK generation. 54% of this power was generated by large-scale hydro plants, 35% by biofuels and 9% from on-shore wind. The remaining two percent came from a combination of other sources including solar, geothermal, small hydro, etc. (EA, 2000). In the above definition of renewables, hydro-power is included, however, this is not always the case. According to Future Energy criteria for instance, only 50% of electricity from large and medium sized hydro plants can be sold as green electricity (EST, 1999a), while new government policies (i.e., the climate change levy and renewables obligation) are suggesting that large scale hydro should not be included at all.

The reason for this discussion concerns the question of ‘old’ vs. ‘new’ renewable sources. Old renewables can be defined as those which have been generated and therefore paid for by the former nationalised electricity board - the case with most large hydro schemes. Electricity from these sources is equal in price...
to brown electricity, as the capital costs of the plants have been paid off. Selling this generation at premium prices is controversial and has not yet been resolved.

2.4 Brief overview of the liberalised market
The UK privatisation of electricity fully liberalised the industry in 1999. Under liberalisation the former regional electricity companies (now referred to as First-Tier Suppliers - FTS) are still required to supply any customer in the areas in which they were previously the monopoly supplier, but their customers are free to switch company. There are presently 14 FTSs in the UK. One aspect of liberalisation allows new entrants to the market. These new entrants, have no obligation to supply a region but have a legal responsibility to honour contracts. Many new entrants have been licensed since privatisation. Second Tier Suppliers (STSs) is the term used to describe these new entrants, but it can also be used to describe FTSs offering products outside their specified region. For the purpose of presentation, this paper uses the term STS to refer to the new entrants only. Collectively, FTSs and STSs are referred to as PESs - Public Electricity Suppliers. All but one FTS currently offers a green electricity product, two STSs sell green electricity exclusively, and all but three PESs offer their GE tariff at a premium ranging from 5-15% of the normal electricity rate (see Table 1).

2.5 Latest developments
The most recent events in UK renewable energy policy come in the form of two proposed pieces of government legislation, the Utilities Bill and the Climate Change Levy. If these policies are implemented as planned they have the potential to shift the responsibility of GE and renewables growth to the PESs and commercial customers. Both policies are outlined in this section but a fuller discussion of their implication is given in Section 5.

The Utilities Bill
In response to the need for a new renewable energy policy to replace NFFO, in February 2000 the Government introduced the Utilities Bill, which describes a Renewables Obligation and an associated Renewables Scotland Obligation. These ‘Obligations’ will require all licenced PESs “to supply a specified proportion of their electricity supplies to their customers from renewable sources of energy. Any additional cost of supplying electricity from renewables will be met by suppliers and may be passed onto their customers” (DTI, 2000). No new levy (to replace the Fossil Fuel Levy) will be charged. The new arrangement will pass the extra cost directly to each supplier’s customers, but a price cap will be imposed to limit the cost to consumers. A fixed price will be established, at which suppliers can buy out their Obligation, as an alternative to meeting the renewables requirement. The Office of Gas and Electricity Markets (OFGEM) will carry out auditing to ensure compliance.

The proportion of supplies which must come from renewables is expected to be set at 5% in 2003, and increase to 10% in 2010, remaining at that level in subsequent years. The Obligation is expected to apply until at least 2025 (DTI, 2000). Which renewables are eligible to fulfil the Obligation has not been explicitly defined. The Government White Paper states that “eligible supplies are likely to include power from ex-NFFO 1 and 2 projects” and “may exclude hydro-electric schemes with an installed capacity exceeding 10MW” (DTI, 2000). It will be possible for suppliers to fulfil their Obligation by purchasing green certificates from suppliers with a renewable energy surplus, thereby creating a market for tradable certificates (DTI, 2000). Trade of green certificates is evolving in other European countries but it is difficult, as yet, to predict the extent of this market.

The Climate Change Levy
First announced in the March 1999 Government Budget, the Climate Change Levy (CCL) is an energy tax to be applied to industry, commerce, and the public sector from April 2001. Full details of the Levy and the level at which it is to be set have not been finalised, but it is projected to raise £1 billion in its first full year and save 2 million tonnes of carbon by 2010. The increase in tax will be offset by a reduction in
employers’ National Insurance contributions. £150 million of the funds raised will be allocated to energy efficiency measures, renewable energy and lower carbon technology (McInness, 1999).

The use of renewable energy, and energy generated from combined heat and power plants, will be exempt from the Levy. The Future Energy accreditation scheme is expected to form the basis for identifying electricity eligible for the exemption. Claims for exemption from the Levy will have to be supported by a certification process similar to the one planned for the renewables obligation (DTI, 2000). By exempting, electricity from renewable sources from the Levy, the price of green electricity is reduced relative to electricity from other sources. This exemption may potentially create a strong demand pull for green electricity by non-domestic users. The full effect this policy will have on the GE market is difficult to predict and is dependent on the economics for individual users, i.e., the price of GE compared to the cost of paying the CCL, the role of negotiated agreements on energy efficiency, and so forth.

3 GREEN ELECTRICITY PRODUCTS

There are two broad classifications of green electricity (or green tariff) product currently on the market. These are described as ‘green source’ and ‘green fund’. Green source consumers buy electricity from suppliers marketing renewable generation. Although the electrons entering customers’ homes and business cannot be guaranteed as green (because all electricity is mixed within the grid), the customers are guaranteed that for every unit of electricity they consume the corresponding amount of renewable generated electricity will enter the network over the span of one year.

Green fund customers on the other hand, donate money into a fund that supports new renewable capacity or other related initiatives. Green funds are often administered through an independent body established by the supplier or through an unrelated charity. In some cases the fund will pay for new capacity to be developed by the utility and in others it is invested in new generation by a generator. Green fund contributions are matched by the PES in a few cases, for example Eastern Electricity pledges to match up to £500,000 per annum, and SEEBOARD pledges to match up to £250,000.

4 OVERVIEW OF THE MARKET

A survey was carried out with 14 PESs in the UK. Senior management staff of the 15 suppliers known to be offering GE product were contacted and 14 interviews completed. This section summarizes the results of the interviews. Respecting the wishes of the companies interviewed, names of companies have not been disclosed when sensitive information is concerned. A simple code, calling them Company A-N (not in the order listed), is used for ease of presentation. Where applicable, observations from the literature review are incorporated. A summary of the suppliers and their products is provided in Table 1.0 (see end of document). The information in the table was confirmed by the interviewees where possible, or through company brochures.

The PESs known to be supplying, or intending to supply, a GE product by the middle of 2000 are included in Table 1. Green source products are offered by eight of the suppliers and four suppliers offer a green fund scheme. Two companies offer both green source and green fund to their customers. In some cases, when the premium to pay for GE is in surplus, a green fund is established as with SWALEC. All but two companies sell their green product to domestic customers and roughly half are available throughout Great Britain, with the other half offering their product only regionally.

The prices in the table are based on an average 3,300 units electricity used by the average household each year. The prices given in the table provide only a rough estimate of the cost of green electricity. The
pricing structure of electricity is complex, arising from the numerous tariffs available. For instance, for the domestic consumer, the standard split is between a Standard Domestic tariff and the Economy 7 (night) tariff. Both the standing charge, as well as the unit rates (price/kWh) will vary. Depending on the method of payment, prices will again differ. Many suppliers selling green electricity nationally have differing rates for their green electricity product depending on the region in which it is bought. The prices in the table were calculated at the lowest Standard Domestic tariff.

One of the newest products on the market is the Scottish and Southern Electricity’s (SSE) RSPB Energy tariff. The Royal Society for the Protection of Birds (RSPB) has recently joined forces with SSE to provide consumers with green electricity. The arrangement for this scheme is different to most others; it is the supplier making a donation to RSPB for every customer signed up, rather than the customer making a contribution to a green fund. RSPB Energy supplies gas and green electricity, as well as supporting a fund to support new renewables. The RSPB will receive £10 for each registered gas customer and £10 for each electricity customer and an additional £10 per household annually from SSE. The customer is charged no premium for this offer. Most of the money will pay for land reserves but £5/customer per year will pay for new renewables capacity, jointly managed by RSPB and SSE (Jeffries, pers comm 2000; ENDS, October 1999).

4.1 **Number of customers signed up for green electricity**

The number of switchers to GE is difficult to estimate given that most suppliers are reluctant to provide this information. The Energy Saving Trust, through the accreditation scheme, is keeping track of the developments of this market in aggregate in three monthly intervals. The suppliers which have only recently begun offering GE indicated very small numbers indeed; one representative revealed they have had only 60 customers signed up to their scheme. Another PES’s GE customer base stood at 1300 customers - compared to total customer base this is well below 1%.

UK market research carried out in 1999 has shown that, “25% of domestic electricity customers, representing 5.7 million households, would be interested in a green electricity tariff, even if this means paying a little more than the lowest prices to ensure their electricity comes from renewable sources” (MORI, 1999). Similar market data has been collected in the USA where GE has been available for almost two years in some states. There, the reality is that barely 1.5% (in some regions) have actually made the switch (TRENDS, 1999). The total number in the UK is presently still negligible, based on the EST tally. At the end of December 1999, the total number of customers to have signed on to GE was 10,800 customers across the country (EST, pers comm 2000). The majority of these are domestic customers with only 100 non-domestic users including government, business and NGOs. This equates to about 0.04% of UK households, and equals 4048 tonnes of carbon saved (Box 1).
### Box 1: Potential carbon savings by GE in the domestic sector

Using 1998 carbon intensity factors for electricity, 1 kWh of brown electricity results in approximately 0.11 kg of carbon emissions. The average household in the UK uses approximately 3,300 kWh per year. Therefore, the annual carbon emissions per household are equivalent to 375 kg carbon. At present, 10,700 households are estimated to have signed up to GE. For all domestic consumers, using GE equates to approximately 4048 tonnes of carbon saved (0.004 MtC).

Assuming 2% of domestic customers switch to GE by 2001 in the UK, this will be 520,000 households and would equal 0.2 MTC in abatement.

### 4.2 Company targets

Most suppliers offering green electricity have set different targets for the number of customers they hope to sign up over the next few years. The general trend being about 1-2% of the customer base in two years. Alternatively, some have targets for the amount of electricity they want to generate or purchase from renewable sources. All FTSs are still obliged to buy some renewable energy under the current NFFO contracts (NFFO 3, 4 and 5) but this cannot be sold as green electricity. The proportion of GE that must be purchased from the generators can vary according to the location of the supplier. The Utility Bill now passing through Parliament will, if passed, give government the power to impose a renewables target on every PESs (ENDS, 2000). Although interviews with companies were carried out before the final details of the Bill were public, many companies, in anticipation, had already set themselves the target of achieving 10% renewables by 2010 in line with the Government target.

Several of the supply companies feel the market is “still too young and too volatile to set realistic targets [about numbers of customers]”. As many of the suppliers view this as a niche market, marketing by most companies has not been extensive. Company M went on to say that at present, the 1.5% of electricity from renewables they distribute is more than enough to meet the needs of their customers.

Although Company H has set a target for the number of GE customers, they were unwilling to disclose this information. They did say that at the moment the “number of GE customers are in the 1000s, not 100,000s” which is slightly below their expectation. Their target for percentage of generation coming from renewables is set for at least 10% by 2010.

Company K has no declared targets except to fulfil supply. At the moment their 7 GWh renewable energy capacity substantially exceeds demand and they have “nowhere near reached 1% of their customer base”.

Company A explained that their first year target is set at 0.5% of their customer base, and have expectations of 2-3% for the future; feeling that GE is very much a niche market.

The most ambitious target was held by Company B, with 500,000 domestic customers in 5 years time, whilst Company E is aiming for 40,000 customers within 18 months (The Guardian, 1999; Vince, pers. comm., 1998). Company E is targeting mostly domestic customers and small businesses to achieve this goal. Both these companies have shown the most vigorous marketing campaigns. It was not revealed what developments have been made to achieve these numbers.

Company D has almost achieved its renewable energy generation target for 1999, and is hoping to expand capacity further into 2000, admitting that this renewables capacity is minute in comparison with their brown electricity generation. As of December 1999, approximately 1300 customers had signed on to GE - up 300 from October the same year. They also stated that GE is popular with commercial customers at the
moment, more so than with domestic customers. The Climate Change Levy is likely to make this increasingly the case.

The obligations set by the Utilities Bill are expected to affect the type of targets the companies set themselves. To meet the 5% and 10% targets, suppliers will either have to find more customers who are willing to pay a premium for green electricity, or sell it at the same price as brown (and not make a price distinction between green and brown). As the final negotiations on the Obligations and the Climate Change Levy are made, Supplier approaches to meeting these targets will emerge.

4.3 Procedure to sign up to green electricity

In all cases investigated, the procedure for signing on to the GE tariff appears to be a straight-forward process. If the customer is not switching from another utility they merely have to telephone or mail in a request to switch to the green tariff. Some companies also offer an internet switching service. Whether green source or green fund, the customer is requested to provide information about their quarterly energy consumption in order to assess the change in their quarterly bill. No company differed largely in its approach and the sign-up procedure was not perceived to be a barrier to switching.

However, the green tariff of particular companies is not always available to all customers. Restrictions can apply. For instance, a) customers on the Economy 7 tariff (a special night tariff) are not eligible to sign up for GE products with several companies, where it applies only to the Domestic Standard Tariff; b) some PESs restrict their GE tariff to their specific area within which they have a ‘duty to supply’, or, in the case of the Renewable Energy Company, to avoid transmission charges. On the latter point, it is important to note that if the generation and consumption of electricity is within one distribution network, transmission charges are not needed. This local generation and consumption is called embedded supply and with it the cost of GE is reduced, allowing better competition with ‘normal supplies’ that use transmission.

Telephone inquiries to PES call centres found that a more demanding and inquisitive customer would often be hard-pressed to find an appropriate representative to answer questions about the GE tariff. In most cases the company representative answering the call could only send out a brochure or information pack and was unable to answer more specific questions about the GE scheme. Given the slow uptake of the product, and the perception of green electricity as a niche market by many suppliers, this lack of expertise staffing is perhaps not surprising. However, it does raise the risk of dissuading more inquisitive and critical customers who have questions about the source of renewables in use, or the spending of the green fund monies.

4.4 Marketing

The degree and level of marketing carried out by the surveyed suppliers varies greatly. A number of the suppliers indicted that they considered the market too small to warrant an extensive marketing campaign. Very few companies had sent brochures to all their customers, and most targeted consumers either within a certain income bracket or those perceived to be more environmentally or socially aware. A summary of the different marketing approaches is provided here to show the methods used.

The marketing of Company G’s green electricity product has been limited to a feature in their customer loyalty magazine. The GE brochure (which allows people to sign up to GE) is only sent out to customers who ask for it explicitly. The company does not see marketing as a worthwhile activity since it considers GE to be a niche market.
Company D, on the other hand, claims to have done a reasonable amount of marketing. Activities have included exhibitions, a product launch with guest speakers at a museum, an informative website, advertisements in The Guardian and a local newspaper, mail-outs to commercial customers aimed at the environmental managers, as well as editorial pieces accompanied by advertisements.

For Company N, marketing has included direct mail to specific green investors and lifestyle focus lists, leaflets at National Trust venues and public libraries, teletext, press advertising, local council workshops and internal promotions to raise staff awareness. Marketing efforts have been targeted at their own customers rather than trying to win new customers from other suppliers.

Company M does not yet have a GE product for domestic customers and marketing for commercial customers has not seemed necessary because “commercial customers are asking for it of their own accord”. Because this company is supplying GE to commercial customers only, the whole purchase process works a little differently. When commercial customers enquire about an electricity account they tend to ask different suppliers to tender for the contract. In its bids, Company M quotes two tariff options: one for GE and the other for brown electricity. In this way the potential customer is made aware of the GE tariff option. Many of the commercial customers ask for a GE tariff explicitly. Some marketing has been done through the third-party approach: the Future Energy Accreditation scheme, which has a website and sends out GE information packs on request. The majority of Company M’s commercial customers are public sector bodies such as Local Authorities and government departments.

At Company H, marketing is limited to sending out brochures to customers who specifically ask about GE, and to customers who are perceived to be receptive to GE. There have been some competitions advertised in the local papers, with the opportunity to win an energy efficient fridge. This competition is open to everyone and the link to GE is merely mentioned in the advert.

Company K claims to have undertaken quite an extensive marketing campaign. Not only have all customers received a product brochure, there have been advertisements, exhibitions at green fairs, a waterfront launch, and mail-outs through two environmental organisations. According to the interviewed representative, Company K is keen to raise its environmental programme.

Company A has featured its GE product in their customer loyalty magazine, which was sent out to 700,000 customers. The article was about climate change and the imminent launch of the new green tariff product. The article was also used to assess customer response to the scheme to determine whether it would be worth while to launch a GE product.

The most aggressive marketing campaign appears to be run by Company E, a STS supplying only GE. Comprehensive 2-4 page advertisements appeared in the Guardian for several months (October-December 1999); it has an attractive internet site and conducts many follow-ups to inquiries. After receiving the initial information from the company, follow-up letters were sent on two occasions as a reminder to take social and environmental responsibility by purchasing green electricity.
**Box 2: An Aside on the Competitive Edge**

Why do companies offer green products when they are not considered cost effective? The answer may include: to build customer satisfaction and loyalty, to increase customer choice and to show support for GE – thereby showing themselves to be green and caring for the environment. One utility representative explained just how uneconomical the launch of a green electricity tariff can be. Using the example of Company F’s 60 customers, it was speculated that the launch of the scheme could easily have been in the order of £60,000, costing the company £1000 per customer to date. This money, he argued could have been put to better purpose (such as energy efficiency). Having said this however, the representative did indicate that his company was planning to introduce a green tariff in the first quarter of next year, despite not considering it to be cost effective. The reason then might be explained through a recent NREL survey in the USA, which found that electric utilities that provide power from renewable energy sources are more likely to retain loyal customer (Trends, November 1999).

### 4.5 Barriers to switching

Many people are not switching to GE because they are just not aware that it is an option. Market research carried out on behalf of the EST showed that 60% of UK householders are unaware of the possibility to purchase GE (EST, 1999). Many utility representatives suggested apathy or customer inertia as a reason for the lack of switchers to GE. Customer choice over electricity services and switching suppliers and services is not yet a familiar action, but recognition of options is growing (Box 3). According to one PES representative “it will probably take a year or two before switching becomes a familiar practice, in this way electricity is a difficult product to sell because its not something customers really identify with”. Moreover, few customers make the connection between the electricity they use and the means by which it is produced. That is, they do not completely appreciate the environmental effect their electricity consumption has. Company N identifies a need for “raising awareness of both the opportunities of choice between more/less sustainable energy products and services and the need for the customer to understand the implications for the environment arising from specific customer choices”.

**Box 3: Switching trends in the liberalised market**

*Liberalisation of the electricity market in May 1999 allowed all customers to choose their electricity supplier. As of October 1999, 3.3 million households (approximately 14%) had registered to change ([DTI, 1999a](#)). Similar trends are witnessed in the natural gas sector which is also privatised. According to Ofgem (1999), 27% of customers have already made a switch.*

*Reasons for not switching suppliers are explored by one PES interviewee: “The reason more people aren’t switching can probably be explained by the fact that prices appear to be coming down across the board and so the savings to be made between different suppliers is not substantial”. Maximum savings are in the area of £15 per annum per household, despite misleading company promises about large savings ([Which, 1999](#)). For many people this kind of saving is not worth the effort to do the necessary homework and switch companies. Similar attitudes can, in part, account for lack of switching to green electricity.*
Price or additional cost was another reason often cited by the interviewees as a deterrent to switching to GE – “Often the Greener products cost more to produce (excluding externalities) – so the customer chooses on price alone”. In order to avoid the ‘niche-market-syndrome’ that premiums encourage, the Renewable Energy Company is committed to charging the same price for GE as other generators charge for brown electricity. Another PES, supplying only from renewable sources, said many customers have expressed surprise that their prices are not cheaper given they are generated from renewables. Customers need to understand why there is a price difference, especially in the light of liberalisation when prices for brown electricity are expected to fall, thereby potentially increasing the price differential between the two tariffs.

Customer trust in PESs was identified as another barrier. Customers are often confused by conflicting marketing messages from potential suppliers, even with the Future Energy accreditation. The messages are often too complicated for customers to bother with, so they stick with the suppliers and products they know. More dissemination of information to customers is needed - from individual companies about their product, from the government, the EST and environmental organisations - to promote green electricity as a legitimate product.

In order to encourage and allow customers from different income groups to support GE, Company K offers a three tier pricing system for their product. Customers can choose to sign up for 10%, 50% and 100% of green electricity source. This choice is important to customers since it allows people who might not be able to afford 100% GE to make some contribution. An example was provided of a low-income customer who had signed up for the 100% tariff but who then realised she could not afford it. She told the PES representative she had signed up (despite knowing it might be too much) because she wanted to show her support for the scheme. The varying tariff allows almost all customers to show their support in some way – essentially giving the customer an opportunity to ‘voice’ their approval. An all or nothing (either 100% or 0% GE) approach may be a further barrier to some consumers who cannot afford the full premium on GE.

4.6 Role of government and other actors

As reported above, many PES representatives suggested the government has a role to play in informing customers about their choices and educating consumers about the existence and benefits of green electricity. But other actors important in supporting the GE market are also identified; these have been nicely summed up by Company N’s representative:

Quite apart from the issue of financial support for emerging products, services and technologies, the Government is a key partner in the promotion of green energy, making customers aware of their choices in the liberalised markets and supporting clear, unambiguous accreditation schemes so customers understand what they are buying. Manufacturers need to develop cost effective products and services with comparable attributes to existing products. Energy Suppliers need to welcome the market entry of new products and services, and NGOs need to make customers aware of their choices and the consequences of those choices, and welcome the efforts of pioneer companies and their products in the market.

Other PES representatives shared a similar view, saying the government should continue to support new renewable energy technologies, but should limit their stipulation on the amount of renewables suppliers are required to purchase. This was seen as contra-liberalisation by some. Rather, government support for renewable energy should continue in the way of subsidies for the technologies until generation is
competitive, i.e., advocating a NFFO-type approach. The Utilities Bill was not yet public at the time of
the interviews and so PESs’ views on it could not be included. The attitudes presented here represent the
period of uncertainty about future renewable energy policies prior to the formal introduction of the
Utilities Bill.

Other companies have fewer objections to a set target for renewables, but emphasised that the
mechanisms to achieve this would need to be supported. For the moment, establishing new generation has
seen many obstacles, in particular obtaining planning permission. Several interviewees suggested the
demand for green electricity may outstrip supply with the introduction of the Climate Change Levy. This
would create a serious bottleneck in the market because the process of establishing permission for new
renewable generation is tedious and often stalled. Government is encouraged to play a role in reducing
these planning barriers.

Finally, one of the STSs complained of an uneven playing field in the market for new entrants.
According to the representative from Company E, the market rules favour those suppliers that have been
established prior to privatisation, and create barriers to entry for new suppliers. Government is responsible
for creating rules that level the playing field and Company E felt there should be more overt government
efforts: “The government may be making noises but they don’t follow through” (i.e., paying only lip-service to GE support). They should be at the forefront of the movement to replace brown with green, thus leading the way for other consumers.

5 THE POLICY DEBATE

The previous sections have suggested there are a number of players important for ensuring growth of the
green electricity market. The four players in the cycle are identified as: the Government; the electricity
supply companies; GE generators; and potential customers. Consumers are usually seen as the most
important pull factor concerning demand of a new product. However, in the case of domestic consumers
of GE, that pull is not yet forthcoming as too few people have signed up or are aware of their option to
do so. The suppliers, who usually provide information about a new product for consumer education, have
not been proactive in their marketing campaign; there is little incentive for them to pursue this product at
present. Limited generation of renewables and barriers to expansion also put a limit on the number of
customers possible. Consequently, electricity suppliers are not demanding more generation. This lack of
demand de-motivates generators, as does the slow development process hindered by planning procedures.
Government has an important role to fill ensuring continuity across the sectors. A comprehensive policy
approach to ensure win-win is required – taking all players into account. In this section the market
transformation policy approach is used to explore the present and future development of GE.

The Market Transformation Toolkit for GE

A useful means of assessing and recommending policy for market stimulation is through the market
transformation framework. Market transformation (MT) can be described as moving the market from a
point where a particular product has a low or very low market penetration, to a point where it has a very
high or completely competitive penetration. While many products are left to the natural forces within the
market to make this transition, for some products it may be socially or environmentally desirable to
accelerate the product’s uptake. Accelerating the movement from low to high market penetration can be
achieved by applying a number of policies loosely coined as the ‘Market Transformation toolkit’. This
‘toolkit’ includes incentive-, regulation- and information-type approaches. The specific mechanisms
within the MT toolkit, and how they have been - or can be - applied to transform the green electricity
market, are presented here. See Chapter 5 of the parent report of this document, Lower Carbon Futures,
for a comprehensive discussion of market transformation as a policy tool.
5.1 Information

Information and Education

In order to penetrate any market, consumers, suppliers and other market players need to be aware of the existence of a product. Widespread knowledge of green electricity as a choice for all consumers has not yet been achieved, and consumers need to become informed and educated about green electricity as a product option. Greater awareness needs to be raised about the choice the consumer now has about different products offered by the Suppliers. Moreover, those who might be aware of green electricity may not necessarily make the connection between their energy use and its environmental consequences and thus see no reason to switch to green. To this end, the case for the creation of a carbon market is made in Chapter 6 of Lower Carbon Futures. Creating a carbon market in which carbon emissions are monitored not only at the national and industry level, but also the household level, could be a powerful way of bringing together green electricity, energy efficiency and fuel-switching policies. Education and awareness complementing this approach are required to help inform consumers and other actors about their carbon impact (see full details on p75 of the main report).

Market players need not only to be aware of the existence of green electricity, but they also want reassurance from an independent body that the product lives up to its claims. In the case of GE, the consumer needs to know that the product will have the positive environmental impact it claims and that the product purchased is matched by the supplier. The Future Energy accreditation scheme provides this kind of assurance. However, it is less a marketing tool than a quality control symbol. It is useful in reassuring consumers who have some knowledge of GE, but it provides little information to people who do not.

Logos and Labels

Product labels can be effective means of providing consumers with specific information about the quality or characteristics of a particular product. Labels can either be used as a signal of endorsement by a recognized body, such as an eco-label, or as a means of comparison, showing the consumer the environmental attributes of one particular product over another. The Future Energy Accreditation scheme (Section 2) can be viewed as green electricity’s first quasi-label or eco-logo. This accreditation essentially provides a stamp of approval to the consumer and guarantees that a certain set of criteria has been met.

As of March 2000, the EST has accredited 13 of the electricity suppliers offering green electricity products. There has been some objection raised to the inclusion of energy-from-waste as a renewable energy resource, and one supplier has refused accreditation in protest.

Power Content Label

The Power Content Label is a concept that has been adopted in the State of California since autumn 1998. Californian legislation requires electricity supply companies to disclose information to all consumers about the energy resources used to generate electricity that is fed into the power grid. This label provides a user-friendly way of showing the consumer what they are purchasing when they sign up with a particular company. It shows the consumer the supply mix of a particular supplier and at the same time allows comparison with the average supply mix within the State of California, providing a reference point to evaluate electricity products. In this way it provides the consumer with a means to easily compare the power content of one supplier with that of another – providing transparency, consumer choice and education. The label appears on consumer bills and on all advertisements sent out to customers (Davis and Tutt, 1996).
In California, the label was mainly intended to provide transparency about the kinds of products offered, but it can also be used as a valuable tool for educating the consumer and raising awareness about the implications of energy use. It could be a very useful marketing tool for ‘greener’ suppliers, providing an important measure of comparison between two companies claiming to offer a similar product. It is an approach that could prove to be effective in the UK market. The label should include the supply mix of UK suppliers on average and then show a particular PES’s supply mix. One variation on the California label may be to include a measure of carbon intensity of the fuels in use, in this way linking the power content to its environmental (climate change) implications.

The carbon content label would be appropriate for labelling bills of all energy consumers, not only ones purchasing a green electricity product. In this way the label is not a policy to promote green electricity specifically, but rather renewable energy more generally. Whether a company was selling GE as a separate product (‘pure green’) or integrating renewable energy in its supply mix (‘greener brown electricity’), would no longer be relevant with this kind of labeling scheme because the label would show the proportion of electricity coming from renewable sources, regardless of how it was sold.

5.2 Incentives

Incentive-type policies can be targeted at any one, or all, of the market players. They are usually in the form of a financial inducement to the consumer to purchase a particular product or to the producer (supplier) to supply a product. Incentives can either be in the form of rebates and subsidies that lower the cost of a product, or in the form of a tax exemption which reduces the burden of purchasing the product, thereby making the purchase of a comparable product more expensive. Charging a premium is an example of the opposite of an incentive, as it raises the price of the product compared to a substitute item.

Fiscal Instruments (Taxes, Rebates and Subsidies)

The Non-Fossil Fuel Obligation provides a subsidy to suppliers to cover the additional cost of purchasing electricity generated from renewable sources. The cost of this subsidy is paid for by a consumer levy on all customers, as outlined in 2.1. With liberalisation, most suppliers are charging the consumer a premium for green electricity products. The premium charged for GE is considered by many as double-charging, since the product was initially subsidised through the levy until the capital was paid off. As suggested previously, this raises a contentious point for some informed consumers. What is certain, however, is that in order to help transform the market, the premium needs to be removed and GE seen to be competitive with, or carrying a price advantage over, brown electricity.

For non-domestic users, the premium for GE may soon become fiscally neutral with the introduction of the Climate Change Levy (Section 2). The CCL, applied only to the non-domestic sector, will be waived for energy from renewable sources and combined heat and power schemes. Depending on the economics of buying GE versus paying a tax on brown electricity under the CCL, renewable energy exemption is expected to increase demand for GE by non-domestic users. If demand from this sector grows, demand for GE may quickly outstrip supply, especially if planning constraints for new renewable generation are not eased. Several PES representatives expressed this concern given the slow development of new renewable generation. There is a risk that there may not be enough power to meet demand - causing prices to rise and deterring domestic customers from purchasing GE. Instead of being a positive development, as it initially seems, the levy could cause dissatisfaction with the market, and consumers may lose faith in the GE products. Alternatively, the levy and its exemption through GE may be just the kind of stimulus the market needs. These kinds of developments are difficult to predict until the full details of the policy are finalised.
5.3 Regulation: Example of Obligated Purchases

Regulatory approaches aim to apply standards and minimum requirements on the producer or supplier of a particular product or service. Although this approach ensures that a certain standard or level is achieved within a set time frame, it is often objected to and seen by industry as being too interventionist. In the case of GE, the government has announced it will oblige electricity supply companies to supply a certain percentage of their power from renewable sources under the proposed Utilities Bill. Although currently still in parliament, the renewables Obligation in this Bill stands at 5% by 2003, and 10% by 2010, for all PESs (DTI, 2000).

Box 4: NETA

One policy that could potentially be detrimental to the GE market is the New Electricity Trade-In Arrangement (NETA), to take effect in autumn 2000. Through this arrangement suppliers and generators will enter into bi-lateral contracts which will attempt to match each packet of demand with an equivalent amount of generation on a half-hourly basis. In theory NETA is intended to replace the electricity pool. These kinds of arrangements are expected to be unfavourable for renewable energy generation because renewable resources produce electricity more sporadically (depending on wind, water, sun availability) making it a risky purchase for suppliers. Larger, more flexible generators will be better placed to deal with this regime (Humphries, pers comm., 1999; Hartnel, 2000)

Policy considerations

Like any policy strategy for a particular sector, it is important that compatibility and mutual support is achieved. Within the UK’s energy policy strategy there are hints of conflicting policy approaches that may be detrimental to, or even set back, achievements made by the green electricity/renewable energy sector.

Working from the bottom up, consumers of electricity need to be informed about their energy use in general, and GE specifically. Electricity suppliers will initially require some incentive (or stipulation) to pursue the market before the demand creates its own pull. The renewables obligation places the responsibility of GE on suppliers but does not address the problem of ensuring that targets can be physically met. Better planning policies will need to be devised to ensure developers of RE can expand supply and keep pace when demand expands beyond present capacity. Policies stimulating demand, such as the Climate Change Levy and the 10% renewables obligation, need to be integrated into a process that can accommodate increased demand. Only once the processes of demand and supply begin to work in tandem can we expect to see the GE market transformed, and targets achieved.

7 CONCLUSION

Green electricity has taken its first tenuous steps in the liberalised world of electricity supply and demand. Since May 1999, GE has been available to all customers in the UK and consumers can pick and choose their energy supplier and electricity product. Fourteen PESs are offering some form of green tariff; either green source or green fund, and all but one of these schemes are accredited by the Future Energy programme. An estimated 10,700 domestic customers (0.04% of UK households) have signed up for a GE scheme. Although it is acknowledged that the marketing of green electricity is not (and was never) intended to revolutionise the renewables industry, it is a means of stimulating the market. It provides
consumers the opportunity to vote for an environmental option through their electricity supply. For most consumers this is a new and novel concept, about which they are not yet sufficiently well informed. Consequently, the green electricity market is moving slowly; few consumers are aware of their choices, and even fewer are switching. Companies view GE as a niche market and are not actively pursuing a huge GE customer base. However, domestic consumers may not be where the real potentials lie, especially given recent developments in renewable energy policy.

Green electricity as a product was made possible largely through the NFFO programme which subsidised electricity generation from renewable sources and initiated the commercialisation of non-fossil fuel sources of energy. The NFFO programme ended in 1998 (although existing permissions will continue to be supported until 2020) and new policies to replace this policy have recently been introduced. The renewables Obligation within the Utilities Bill now places the onus of renewable support and growth on the PESs. All PESs are obliged to supply a percentage of their electricity from renewable sources at a level of 5% by 2003 and 10%. It remains to be seen how suppliers will respond and which customers will have to pay for the additional cost of renewable generation. PESs have three main options as a means to meet and pay for their obligation and will probably use all three in some combination:

- Targeting non-domestic users who will be prompted to buy GE through the climate change levy;
- Encouraging domestic demand and charging customers a premium to buy ‘pure green’ electricity;
- Internalise the additional cost of power from renewables increasing prices for all electricity users (below the specified price cap), making brown electricity slightly greener.

If demand for GE increases significantly due to the Climate Change Levy and its exemption of renewable energy, supply of GE may not be able to keep pace. Getting new renewable plants through the planning process has been a tedious and often stagnated process in the past and little action has yet been taken to address this problem. Moreover, the design of the Obligation favours the development of better proven, well established, and therefore cheaper, renewable technologies. This may leave some technologies with no backing unless other support mechanisms are designed.

Many uncertainties still surround the UK’s green electricity market. How all sectors – consumer, supplier, generator and government – will respond to these new developments remains to be seen. The policies introduced have their merits but they may not go far enough in supporting this industry. Whether push or pull, what this market requires is a clear strategy and government commitment to achieve its renewables targets. A holistic policy approach which addresses both the demand and supply side can be developed, but requires the integration of various considerations to provide a greener energy future in the UK.
REFERENCES


TRENDS in RENEWABLE ENERGIES Issues #100-2, #105 and #116  (October 1999 – February 2000)

*http://www.which.net/pr/may99/general/confused.html* 07/10/99

<table>
<thead>
<tr>
<th>Company name</th>
<th>Name of Product</th>
<th>Premium</th>
<th>Price/kWh (includes 5% VAT)</th>
<th>Type of Offer</th>
<th>Status</th>
<th>Accreditation</th>
<th>Type of renewable energy generated or supported</th>
<th>Target Customers</th>
<th>Notes</th>
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<tbody>
<tr>
<td>Eastern Electricity</td>
<td>Eco-Power Eco-Power+</td>
<td>5% 10%</td>
<td>6.97 7.13</td>
<td>Fund</td>
<td>Available since November 1997</td>
<td>‘Future Energy’</td>
<td>Sun, wind and waves</td>
<td>National / Domestic</td>
<td>Projects invested so far include solar power and wind</td>
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<td>London Electricity</td>
<td>No name</td>
<td>5%</td>
<td>Prices are tailored to individual commercial users</td>
<td>Source</td>
<td>Available since Summer 1999</td>
<td>‘Future Energy’</td>
<td>Energy from waste</td>
<td>National / Non-domestic</td>
<td>Plan to launch tariff for domestic customers 1st qtr. 2000</td>
</tr>
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<td>MANWEB (a Scottish Power company)</td>
<td>Green Energy</td>
<td>5%</td>
<td>7.01</td>
<td>Fund</td>
<td>Available since December 1998</td>
<td>‘Future Energy’</td>
<td>Wind/small hydro</td>
<td>Regional (MANWEB region) / All customers</td>
<td>The premium is used to support green energy projects. Each project has to contribute money equal to that from Green Energy.</td>
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<td>Midlands Electricity plc. (MEB) part of National Power</td>
<td>EverGreen</td>
<td>£5/ year donation</td>
<td></td>
<td>Fund</td>
<td>Available since summer 1999</td>
<td>‘Future Energy’</td>
<td>All renewable sources</td>
<td>National / Domestic</td>
<td>Customer premium is paid to the Marches Energy Agency – a charity which funds renewable energy projects</td>
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<td>Northern Electric (GE tariff planned)</td>
<td>Renewable Resources</td>
<td></td>
<td></td>
<td>Source/ Fund</td>
<td>Planned launch spring 2000</td>
<td>‘Future Energy’</td>
<td>Wind/small hydro/landfill gas</td>
<td>Wind/small hydro/landfill gas</td>
<td>Object to inclusion of energy from waste as renewables – may refuse accreditation</td>
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<td>Northern Ireland Electricity</td>
<td>Eco-energy</td>
<td>9.01 (for 10% GE) 9.06 (for 50% GE) 10.15 (for 100% GE)</td>
<td>Source</td>
<td>Available since fall 1998</td>
<td>‘Future Energy’</td>
<td>Mostly wind; PV and small hydro</td>
<td>N. Ireland only / all customers</td>
<td>Offer three different tariff levels to allow different income groups to support GE</td>
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<td>PowerGen</td>
<td>Green Supply</td>
<td>10%</td>
<td>Prices are tailored to individual commercial users</td>
<td>Source</td>
<td></td>
<td>‘Future Energy’</td>
<td>All renewable sources</td>
<td>National / non-domestic</td>
<td>Planning to launch for domestic customers – end ’99</td>
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<td>The Renewable Energy Company (STS)</td>
<td>Eco-tricity</td>
<td>No premium charged</td>
<td>Prices are tailored to individual commercial users</td>
<td>Source</td>
<td>Launching GE product for domestic customers in 2000</td>
<td>‘Future Energy’</td>
<td>Hydro/wind/landfill gas/sewage gas/renewable energy from waste</td>
<td>Regional – close to source to avoid distribution costs / Non-domestic</td>
<td>Only company to date to generate GE from non-NFFO plant. Currently hold ~ 1/3 of UK’s renewable energy capacity</td>
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<td>Scottish and Southern Energy (SEE)</td>
<td>RSPB</td>
<td>No premium charged</td>
<td>(depending on region)</td>
<td>Source</td>
<td></td>
<td>‘Future Energy’</td>
<td>Hydro, wind, landfill, bio-gas</td>
<td>National / all customers</td>
<td>SSE pays RSPB for each customer signed up</td>
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<td>SEEBOARD plc</td>
<td>Go green</td>
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<td>5.81 to 7.20 p/week (depending on region)</td>
<td>Source</td>
<td></td>
<td>‘Future Energy’</td>
<td>Small hydro, wind, solar, waves</td>
<td>SEEBOARD region / Domestic</td>
<td>Independent Green Fund Charitable Trust established to allocate the money</td>
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<td>Southern Electricity</td>
<td>ACORN</td>
<td>5%</td>
<td>6.70</td>
<td>Source</td>
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<td>‘Future Energy’</td>
<td>Hydro, wind, landfill gas, biofuels, energy-from-waste</td>
<td>Southern electric region / domestic</td>
<td>If the cost of buying RE is lower than SWALEC’s estimates it will put any surplus into a green fund to invest in RE projects</td>
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<td>SWALEC</td>
<td>Green Energy</td>
<td>Less than 50 p / week</td>
<td>8.10</td>
<td>Source/ Fund</td>
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<td>‘Future Energy’</td>
<td>Small hydro/tidal/PV/landfill gas</td>
<td>Regional / Domestic SWALEC region only</td>
<td>If the cost of buying RE is lower than SWALEC’s estimates it will put any surplus into a green fund to invest in RE projects</td>
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<td>SWEB (South Western Electricity Board)</td>
<td>Green Electron</td>
<td>Varies by amount of electricity used</td>
<td>7.64</td>
<td>Source</td>
<td>Available since October 1998</td>
<td>‘Future Energy’</td>
<td>Small hydro/wind/landfill gas / PV</td>
<td>England and Wales / all customers</td>
<td>Tariff funds also go towards administration, energy efficiency and R&amp;D for new renewable schemes</td>
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<td>Unit Energy Ltd. (STS)</td>
<td>Unit [e]</td>
<td>15%</td>
<td>7.36</td>
<td>Source</td>
<td></td>
<td>‘Future Energy’</td>
<td>Wind/small hydro</td>
<td>England and Wales / all customers</td>
<td>Only GE on offer, sell no conventional electricity</td>
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<td>Yorkshire Electricity</td>
<td>Green Electricity</td>
<td>8%</td>
<td>6.43</td>
<td>Source/ Fund</td>
<td>Available since Summer 1999</td>
<td>‘Future Energy’</td>
<td>Wind/biomass</td>
<td>National / all customers</td>
<td>GE sold as part of energy efficiency package – free CFL</td>
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</table>

Sources: Company brochures; personal communication; Which 2000; ENDS 1999; FOE website; company websites; EST Future Energy info pack.