Green Electricity Code of Practice

A Scoping Study

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ABBREVIATIONS

ASA	Advertising Standards Authority
CCL	Climate Change Levy
COP	Code of Practice
CRS	Center for Resource Solutions
DTI	Department of Trade and Industry
ENGO	Environmental Non-governmental Organisation
EST	Energy Saving Trust
EU	European Union
FoE	Friends of the Earth
GE	Green Electricity
LECs	Levy Exemption Certificates
NFFO	Non-fossil fuel Obligation
Ofgem	Office of Gas and Electricity Markets
RO	Renewables Obligation
ROCs	Renewable Obligation Certificates
REGOs	Renewable Energy Guarantees of Origin

EXECUTIVE SUMMARY

There is currently a wide range of green electricity products on the market. However, these products are of very different make-up and underlying philosophy, and consumers can be confused by the nature of the products on offer. Furthermore, the national renewable energy policy landscape is confusing, allowing suppliers to claim greenness for their product even though this may not be the case. Misleading use of statistics in marketing materials and occasionally mis-selling provide further confusion for the consumer. The net result is a lack of confidence in the system and continually poor market share for green electricity products.

It is widely acknowledged that a Code of Practice for green electricity would be a good step towards restoring confidence in the market and ensuring that consumers are given clear and transparent information on which to base their product choice. There has been no official accreditation scheme for green electricity since the demise of the Future Energy scheme in 2002, although Friends of the Earth did try to fill this niche with their League Tables. At present there is no official accreditation scheme in the UK. Ideally an accreditation scheme would be Government run, but Ofgem are unwilling to take on this role. Therefore, a voluntary Code of Practice based on industry consensus is seen as the only way develop such a scheme. This report outlines how such a system might work, by drawing on the experience of other similar schemes worldwide.

Any Code of Practice that is to be developed should integrate with existing policies, including the Renewables Obligation, the Climate Change Levy, and Renewable Energy Guarantees of Origin. These all issue certificates alongside the generated electricity, but each scheme has different definitions of what counts as renewable. It is possible for one kWh of electricity to be allocated 3 different certificates each corresponding to a different definition of 'greenness'. It is therefore important to only use one of these systems for the purposes of green electricity accreditation to avoid double counting. It is recommended that REGOs are used for this purpose – they have the most inclusive definition of renewable generation, the certificates are held by the supplier making auditing simple, and they are used for other consumer information such as electricity disclosure.

Whilst REGOs determine the source of the electricity, many green electricity products are sold based on other environmental features, such as green funds, or ROC retirement. A green fund will set aside money into a fund, which is then used to install new generating capacity, fund R&D or other environmental projects. Some companies also retire Renewable Obligation certificates, which has the effect of using consumer demand for green electricity to adjust government renewable electricity targets upwards. This work has considered the issue of electricity source (REGOs) and the additionality of green electricity products separately as a matrix of possible supply offerings. A four-star rating for green electricity products has been developed, with 100% green sourced products with additionality given the highest 4 star rating. A 1 star rating is given to products with at least 51% green source, and no additionality. Currently, green funds are not considered additional in the presence of the Renewables Obligation.

The Code of Practice would be implemented and reviewed regularly by an advisory board. It is suggested the board would be made up of three non-voting members from the electricity supply industry and of six voting members as impartial stakeholders. The board would ensure the smooth running of the Code of Practice, and would address any concerns of non-compliance. Each supplier will also have to undergo an annual audit to verify claims. Because Ofgem collects all relevant information in terms of REGOs, ROCs and LECs it is suggested that Ofgem fulfils this role, although an external auditing company could be used.

A logo will have to be developed to distinguish accredited products, and this should be used on all marketing materials and bills. Business customers may also wish to purchase the right to use the logo to promote of their own green credentials which would raise the profile of the scheme. The COP will also require extensive marketing to alert consumers to the existence of the new scheme.

Funding for the Code of Practice will also be required, both to run a secretariat and for initial start-up costs. This funding could come from green electricity customers, the suppliers or from Government contribution. It is felt that Government support will be essential, especially in the first few years' operation of the scheme.

To conclude, a Code of Practice is seen as essential to ensure clarity consistency and consumer protection within the green electricity sector. The above listed measures provide a framework for a voluntary scheme and a framework for its development over the coming months.

CONTENTS

1. INTRODUCTION

There is currently a wide range of green electricity products available on the UK electricity supply market, providing consumers with plenty of choice, as appropriate for a liberalised market. However, these products vary markedly in their make-up and underlying ethos, and there is no easy way to verify the claims being made with no official accreditation system in place. Since the discontinuation in 2002 of the Energy Saving Trust's green electricity certification programme, Future Energy, there has been no validation of the claims of suppliers selling green electricity products. Not only does this make it confusing for consumers, but there is also a lack of transparency and consistency within the market.

The Office of Gas and Electricity Markets (Ofgem) developed a set of guidelines for green supply offerings, initially in 2002 with a recent update under consultation this year, but these only offer suggestions and do not substitute for a formal accreditation scheme. Even Friends of the Earth, who for a number of years provided an on-line green electricity league table has discontinued this service due to funding constraints. Trading and Advertising Standards are two possible routes for checking claims, but these are not straightforward to use nor do they provide accreditation. There is, therefore, no group or organisation in the UK that defines the minimum standard of what can qualify as a green electricity product and ensures that those standards are maintained.

There is growing concern with this omission since consumers are not necessarily given full information about green electricity, nor is the information they receive verified by an independent body. In a complex policy environment, many different products can claim to be green electricity. Consumers can be confused by spurious claims, misleading use of statistics and at worst mis-selling, either via advertising or direct marketing. The result has been a lack of confidence in the system, contributing to the continually poor uptake of green electricity schemes by domestic consumers; the market share is still below 1% of residential sales. Consumers need full, consistent and verified information across all products to ensure market confidence. A market that offers invalidated information will be a tough sell to consumers, even if they feel strongly about addressing climate change and reducing the environmental impacts of their energy use. To ignore this issue, therefore, foregoes the opportunity of using the green electricity market to help green the supply mix and achieve national renewable energy targets.

There have been discussions on this topic since the end of the Future Energy scheme, but the uncertainty of the market made action difficult. The last three years of evidence of market response to the new energy policy regime (Climate Change Levy, Renewables Obligation, Renewable Energy Guarantees of Origin, *etc.*), has made it increasingly evident that some form of standards are needed for all green electricity suppliers to follow. What is needed, and to which this report aims to contribute, is a GE accreditation process for the UK electricity supply industry to provide greater transparency within the market, covering both the residential and business markets. The market could benefit initially, from a voluntary Code of Practice on green electricity supply to provide clear and simple guidelines on the accreditation of green products. A voluntary code is seen as the best method of ensuring greater transparency within the market, in the absence of official proposals. This scoping study aims to look at the potential for establishing such a scheme and makes recommendations on how to move forward on this topic.

This report begins with an overview of past and current experiences with green electricity accreditation in the UK and relevant international examples. Included in this presentation is a discussion of the definition of green electricity, since this is the first step in determining what products are eligible for accreditation. The electricity source, among other criteria, is an important consideration. With a range of policies in place to support the renewable energy sector in the UK, a number of which include certification and accreditation, it is important that any green electricity accreditation scheme developed will interact co-operatively with policies already in place. A review of current renewable energy policies is presented and the possible interaction of each with an accreditation scheme discussed. Last, the criteria for a product to be deemed 'green electricity' are developed and a framework for the operation of a Code of Practice is suggested.

2. PAST & CURRENT EXPERIENCE OF GE ACCREDITATION

Accreditation or certification systems are commonly used to verify that a product meets the definition and criteria set out for a particular claim or product category. For electricity produced from renewable energy sources, the term green electricity (GE) is generally used to distinguish it from electricity generated from fossil fuels and nuclear power. Most green electricity products make claims, and market on the basis, that certain environmental and social benefits will result from its purchase. But not all claims are necessarily valid, so an accreditation system is needed to ensure (and certify) that claims of 'greenness' are met. What constitutes 'greenness', however, depends on the definition and criteria used for assessment. Agreement on that definition and on the criteria for meeting 'greenness' is not straightforward as outlined below, yet a common standard has to be agreed and communicated to consumers who need this information to compare one product with another.

The Future Energy scheme ran between 1999 and 2002 but was discontinued because the market for GE products shifted to commercial users who were purchasing GE to exempt them from the Climate Change Levy (CCL), a policy introduced in 2001. The Levy Exemption Certificates (LECs) are verified by Ofgem, but they do not cover GE sold to domestic and small business customers. Several groups have tried to fill the accreditation void for this sector but none carries the clout of a government-backed programme, nor do they have full support of the industry. There is, therefore, no official GE accreditation scheme for this sector in the UK.

Green electricity: One term, many meanings

Green Electricity is defined as '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' (Lipp (2000). 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 choose their supplier and a specific electricity product, consumers were then able to make a conscious choice about the environmental impact of their electricity consumption. With this choice came the need for information and assurances that what was claimed was also being delivered, especially as GE is being marketed as a premium-price product.

There is further confusion on this issue, as UK Government has different definitions of what qualifies as renewable energy for each of its own policy instruments (see Appendix A and Table 1). Most notably, the Renewables Obligation and the Climate Change Levy which seek to promote the building of additional capacity exclude old large hydroelectric plants as these have already been paid for. Nonetheless, suppliers who purchase 100% hydro still market their product as coming from 100% renewable sources, even though it is excluded from these Government schemes. Renewable Energy Guarantees of Origin (REGOs) are not seeking to promote new capacity, but rather are used as a tracking mechanism for renewable energy. They are therefore much more inclusive in their definition of what qualifies as 'renewable energy'. However, within the environmental field, disagreement remains on the inclusion of some of these sources such as energy-from-waste, which can be sold as a GE product in the UK. Many feel energy generated from waste does not strictly come from a renewable source and should therefore not be sold as green electricity (Lipp, 2000). An overview of government RE policies is presented in section 4.

Common Criteria Used to Accredit GE

Of the various GE accreditation schemes in operation around the world, each has its own definition of what qualifies as GE, both in terms of the type of renewable energy eligible, as well as other information. Most GE labels are, at a minimum, assessed on the basis of the renewables they source their GE from – the decision about what to include is usually made on the basis of environmental impact. Some schemes go further and consider other features before being accredited, which can include:

- ***Type of offering.*** There are two broad classifications of green electricity (or green tariff) products currently on the market denoted 'green source' and 'green fund'. Green source consumers buy electricity from suppliers and are assured that for every kWh of electricity they consume the corresponding amount of renewable generated electricity will enter the network over the span of one year (Lipp, 2000).

  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. Typically the fund will pay for new

capacity to be installed either by independent developers or by the supplier themselves(Lipp, 2000). In the latter case the electricity supplier will continue to own, operate and make profit from the RE development. Some products do not invest their funds in new renewable generating capacity, preferring instead to donate to environmental causes (*e.g.* RSPB) or fund research and development (*e.g.* npower juice). The extent of the fund varies from £5-10 per customer *per annum*, and may be matched by the electricity supplier. It is important to note that the source of electricity for green fund projects need not be renewable.

Green supply offerings are almost always, provided they meet other accreditation criteria, classified as GE, but the case for green funds is not so straightforward since it is not always clear where those funds go and what benefit they have. This criteria and several others will be discussed below in the context of the UK market.

- ***Additionality requirement.*** One of the key concepts within the green electricity sector is that of additionality - the idea that products should provide benefits beyond that already required by existing legislation. Many of the green tariffs that are marketed as being "green" actually provide no additional benefits above those already required by existing legislation (*e.g.* guaranteed prices for renewables or obligations placed on energy suppliers) promoting renewable energy. This is particularly important in the UK where the Renewables Obligation required a defined level of green electricity generation.
- ***Energy balancing.*** Since green electrons don't necessarily flow directly to the consumer making the purchase, it is necessary to balance the supply mix with the purchases made. The supply is balanced in terms of energy over a given time period - not a continuous second-by-second balancing of power. There are often time requirements on when those balances have to be made (*e.g.* yearly).
- ***Straightforward information.*** Some accreditation schemes include requirements about the type of information supplied to consumers. Of principal concern is whether customers are likely to be misled or confused by information provided to them.
- ***Price.*** Green electricity products are often sold at a premium price under the argument that it costs more to produce this electricity. In the case of old large hydro generation and RE projects supported through public funds this claim is highly questionable. It is therefore necessary to establish criteria about which projects can justifiably charge more for the green electricity produced.
- ***Supply services***. Some accreditation schemes examine other services included with the GE product and assign accreditation on that basis, among other criteria.

The UK experience: Future Energy

In consultation with stakeholders, the EST developed the criteria for the eligibility of GE accreditation under the Future Energy scheme. The following non-fossil and non-nuclear sources were assigned under the Future Energy logo: solar, wind, hydro (limited to 50% energy content), energy from crops, and energy from waste. Those products meeting this criteria were allowed to display the Future Energy logo (Figure 1) (Lipp, 2000).

Figure 1. Future Energy logo.

Backed by the Government, the scheme aimed to raise consumer confidence in suppliers' claims about their green electricity products, thereby stimulating the market for renewable energy (EST, 1999). The EST also acted as a regulator, auditing accounts to ensure green electricity contracts were fulfilled (Lipp, 2000).

There was not universal agreement with the Future Energy approach. Some groups, notably suppliers and environmental non-governmental organisations (ENGOs) objected to the inclusion of energy-from-waste and large hydro. One supplier even refused accreditation out of protest (Lipp, 2000). In general, however, the Future Energy accreditation achieved it purpose, which was to provide assurances to consumers that products with the Future Energy logo were indeed renewable. Other groups, in particular

the ENGO Friends of the Earth (FoE) felt this system did not go far enough because it did not really assure 'greenness' by their definition. The FoE league table for GE emerged.

GE League Tables

Due to perceived short-comings of the Future Energy scheme, FoE developed a league table for GE products to help consumers distinguish between the various GE products that were certified. In the view of FoE and others, not all GE is created equal. The initial concern was with products that were generated from energy-from-waste plants and large hydro projects. Neither of these is considered low-impact (environmentally benign) electricity. Moreover, large hydropower in the UK comes from old plants and does not represent new RE capacity.

The league table was used to rate GE products according to their environmental contribution. The other concern, one that has emerged since the introduction of the Renewables Obligation (see Section 4) is the additionality criteria. Because all electricity suppliers in the UK are obligated, under the RO legislation, to provide a certain percentage of their supply from renewable energy sources, the sale of GE is only helping them meet an existing rule and does not provide additional renewable generation to the system. The FoE included additionality as a criterion to their league table and those suppliers complying with this standard were actively recommended, whilst those that did not meet additionality were not. Naturally, such a polarised scheme was unpopular with those suppliers whose products were not recommended. The FoE also felt that Levy Exemption Certificates (see Section 4) should be retired to demonstrate that the green electricity being purchased by domestic customers has not already been sold to commercial consumers.

The league table was updated every year between 2000 and 2004 when it was discontinued due to funding constraints. A briefing note on the FoE website emphasises the need for a government supported, independent accreditation system and calls on visitors to the website to write letters to the DTI demanding such a system (FoE, 2005).

There are several other GE league tables for the UK market. The Good Energy Guide has similar criteria as those previously used by FoE and they too emphasise additionality and endorse GE products that achieve this (Ethical Company Organisation, 2005). Green electricity products are also listed on another on-line resource, u-switch. This site facilitates consumer switching between different suppliers whether green or not. The site does allow potential switchers to compare different products to one another but price is the main criteria mentioned (u-switch, 2006).

3. GE ACCREDITATION ELSEWHERE

There are a number of GE accreditation schemes in operation around the world. These can be both government led or initiated by a third party, often led by an ENGO or other non-profit organisation. Most European labels are issued by a third-party and in some instances more than one labelling scheme has emerged. These programmes verify claims made by GE suppliers in order to provide consumers a quality assurance. Canada and Australia each have government-backed accreditation schemes while Germany and the United States of America have multiple programmes developed by non-governmental groups (Bird et al, 2002). The German, Australian and American cases are presented here, as well as a European-wide labelling approach called EUGENE. Key lessons from each of these are drawn out.

Germany

The market conditions and drivers for GE offerings in Germany are much the same as in the UK. Market liberalisation necessitated product differentiation and offering a green power product was a key way of achieving that. As in the UK, the uptake of GE power has been low and there is also confusion about the products on offer. The problem in Germany, however, stems from too many accreditation labels rather than the absence of one. The result is similar, however: inconsistency and customer confusion.

More than 135 marketers supply 1700 GWh of green power to an estimated 490,000 customers in Germany today, a market share of about 1.3% of residential customers. The marketers include very large municipal energy utilities, dedicated renewable energy companies and environmental groups. (Wüstenhagen and Bilharz, 2006). In Germany, three competing eco-labelling schemes had been launched, thereby "counteracting the basic function of an eco-label to reduce complexity and give guidance to consumers" (Wüstenhagen and Bilharz, 2006). "German labelling organisations have developed a high level of sophistication in distinguishing green power from [sources qualifying under the Renewable Energy Sources Act]. The result is a double-edged sword: customers are assured that they buy 'subsidy-free' green power, but little guidance is given for designing products that will successfully compete beyond a small 'dark-green' market niche. As a result, eco-labelling does not appear to be a strong positive driver for green power marketing in Germany so far" (*ibid*).

Australia

The Australian government accredits green power products to "[provide assurances] that the renewable energy purchased will decrease greenhouse pollution and actively contribute to the development of a renewable energy industry in Australia." To get approval, GE generators must meet stringent environmental standards and GE products must comprise a minimum of 80% 'new' renewable energy. (*i.e.* RE sourced from generators built after 1 January 1997.) (Green Power, 2006). An accredited Green Power product in Australia must carry the accreditation label (Fig. 2). The accreditation label is supported and managed by state and federal governments throughout Australia.

Figure 2: Australian GE accreditation label

Beyond consumer clarity and environmental standard setting the objectives of the Australian Green Power Accreditation Program are to:

- Facilitate the installation of new renewable energy generators across Australia, beyond mandatory renewable requirements, thereby decreasing greenhouse pollution.
- Encourage growth in consumer demand for renewable energy.
- Provide consumer choice for, and increase confidence in credible renewable energy products.
- Promote the renewable energy industry through the rigorous accreditation of generators.
- Increase consumer awareness of the benefits of renewable energy.
- Increase the sustainability of Australia's electricity supply.

USA

Green electricity products in the USA are certified by the Center for Resource Solutions (CRS), an independent non-profit organisation, and assigned the Green-e accreditation logo. Participation in the program is voluntary but those certified are required to meet a number of criteria and sign up to a code of conduct. The American electricity supply market is very large with more than 3000 suppliers in operation. It is estimated that about 600 of those offer some kind of GE product (supply and fund) and 100 of these are accredited. About 75 of these are accredited by Green-E. As in Germany there are other accreditation bodies but Green-E has the greatest market share (Lieberman, 2006).

Eligibility criteria are set out in the Green-e Competitive Electricity Standard. Dealing with many different states and market situations (deregulated, privatised, monopoly and competitive markets) it was necessary at the outset to have different rules for different markets. To limit complexity, those rules have recently been consolidated into one uniform national standard to take effect in January 2007. Among other factors, the type of energy sources and their combinations are important for accreditation. Certified providers may use the Green-e logo in conjunction with any product if the product reflects more than 50% of its energy supply from renewable resources or meets the renewable content and size criteria (Green-e website, 2006).

Beyond meeting this basic criteria, companies need to adhere to a code of conduct. Development of the Green-E Code of Conduct can provide important lessons for setting up a Code of Practice approach in the UK. The CRS received start-up funds for three years to develop and launch the Green-E programme. This involved consultation with stakeholders and interested parties. An Advisory Board was appointed which meets quarterly to review Green-E criteria and oversee the administration duties carried out by CRS. Each company wishing to use the Green-e logo or to claim Green-e certification for any of their power products must comply with the Code of Conduct (see Appendix B)(Green-E, 2006).

Green-E verification consists of a semi-annual Compliance Review and an annual Process Audit. Twice a year, CRS check member compliance with the code of conduct by investigating “proper disclosure and truthful information on direct mail, customer bills, radio and television commercials and other marketing materials. During the Compliance Review, staff confirm that the electricity provider is not making false or misleading statements about their product and that they have made the pricing, power, and contract disclosure to customers as required by certification” (Green-E, 2006). Although a time-consuming process, it has been found to be an important strategy to ensure consumer confidence and to correct frequent errors in the advertising material. These errors are brought to the attention of the supplier and asked to fix it (Lieberman, 2006).

The annual Process Audit requires retail and wholesale power providers to complete an annual third party verification of their power purchases and sales. It is designed by CRS and conducted by a certified public accounting firm. The Process Audit uses company contracts, invoices, and billing statements to verify that the electricity provider has purchased enough power in quantity and type to meet its customer demand for each product (Green-E, 2006).

When errors and discrepancies are found in the marketing material and audit reports, suppliers are required to fix these in future material and to buy additional green electricity if their supply falls short of consumer purchases. If additional GE cannot be purchased a refund to consumers has to be given. Because it is a voluntary scheme, CRS has found that participants are keen to comply and errors are thought to be unintentional. CRS has no mechanism to penalise suppliers for non-compliance except to withhold accreditation (Lieberman, 2006).

A participation fee paid by each accredited supplier covers operating costs of the Green-E programme. The fee varies by type and size of supplier. Fees are calculated on the basis of total customers served (number of meters). The average fee is estimated at $5000 (some pay only $1000 and others as much as $12,000). The fees collected cover verification and core functions of the program costs. Additional funds, especially for advertising, are sought from other sources, such as State and Federal government agencies and other granting bodies.

Staff at CRS, consulted for this report, suggest that any accreditation scheme needs to be simple and transparent. Consumers want to know the type of power they are being supplied with and that it is having an environmental benefit but do not want to be burdened with the full criteria of the accreditation process. The challenge for the Board is to balance every decision between consumer protection and retailer realities. It is also important that Board look ahead and anticipate market changes in order to incorporate these into the accreditation process. For instance, a question has now been raised about how long a supplier can charge a premium for a green electricity product if they are not adding new capacity (Lieberman, 2006).

One further lesson from the Green-E experience is the emergence of the Green-E label as a branding tool by GE consumers. Companies purchasing GE have asked CRS whether they can use the logo to advertise these purchases; this request has been granted. Commercial customers buying green electricity that is not certified are beginning to ask their supplier to become certified so that they can display the Green-E logo. This is a positive spin-off of the accreditation scheme - one which displays the potential power of consumer pull.

Towards European Harmonisation: the EUGENE Standard

The European Green Electricity Network (EUGENE) is an initiative of a consortium of groups and organisations in Europe who aim to develop a harmonised EU GE accreditation system called the Eugene Standard (ES). EUGENE is made up of "leading green energy labelling bodies and other stakeholders from across the world and promotes best practices on green energy and further develops labelling activities to support the development of sustainable green energy." It is a membership-based network and a not-for-profit organisation (EUGENE, 2006).

The ES builds upon the guidance given by a number of international and national regulations and sets out a code of best practice for green energy suppliers. It provides a benchmark that suppliers can use to assess and promote their green energy portfolios, to reduce reputational risks and maximise consumer confidence and uptake. The Eugene Board reviews the Eugene Standard on a regular basis taking consideration of new experiences, feedback and policy developments. Any necessary modifications are recommended to the Assembly of Eugene Members and a decision made to modify the standard. (EUGENE, 2006).

Currently the Eugene Standard operates in parallel with certification programmes in the member states. Green marketers may choose to accredit their product by the national body as well as EUGENE. Only two green marketers currently have a EUGENE label. The organisation does, however, provide a list of other GE marketers on its website and endorses some suppliers based on their adherence to the Eugene criteria.

Eugene applies the following additionality criteria on suppliers to be eligible for two levels of certification (gold and silver standard):

- Consumption based products (green supply): 10% (silver standard)/30% (gold standard) of supply must be from new renewable sources where these sources are over and above governmental renewable legislation such as incentives and obligations.
- Contribution based products (green fund): at least 0.5 ct/kWh (silver standard)/1.5 ct/kWh (gold standard) is invested in new renewable plant.
- Green hydropower: at least 0.15 ct/kWh (silver standard)/0.5 ct/kWh (gold standard) is invested in measures to reduce the facility's environmental impact (Green Hydro Eco-investments). These plants must have a significantly reduced ecological impact.

Lessons learned from other schemes

Green electricity accreditation experiences in other countries provide useful lessons for the UK. The German approach has led to multiple labels being developed thereby creating more confusion in the market since different labels assign different criteria. The USA too has multiple accreditation schemes but one has become the most popular and with a voluntary code of conduct, operating alongside obligations for renewable generation, may provide the closest model for the UK to follow, if a government-supported scheme cannot be developed here. The Australians have a government-supported scheme with strict criteria regarding eligibility for accreditation, which shows the importance of a government led approach. Meeting stringent environmental standards and contributing to the development of new RE are the basic criteria of the Australian label. The European voluntary GE label, EUGENE is reviewed here because of the criteria chosen for GE eligibility.

4. ACCREDITATION INTERACTING WITH OTHER MECHANISMS

A number of developments have affected the green supply market in recent years which have created uncertainty for consumers about green pricing offers and rekindle the need for action on an accreditation system for the UK green electricity market. These include:

- Discontinuation of the Energy Saving Trust Future Energy Accreditation Scheme;
- Discontinuation of the Friends of the Earth GE league table;
- Four years experience with the operation of the Renewables Obligation (RO) and Renewable Obligation Certificates (ROCs);
- Five years experience with the Climate Change Levy (CCL) and Levy Exemption Certificates (LECs);
- The introduction of Renewable Energy Guarantees of Origin (REGO);
- The requirement for electricity suppliers to disclose their electricity supply mix (Disclosure label)
- No agreed standard and enforcement of what constitutes and may be sold as green electricity to residential and small business consumers.

In the UK it is possible for up to three certificates to be issued for the same unit of generated electricity. A GE accreditation scheme could add a fourth and risk further confusing an already complex situation. And yet, any future accreditation process has to interact and work co-operatively with existing renewable energy and green electricity programmes. Those programmes are described in this section, including a discussion of their implications for GE accreditation. The different certification and verification programmes for electricity in the UK are summarised in Table 1.

Table 1: UK electricity certification and verification programmes

	Eligible RE sources*	Certificate issued	Power separated from its 'greenness'	Additionality evident	Other features
ROCs	No energy from waste and CHP; includes new large hydro	Yes	Yes	No	MWh
LECs	Includes energy from waste and CHP; no large hydro	Yes	Yes	No	MWh
REGOs	No CHP	Yes	Yes, but no market value	Yes – tag indicating a ROC and LEC	kWh
Disclosure	No CHP All including non-renewables too	No	No	No	Percentage

* All schemes allow the following power sources: small hydro, geothermal, solar, wind, tidal and wave, landfill gas, sewage gas, energy crops, biomass and co-firing of biomass. Exceptions applying to large hydro, energy from waste and CHP are noted in the table. See also Appendix A.

Renewable Energy Guarantees of Origin

Article 5 of the EC Renewables Directive, requires European Union Member States to set up a mechanism whereby producers of eligible renewable-sourced electricity have to be issued with renewable energy guarantees of origin (REGOs). The purpose of REGOs is to facilitate trade in electricity produced from renewable energy sources and to increase transparency for consumer choice. The REGO must include the following information at a minimum:

- specify the energy source(s) from which the electricity was produced, the dates and place of production, and in the case of hydro-electricity, the capacity of the installation;
- enable producers of electricity from renewable energy sources to demonstrate that the electricity they sell is produced from renewables energy sources;

- be mutually recognised by Member States, and any refusal to recognise should be based on objective, transparent and non-discriminatory criteria.

Member States, or the competent bodies appointed by them, must put in place mechanisms to ensure that REGOs are accurate and reliable (*i.e.* that the electricity concerned is produced from eligible renewable sources and any information provided is accurate). Ofgem is designated as the body to issue renewable energy Guarantees of Origin (REGOs) in Great Britain.

REGOs are issued to all RE sources including large-scale hydropower schemes and electricity from some forms of waste. They are also recognised by Ofgem as being useful for two purposes - disclosure information on customers bills and proof of purchase of renewable electricity for assessing green electricity suppliers. REGOs can be traded separately from the electricity they relate to, but there is no market for doing this, and they have no financial value (Good Energy 2006). However, there can be no double-counting of REGOs, so ownership of a REGO guarantees that 1 kWh of green electricity has been generated somewhere.

Interaction of REGOs and GE

REGOs appear to be the ideal mechanism to identify a GE offering, but they are not sufficient as an accreditation mechanism. Because REGOs are only confirming that RE has been generated they are far less discerning than often demanded of an accreditation programme where other criteria also have to be met. An EU study by van der Linden et al (2004) examined the interaction of REGOs and GE accreditation, identifying several limitations of using REGOs as an accreditation mechanism. These are summarised here:

RE definition: The definition of RE eligible for a REGO is more inclusive than that used by most GE accreditation programmes. Because REGOs state the source of the electricity, it would be straightforward to use the REGOs to check whether eligible RE sources or technologies have been used, REGOs can be used as a means to verify the source criteria. What they cannot do is discriminate between different sources on the basis of other criteria such as environmental attributes.

Environmental attributes: Many labels carefully assess the environmental attributes of the product to be accredited. This is the reason for exclusion of some renewable sources like large hydro and certain biomass fuels by some certification programme. These additional criteria are not provided by the REGO.

Type of Product (fund or supply): REGOs only apply to generated renewable electricity so if green fund offerings are allowed under GE accreditation, some other verification process would still be needed for these products.

Additionality: There is no requirement under the REGO legislation for member states to indicate whether RE sources have been supported or are required through government policy. Therefore they will not necessarily show if the power delivered has been supported by subsidies or feed-in tariffs. Without this information on the REGOs there is no way to identify and validate additionality. Some countries are including a tag with this information voluntarily and so averting this problem.

The ***date of plant commissioning*** is also often considered under additionality to ensure only new RE generation is sold. While REGOs gives the date and place of production, it does not include the year of commissioning of the plant and therefore it cannot help identify new plants.

Energy balancing period*:* The energy-balancing period information is not given on a REGO, but it does include a date of issue or period of production, which may help establish whether the product complies with the balancing period.

Imports*:* The use of REGOs could facilitate the validation of imported green electricity. “Indeed, one of the reasons for establishing [REGOs] was that renewable energy could be recognised as being ‘green’ throughout Europe. [REGOs] are well placed to facilitate the validation of imported green electricity, but it may not be sufficient for the purpose of a quality label” (van den Linden et al, 2004).

It would appear that REGOs are the appropriate tool for certifying and auditing GE products. In the UK a problem arises where REGOs are issued as separate certificates from existing certificate schemes, (i.e. ROCs and LECs). According to van den Linden et al (2004), “this could lead to multiple counting of renewable electricity". However such a situation would only arise if ROCs or LECs were also used to accredit green electricity. It is essential that only one method and only one type of certificate (*i.e.* REGOs) is used for tracking in order to eliminate this problem. It is therefore suggested that REGOs are used as the means of ensuring GE products met the set definition, to be complemented with other criteria that assess additionality.

Renewables Obligation

The Utilities Act 2000 introduced regulations to promote the generation of electricity from renewable sources, known as the Renewables Obligation (RO). The RO is a requirement on licensed electricity suppliers to provide a specified proportion of electricity from renewable sources. The amount of the obligation increases every year and is set for 15.4% by 2015/16. Suppliers can only meet their obligation through producing Renewables Obligation Certificates (ROCs) and/or by paying a buy-out fee.

Ofgem is responsible for issuing ROCs to accredited generating stations. The supplier applies for ROC accreditation by submitting a completed questionnaire with information about the generating station. Ofgem assesses supplier compliance and issues ROCs accordingly. Suppliers can trade ROCs, which means generators, suppliers or third party traders can sell the surplus to a generator not able to meet it. (Ofgem, 2006

RO compliance is met with all RE sources except large hydro (projects in excess of 20 MW built before 2002) and energy-from-waste schemes. Some restrictions also apply to biomass co-firing. Electricity from NFFO 4 and 5 rounds is not eligible for ROCs. The Certificates contain information about the generation time, location and method or technology used.

Interaction of ROCS and GE

Renewable Obligation Certificates can be sold in conjunction with any type of electricity, and electricity generated to meet the RO can currently be sold as green. This means that consumers may end up supporting power that has to be generated anyway to comply with a suppliers obligation; and no additional supply is added to the system. In essence, the consumer market for green electricity has become a subset of the obligatory market (FoE, 2004) rather than using that consumer demand to create additional generation. Consumers who purchase GE from suppliers who do not generate or purchase a surplus of ROCs may not know that their purchase does not lead to additional renewable generation. GE accreditation should be used to clarify this confusion and establish standards that apply to all products sold as GE. To be additional to the RO, ROCS have to be retired which means a trade in or transference of 'greenness' (represented by ROCs) cannot happen.

Climate Change Levy & Levy Exemption Certificates

The Climate Change Levy (CCL) was introduced in April 2001. It is a carbon tax on non-domestic electricity customers, requiring them to pay 0.43 pence for every kWh of electricity consumed. Green electricity backed by a Levy Exemption Certificate (LEC) is exempt from the levy.

LECs are part of the evidence required by HM Customs & Excise of the amount of renewable sourced electricity supplied to non-domestic customers. LECs are only issued for renewable sourced electricity generated by generating stations that have been accredited by Ofgem. As with ROCs, in order to gain LEC accreditation a generating station must complete and return an 'Application for Accreditation Questionnaire' to Ofgem. Although there is overlap in the application, LECs and ROCs are separate certificates but they can be issued to the same unit of electricity. Electricity eligible for LECs is similar to ROCs except for the inclusion of energy from waste and CHP and exclusion of large hydro. Some restrictions also apply to electricity from Non-Fossil Fuel Obligation (NFFO) generating stations.

Interaction of LECs and GE

LECs can be separated from the renewable electricity they relate to and sold into the business market as GE. In the current system, that same power may also be sold as GE to domestic customers, so two customers believe they are purchasing environmental attributes when in fact only one set exists. This is known as double-counting and reduces the real demand for GE. To prevent double counting, LECS issued to commercial consumers need to be retired. Without 100% LEC retirement GE consumers are potentially sold products that have no green attributes and therefore do not benefit the environment nor add new GE to the grid. However, no formal process exists for retiring of LECs because although the register is held by Ofgem, compliance with the CCL is carried out by customs and excise (Good Energy 2006)

Electricity Disclosure

The European Commission Directive for the Internal Market of Electricity requires Member States to implement electricity disclosure whereby electricity suppliers must provide information to final consumers about the composition of the fuel mix used to generate their electricity. Disclosure was formally adopted as EU legislation in 2003 and legislation for its introduction at the Member State level required by July 2004. The UK introduced legislation on schedule and fuel mix information is now available and sent to all

electricity customers in the UK once a year. To comply with the Directive all Member States are required to "take the necessary steps to ensure that the information provided by suppliers to their customers pursuant to this Article is reliable." In effect, another certification process to verify fuel mix disclosure of all suppliers was introduced in the UK to comply with the Directive. Like ROCs, LECs and REGOs, administration of Disclosure is also carried out by Ofgem.

Disclosure was welcomed by RE generators and suppliers because it spreads the onus of verified disclosure to all electricity supply sources, not just GE as had previously been the case under Future Energy. Because disclosure provides objective, standardised information about consumers' electricity supply it helps create market transparency and provides environmental information on which consumers can make a choice about which supplier to choose in a liberalised market. Although the electricity received through the wires is identical regardless of which electricity supplier and product they choose, consumers do have a choice about the types of energy resources they support when purchasing electricity. Disclosure provides them with the information on which to make a decision on that basis. In this way disclosure is not dissimilar to GE accreditation. The disclosure verification process ensures that the supply mix being claimed is also met, although the UK auditing of disclosure claims is not done on a routine basis. Suppliers are required to provide Ofgem, on demand, with any information Ofgem reasonably requires to establish whether the licensee is complying or has complied with the disclosure requirements (Ofgem, 2005).

Interaction of disclosure and GE

The main consideration with the interaction of disclosure and GE is to ensure that information contained in one matches the other. A consumer purchasing GE will receive information both about the RE content of the purchased product and about the supply mix of the provider. The RE component of the supply mix must therefore match that of the product. If REGOS are used to certify RE content of both (supply mix and GE) then no discrepancy should arise.

Ofgem's Role in the RE market

In 2002 the Office of Gas and Electricity Markets (Ofgem) was given responsibility for the accreditation of LECs and ROCs, and for the certification of REGOs in 2004. Although there is overlap between each of these in the accreditation application they are not identical, and separate certificates are assigned to each.

In 2002, and again in 2005, Ofgem prepared consultation documents concerning green supply offerings (*i.e.* green electricity products), in both instances the need for transparency, additionality and verification of this market segment is emphasised, but then, as now there is no commitment to take on the task of GE accreditation.

Ofgem's position on Green Electricity offerings

Ofgem are in accordance with other groups that the key features of green supply offerings should be:

- Transparency: offerings need to be clear, and to be consistent with public understanding and expectations as to what constitutes 'green energy'.
- Additionality: consumers choosing a green offering need to be satisfied that their support is making a difference.
- Verification: suppliers will need to have and retain evidence to verify all claims and to make it available to the public or an external verifier.

Ofgem suggests that transparency can be achieved by ensuring that all marketing and related information is based on correct, up-to-date and specific information about the product that is being offered. A standard definition of green electricity is also needed which "should be based on the same requirements that apply under the fuel mix disclosure and supply licence condition." (Ofgem, 2005a)

On additionality the Ofgem report states that "evidence of supply of renewable energy alone does not constitute additionality, especially where that supply forms part of a supplier's renewable obligation" (Ofgem, 2005a).

Moreover, Ofgem appears to support a certification process when stating "accreditation by a third party, if available, is encouraged as a means to ensure verification. This may allow public confidence that the claims are fully audited and verified by third parties" (Ofgem 2005a:13). Despite this position, Ofgem does not wish to take on the role of GE accreditation.

5. ACCREDITATION OF GREEN ELECTRICITY

It is not deemed sensible to develop a fourth certification process for the purpose of a Green Electricity Code of Practice. Instead, it is far more sensible to utilise one of the existing certification processes (ROCs, LECs and REGOs).

Renewable Obligation certificates are tradable separately to the electricity, and are obliged to be purchased by all suppliers, irrespective of whether it is a green tariff or not. Therefore, whilst the Renewables Obligation is a useful instrument for incentivising new generation, ROCs are not a good means of tracking whether the electricity sold is 'green' or not.

Levy Exemption Certificates can only be sold to the commercial sector. To prevent double selling of green attributes to the domestic sector, LECs should be retired after the initial sale. Since LECs are sold to the end user, they are not appropriate as a tool for auditing electricity suppliers.

REGOs come with the electricity, are split down by source, and are numbered, thereby providing all the information necessary to prove the source of the electricity and validate this information against sales. It is felt, therefore, that REGOs provide the best method for auditing green electricity supply. The electricity supplier holds on to the REGOs, and so an audit of the supplier becomes a simple task. Indeed, all the relevant information is already held in the REGO register by Ofgem. Furthermore, REGOs are applicable for sales to both the domestic and commercial sectors. REGOs also cover the widest range of renewable sources including large hydro. Whilst inclusion of such sources is unpopular with some groups, it is felt beneficial to include them as marketing products (*e.g.* 100% from large hydro would always claim to be 100% from renewable sources). If such claims are to be made, it is better to be able to validate the claims by using REGOs rather than leaving them open to subjective judgements.

The extent of renewable supply can be determined by the REGOs associated with that product. However, many products are sold on the basis of additionality or the presence of a fund, and may not have 100% (indeed, needn't have any!) of their supply coming from renewable sources.

It is therefore recommended that the source of the electricity, and any additionality that may exist are treated separately. The source should be determined by the proportion of REGOs held. A matrix of green electricity products can therefore be constructed (see Table 2) which classifies different products according to source and additionality.

Table 2. Types of green electricity product and their classification.

% REGOs	ROC retirement	Green Fund (new capacity)	Green Fund (other)	No additionality
100	Good Energy	Ecotricity Old Energy Green Energy 100 London Energy Green Tariff Powergen Green Plan	npower juice (fund for R&D) Power 2 (fund for gas and waste) RSPB (fund for RSPB)	
Partial		Ecotricity New Energy Green Energy 10 Scottish Power Green Energy Fund Seeboard Energy Green Tariff SWEB Energy Green Tariff		
0				

This approach can then be extended by examining each class in Table 2 and determining whether this should count as 'green electricity' or not. The sections below discuss the merits of funds, ROC retirement and partially green-sourced products.

Additionality of funds

There is some debate as to whether green funds should count as additional or not. Some funds do not contribute to new renewable generation, such as Scottish and Southern's RSPB product which donates £10 per annum to the RSPB. This is not considered additional as it does not lead to the installation of

capacity, but rather contributes to other wider environmental causes. Whilst this is certainly beneficial, it should not count as additional.

For green funds where customers contribute to a pool of money that is then used to develop new generating capacity at a later date the situation is less clear. Historically, when the first green electricity products were created, the fund was additional and led to more green electricity generation than would have occurred in the absence of the fund. However, this was mainly due to a policy vacuum within central government that did not require installation of new generating capacity.

The implementation of the Renewables Obligation Order in 2003 has altered this picture. Because the RO requires suppliers to increase the proportion of green electricity in their portfolio, new capacity must be installed (in the absence of dramatic decrease in demand for electricity). Therefore, although green funds allow the installation of new generating capacity, this is not above and beyond that required by Government now.

Such a situation is misleading to the consumer. Customers contributing to a green fund are paying a premium for that product, and do so willingly because they believe they are making a difference. However, because the new renewable generating capacity has to be built anyway, they are actually subsidising their electricity supplier to meet their Obligation.

Moreover, some suppliers also act as developers, and will own the asset (*e.g.* wind turbine) and then be able to sell electricity and ROCs from that development. The development itself has been subsidised by the consumer, yet it is the supplier/developer who retains the profit. In simple terms, if a customer wishes to invest £10 per annum in new renewable capacity, they would be better placed purchasing shares in a development and thereby retaining ownership of the asset and partaking in profit sharing.

There is also a further issue related to timescale. The money paid into green funds does not alter the amount of green electricity produced today, rather it contributes to an unspecified amount of electricity produced at some point in the future.

Green funds therefore should not be counted as additional and should be treated in the same manner as products without a fund for accreditation purposes.

Green funds - special cases

There are some instances when green funds can be considered additional, but these are not applicable at present.

First, should consumer demand for green electricity rise to such an extent that it exceeds that which can be delivered by the Renewables Obligation then any new capacity installed from funds would then be an addition to that required by policy instruments. In such a case green funds should be considered additional. However, current demand for green electricity products is low (<1%), so demand would have to increase markedly. Furthermore, the presence of a buy-out fund within the Renewables Obligation inevitably means that some suppliers will choose this option rather than purchase ROCs from renewable generation. Installed capacity always lags behind the actual Renewables Obligation, making it unlikely that there will be enough renewable electricity to meet the Obligation in full. It is therefore unlikely that there will be a situation where green funds could then be additional.

Second, it is theoretically possible for a supplier to invest in new generating capacity, and make it additional, by investing this money outside of any government obligations. Most simply, this could be done by installing the capacity abroad (*e.g.* in developing countries) where it can be safely assumed that the installation would not have happened in the absence of a fund. No UK suppliers are currently operating such a system.

It has also been argued that funds should also count as additional if the investment occurs where that investment would not have occurred anyway. The Renewables Obligation tends to support only the most cost-effective technologies and developments, so funds investing in projects using far from market technologies or even R&D could count as additional. However, it is felt that support for far-from-market technologies should be the role of government, and to use customers investment is not a good use of funds. Furthermore, as set of rigid criteria that could assess which funds are additional and which are not would be virtually impossible for a voluntary code of practice to address. It is therefore felt that all fund projects should be considered non-additional.

Additionality of ROCs retirement

Retiring ROCs from the market is a means of turning the consumer demand for green electricity into additional generating capacity beyond that required by Government. If a supplier retires some ROCs from the market, extra generating capacity (or extra payments into the buy-out fund) is required in order for the other suppliers to meet their Obligation, thereby creating additionality. Because the volume of ROCs retired is proportional to the number of customers, the more people that switch to such a green tariff, the more additional generating capacity will be required for all suppliers to meet their Obligation.

Although it is unlikely that the extra capacity will be built and generated in that year, it will increase the payments to the buy-out fund which will then be recycled to the renewable generator operators. This makes the development of renewable generators more profitable and encourages further investment.

The Advertising Standards Authority has made a ruling about the additionality of ROC retirement with reference to Scottish and Southern's old RSPB tariff, which had an aspect of ROCs retirement. They agree that “it was likely that retiring ROCs would, in time lead to an indirect increase in the generation of renewable electricity, because the profitability of renewable energy generation would increase if ROCs were more expensive”. However, they also stated that they “had seen no evidence that retiring ROCs created a proportional increase in demand for renewable electricity”. The latter statement is somewhat misleading because customer demand for renewable electricity is not affected by ROC retirement. Customer demand for green electricity is created by public desire and is encouraged by marketing. The retirement of ROCs ensures that what customer demand for green electricity exists becomes additional to that required by the Renewable Obligation. As Ofgem recognises the additionality of ROC retirement therefore it is recommended that Ofgem clarify the ASA ruling, so that this does not become a precedent within the sector and dissuade suppliers from offering ROC retirement in their tariffs.

The ASA also ruled that the phrasing of the extent of additionality was misleading. It is therefore also recommended that Ofgem clarifies this situation - either through the COP or by devising a uniform phrase that accurately expresses the additional component of ROC retirement that can be used consistently and transparently by all suppliers.

How green is green enough? Dealing with partial green products

Some of the green electricity products currently on the market are selling electricity that is only partially from renewable sources, such as 'Green Energy 10' (10% renewable) or Ecotricity's 'New Energy Tariff' (between 10 and 30% renewable). These products do operate alongside a fund for installation of new capacity (see Table 2).

This raises the question of what percentage of electricity should be from renewables in order to qualify as a green electricity product. It is theoretically possible to have a product that is sourced from 100% brown sources, yet because of the presence of a fund is claimed to be green for marketing purposes. The role of even a small proportion of renewably sourced electricity can distort the image of a product - a 10% green product sounds appealing, but is in fact 90% brown.

It is recommended that the Code of Practice establish a minimum level of renewable supply that must be validated by REGOs in order for the product to qualify as green. It may be deemed acceptable for a product to be sourced from less than 100% renewable sources and still qualify, so as to be more inclusive and to reflect the value of these 'partially green' products to the sector. As a benchmark, we recommend that a product should contain at least 51% renewable electricity in order to be deemed green, as customers would expect the majority of the electricity is from renewable sources

There is a strong interplay between the role of disclosure and green products. Disclosure allows an accurate breakdown of the source of the electricity, and the additional information of REGOs allows a breakdown of the renewable component. Customers will find it misleading if the information they are given via disclosure does not agree with what they think they are purchasing. It is felt important that:

- Both disclosure and accreditation of green electricity products should take place on a product-by-product basis and not on the suppliers portfolio.
- That any audit for green electricity accreditation agrees directly with the information under disclosure.
- That any marketing materials to promote the green electricity product should similarly agree with the disclosure information.

Banding of green electricity products

Because of the variety of products to be accepted within the green electricity Code of Practice, some carrying 100% REGOs, others partial, and some with funds or ROC retirement, it is deemed sensible to have a banding system for rating renewable energy products. By banding products in this way it is hoped to avoid the polarised nature of the FoE league tables, whilst still conveying to consumers that some products are 'more green' than others.

The rating system is based on the following criteria.

- All products with 100% REGOs should qualify as green
- Products with between 51 and 100% REGOs should also qualify to be termed green electricity, but should not rate as highly as 100% REGO products.
- Products that retire ROCs create additionality above and beyond that required by the Renewables Obligation, and such products should be rated higher than those without.
- There should be a minimum percentage of ROC retirement that is considered to be additional. It is suggested that retirement of ROCs equivalent to 10% of supply would be a significant enough proportion to visibly increase the renewable generation demanded by the Obligation. Even at low customer uptake of 1%, if all green electricity products were additional in this way, the requirements of the Renewables Obligation would increase by 0.1%.
- Green funds are not additional in the presence of the Renewables Obligation. A product with a fund should be treated the same as a product without no additionality whatsoever.
- Additionality is considered a more important criterion than the source of the electricity

Table 3. Four-star rating of green electricity products.

% REGOs	No additionality	Green Fund (capacity)	Green Fund (other)	ROC retirement (10%)
100	**	**	**	****
51-99	*	*	*	***
1-50	-	-	-	-
0	-	-	-	-

Table 3 shows the final four-star ratings of different types of green electricity offerings. The highest rated products carry 100% REGOs and the additionality of ROC retirement. The lowest rated product contains at least 51% green sourced electricity, but no additionality. Intermediate products are given a 2 or 3 star rating.

6. THE CODE OF PRACTICE

A Code of Practice (COP) is a set of rules established by a regulatory body or industry association to define acceptable behaviour. Because COPs are usually voluntary they do not have the force of law behind them but are used as an aid to better consumer communications and understanding. As such they should promote consumer rights and aid consumer protection.

The lack of clarity, consistency and consumer protection in the UK GE market has prompted this proposal for the development of a COP for GE accreditation. That code should ensure three main principles are upheld: transparency, auditability and additionality. Claims of GE suppliers must conform to a standard definition of GE and the products sold must be auditable to ensure the claims are met.

Ideally, such a scheme would be administered by Government, as in Australia. However, given the reluctance of a government body to take on this role however, a voluntary COP is seen as the best way forward. To make it work on behalf of consumers and environmental protection requires careful consideration and implementation. Codes of Practice are hard to enforce and often fail without the right penalties and/or incentives. For a voluntary scheme, such as the one suggested here, penalties will be hard to administer. It is therefore important that the incentives are strong enough to enable effective operation of the scheme. It is suggested that allowing business customers to use the logo will utilise consumer demand to provide the strong incentive required.

The advantage of a COP, once the criteria have been agreed, is that it will attract those most committed to the standards it contains which can reduce non-compliance issues. However, a COP approach does require industry support and uptake to have a significant impact on the market.

In order to work a COP needs the following features:

- ***Stakeholder acceptance***. An effective COP requires buy-in from the majority of stakeholders and interest groups. In the case of GE the stakeholders are the GE supplies and the interest groups include consumer and environmental protection advocates and government agencies.
- ***Clarity***. Criteria contained in the COP need to be clear with little opportunity for misinterpretation. There should also be clarity (and consensus) about the objectives of the COP – consumer protection, renewable energy support and environmental protection.
- ***Simplicity***. The COP itself should be kept as simple as possible to allow as many players as possible to participate. Information about the COP to the consumer also needs to be simple and should focus on the objectives of the COP rather than the technical details and list of criteria. Most consumers are primarily interested in the RE definition and about making a contribution to the environment.
- ***Transparency***: The COP process should be laid out in detail and made publicly available on a website. Everything from who is running the accreditation scheme to how suppliers are audited should be made available.
- ***Logo.*** The success of the scheme will be heavily dependent on having a recognisable and authoritative logo to be used on bills and marketing.
- ***Marketing***. The promotion of the scheme to the public will be essential to generate consumer confidence.
- ***Auditing.*** The claims of suppliers must be comprehensively audited to ensure they are correct.
- ***Administrative support.*** The COP process needs to have an administrative body overseeing its day to day functions and be supervised by an advisory board.
- ***Regular review.*** To ensure confidence in the accreditation, regular compliance review and auditing is essential. These should be conducted (at least) on an annual basis.
- ***Disciplinary recourse (Enforceability)***. The COP needs to include and carry out a regular auditing process to give participants and consumers confidence that all companies are following the rules and being treated equally.

COP Implementation

Although a voluntary scheme, a COP requires some basic administrative and adjudicative considerations be met. An independent body (*e.g.* an advisory board) would implement the COP, review it on a regular basis, monitor compliance and adjudicate non-compliance. Since the auditability is a built-in criterion,

there is also the need for an auditing process. The key issues of the GE COP can be addressed in the following way:

Administration & Adjudication

It is recommended that a voluntary Advisory Board made up of no more than nine representatives would deal with the implementation of the COP and review accreditation applications. It would be supported administratively through a secretarial service on a half-time basis. Regular meetings could be scheduled on a semi-annual basis with additional meetings to address non-compliance issues as needed. The Advisory Board would be made up of six voting and three non-voting members and an independent chair with the electricity supply industry holding the non-voting positions. The following groups have been identified as possibilities for filling the other six voting seats of the Advisory Board: DTI, EST, Ofgem, National Consumer Council, Energywatch, Advertising Standards Agency, an ENGO and the Trading Standards Authority. These groups represent the interests of consumers or are otherwise engaged in this sector.

In its administrative function the Advisory Board would support the implementation of the COP and ensure to its smooth function. Any concerns regarding non-compliance would be raised with the Advisory Board. Auditing reports would also be submitted to the Board. To avoid a conflict of interest (confidentiality and competitiveness concerns) judiciary matters could be presented to an executive committee made up of non-industry Board Members.

Auditing

Auditing industry's GE claims and ensuring the electricity supplied complies with the criteria set out is an essential part of the COP since the lack of verification is a major concern with the current practice. Given Ofgem's role in collecting information to verify ROCs, LECS, REGOS and Disclosure it should be a straightforward extension to verify GE claims. Ofgem's experience in this sector also helps to ensure consistency. Therefore, it is suggested that Ofgem also have the function of GE verification. This would not require management of the accreditation scheme (as that role falls to the Advisory Board) but rather, involves an annual audit of suppliers to verify that their REGOs match their GE claims and that sufficient ROCs have been retired to comply with the additionality requirement. Ofgem would file an audit report for each company to be passed to and reviewed by the Advisory Board. Any discrepancies would be taken up by the Advisory Board with the offending supplier.

If Ofgem refuses to take on this role then auditing will have to be carried out by an external auditing firm. Each company would be responsible for getting an annual audit and submitting it to the Advisory Board. This approach is more expensive to the participants of the scheme and would place the onus on participating suppliers to be audited. If Ofgem took on this task it would be possible to audit non-COP participants also and publish a list of companies not meeting the accreditation standard each year.

Labelling requirements & advertising standards

In order to distinguish accredited GE products from non-accredited ones, an identifying logo or quality label will have to be developed and applied to promotional and sales material. This label should be of a prominent size as to stand out to the consumer and set apart accredited from non-accredited GE. The COP should set out a minimum requirement for product marketing. Non-compliance with this and other deviations from the COP can be reported to the Advisory Board and dealt with on a case-by-case basis.

All accredited suppliers should have to display the certification label prominently on all advertising and product material provided to consumers (*e.g.* bills). In order to gain more prominence for the label, commercial customers may also wish to use the logo in their materials to validate their own green credentials. A nominal fee could be established for this to support the administration of the COP, and make the scheme more self-supporting (see below).

Informing consumers

To ensure consumers are aware of the voluntary COP, and to help them distinguish between GE offers that comply with the COP and those that do not, some awareness raising will be required. Ideally, all electricity customers in England and Wales are sent a leaflet notifying them of the accreditation system and label. An information blitz on this scale would be expensive and its costs are not included in the funding considerations outlined below. At minimum however, a website should be developed where individuals can access information about the accreditation scheme and label, the COP, and how it is administered. Web links from other sites should be encouraged to promote the new scheme.

Non-compliance

Suppliers that are found in violation of the COP (either through the regular review process or because of complaints brought forth against them), should be given a certain period of time (e.g. 60 days) to rectify the situation. In the case of errors in advertising and marketing claims the company has to produce and re-circulate to its customers corrected information. Where audits find supply does not match sales the supplier has to purchase the shortfall in RE or refund the customers that have been short changed. If compliance is not addressed in 30 days the company should be given a 30-day warning after which time non-compliance will result in removal of certification. If the company continues to display false advertising the Advertising Standards Agency should take up the case.

Funding

A COP, as suggested here, would have start-up costs requiring one-time funding and on-going costs for its operation. A minimum initial (one-time) sum of £60,000 is estimated necessary to take the COP forward from this report and to develop the quality label.[1] A project manager would be needed to co-ordinate and run the stakeholder consultation, develop the agreed COP and initiate the Advisory Board. Design of the logo and website would be outsourced. See budget details in Appendix C.

Annual operating costs are estimated at a minimum £60,000 per year to pay for a half-time secretary position, annual compliance review by a third party and to cover Board meeting expenses. The secretariat would oversee general administration of the scheme, be responsible for communicating with participants, coordinating the Advisory Board and the review process, answering public queries and maintaining the website. The annual COP compliance review would be carried out by a third party hired each year. The cost of that review, which covers review of marketing materials and advertising claims, is estimated to cost around £25,000 annually. It is assumed the Board will participate on a voluntary basis, but costs for travel and meeting space are included in the cost estimate given.

These sums do not include the cost of auditing each supplier. This cost would have to be incurred by suppliers individually and considered part of the price of accreditation. If the auditing was done centrally, using existing information (collected by Ofgem) the cost to suppliers could be reduced. However, if this cannot be agreed than each supplier would be responsible for completing and submitting an audit report to the Board each year. An auditing form will have to be developed for that purpose.

Four funding options have been identified to meet the expenses outlined above. Funding would likely have to come from a combination of more than one of these options.

1. The consumer pays: Each GE customer is charged £1 each year to cover the operating costs of the COP. Start up funds would have to come from another source (see No. 3).
2. Annual fee for participants: Each supplier participating in the COP would pay an annual participation fee – the amount would depend on the participation rate but should be capped at £5000 so not to create a prohibitive burden to small players.
3. Government contribution: Given the importance of ensuring consumer clarity and supporting the RE industry, start-up funds and perhaps even an annual contribution towards the operating costs should be provided by a government department (e.g. DTI). The annual contribution could be reduced over time as more participants join the scheme.

It is unlikely that option 1 or 2 alone, will be enough to cover annual costs of the accreditation programme in the first few years of operation. There are only about 50,000 GE domestic GE consumers in the UK and company participation may be low initially. External government support both for start up and for three years operating costs will likely be essential for the successful launch of a third party code of conduct.

Process for development of the Code of Practice

The following steps are suggested as the way forward to the official launch of a GE accreditation COP in the UK:

1. This report should be circulated to relevant stakeholders. It is recommended that these stakeholders should include GE suppliers, Ofgem, an ENGO such as FoE, the National

[1] A half-time equivalent for one year to oversee COP development + logo and website design costs + basic marketing/advertising.

Consumer Council, Energywatch, the Advertising Standards Agency, the DTI and the Energy Saving Trust.

2. It will be necessary to reach an agreement on the definitions for accreditation. The proposal for the COP and the accreditation criteria will be discussed with individual stakeholders
3. Following the discussions with stakeholders, a draft Code of Practice will be developed.
4. Ofgem will be consulted to investigate whether they would be willing to undertake the auditing process for the Code of Practice. Should this not prove possible, alternative independent auditors will be found. The auditing criteria will be developed in conjunction with the chosen auditor and a procedure to deal with non-compliance developed.
5. The draft COP with be discussed with all stakeholders – leading to agreement when four or more suppliers sign-up. Once such an agreement has been reached the Advisory Board will be selected and the funding mechanism for the Board and its operation determined.
6. Once sufficient start-up and operational funds are in place, the secretariat will be hired, and the logo and website developed.
7. Last, the scheme will officially launch and publicity material will be distributed to all electricity customers.

It is envisaged that, if followed, this procedure will be able to develop the required Code of Practice and elicit the necessary participation from green electricity suppliers. Once established, the Code of Practice will provide the transparency, auditability and verification needed to instil confidence within the green electricity market and to give impartial advice to consumers.

7. CONCLUSIONS

Consumer demand for green electricity can be an important strategy for stimulating the renewable energy industry and greening the supply mix. To have this effect, however, requires consumer confidence, growing demand and the means to influence the market. This has not been possible in the UK because of the overlap of a number of policies for renewable energy, the lack of clarity about what constitutes GE and the lack of products leading to new renewable development. The absence of a GE accreditation scheme combined with the introduction of a range of RE programmes that affect the GE market have created uncertainty, lack of transparency and an uneven playing field among suppliers. Introduction of Renewable Obligation Certificates and Levy Exemption Certificates, in particular, has undermined the market because marketers can use GE to meet these policy requirements. Selling ROCS as GE prevents new generation coming on line while LECS sold to commercial consumers can be sold to the domestic sector and in so doing are double-counting their environmental benefit.

To address this situation an accreditation programmes for GE is recommended by various groups including several green electricity suppliers, Ofgem, the National Consumers Council and Friends of the Earth. Although a government led accreditation programme is thought to be the most effective approach and ties in with the role of government in supporting renewables, there has been a reluctance to take on this task by government in the UK. As an alternative, a voluntary Code of Practice is being advocated.

Experience in other countries has shown that Codes of Practice can work but need careful implementation and a means to enforce standards. This report has examined the steps towards a Code of Practice for GE accreditation in the UK. The first step is to clarify and agree the criteria that make a product eligible for accreditation. A banded approach is recommended because of the various types of products available in the market. At a minimum, products must be at least 51% from renewable sources. Products that are 100% from renewables and retire 10% of ROCs are rated the highest. Two other ratings are also possible. Green funds should not be eligible as additional at this time since they do not contribute to new generation in the presence of the Renewables Obligation except under specific, hard to quantify circumstances.

The Code of Practice also needs to clarify the auditing process and the means to address non-compliance. Formation of an Advisory Board is recommended to oversee the implementation and annual operation of the Code of Practice. This would include the annual audit. A paid management position would oversee the day-to-day operations of the accreditation programme. The cost of setting up an accreditation programme on this basis is estimated to be £60,000 to cover start-up costs and £60,000 a year to cover its annual operation. The auditing process, which is crucial to the success of this programme and to gain consumer confidence represents a large part of the operation costs. This cost may be reduced if auditing was carried out by a central body like the electricity regulator (Ofgem).

The next step involves consultation with stakeholders on the contents of this report leading to agreement by at least four suppliers to move forward with the COP. One half-time programme management position would oversee the development of the COP and coordination of the Advisory Board. Publicity about the scheme is important to communicate with consumers. To this end a logo and website are essential. With additional start-up funds a comprehensive marketing campaign could be developed but the cost of this has not been included in the budget. More important is strict guidance and compliance regarding marketing of GE and the use of the accreditation logo.

A Code of Practice is required in the UK to ensure clarity, consistency and protection for the consumer within the green electricity sector. It is hoped that this work will provide a framework for the development of such a scheme.

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APPENDIX A. Qualification as a renewable source under different UK government policies

Technology	Renewables Obligation	Climate Change Levy	Renewable Energy Guarantees of Origin
Large Hydro	post 2002 only		✓
Small hydro	✓	✓	✓
Waste	Biomass only	✓	x
Biomass and co-firing of biomass	✓	✓	✓
CHP	x	✓	x
Geothermal,	✓	✓	✓
Wind	✓ (unlikely for household systems)	✓ (unlikely for household systems)	✓
Tidal and wave,	✓	✓	✓
Landfill gas	✓	✓	✓
Sewage gas	✓	✓	✓
Energy crops	✓	✓	✓
solar PV	✓ (unlikely for household systems)	✓ (unlikely for household systems)	✓

APPENDIX B. Excerpts from the Green-E Code of Conduct

For the complete document see : http://www.green-e.org/pdf/coc.pdf

The following ethical guidelines, policies for censure, data for verification, and required customer contract information apply to a participating company's non-eligible products as well as their to eligible products. Each company wishing to use the Green-e logo or to claim Green-e certification for any of their power products agrees to do the following:

1. Provide all residential customers, during customer subscription and agreement fulfillment period, contract pricing, terms and conditions written in clear, simple and easily understood terms. Retail suppliers should adhere to state guidelines for format and content of contract terms and conditions, provided that the minimum Green-e requirements are met. If a state does not have a mandated format or content for the contract terms and conditions, then retail suppliers should follow the default Contract Pricing, Terms and Conditions found in Green-e Customer Disclosure Requirements.
2. Provide a disclosure statement to prospective customers that lists the resources or fuel sources from which the electricity in the product being marketed will be generated (prospective disclosure). The fuel source disclosure statement shall be provided with all product specific marketing materials, before switching a customer and no less than once per year thereafter. If applicable, this information will also be posted on the company's website. Retail suppliers should adhere to state guidelines for format and content of fuel source disclosure, provided that the minimum Green-e requirements for product content labels are met. If a state does not have a mandated fuel source disclosure law or format, marketers should use the default Green-e product content label found in Green-e Customer Disclosure Requirements.
3. Provide customers with an annual report that includes data on the resources used to generate the past year's electricity purchased by the customer (historic disclosure - format consistent with state law or Green-e default fuel source disclosure format found in Green-e Customer Disclosure Requirements.
4. Agree to conduct an annual independent verification of product sales and purchases according to the Green-e Annual Process Audit Protocol.
5. Agree to sell renewable energy only once and to take reasonable measures, to ensure that wholesale renewable energy suppliers (if different from the marketer) also do not sell renewable energy more than once.
6. Ensure by reporting agreements and other contractual obligations with generatorsand wholesalers that any emission reduction credits or emission allowances allocated to or otherwise received by the generator for the generation output that supports the Certified Product have been transferred to the ultimate end use customer purchasing the Certified Product and have not been sold separately, or, in the alternative that the generator or marketer has, on behalf of the end use customer, permanently retired such emission reduction credits or emission allowances without their having been used for compliance with any air quality requirement of local, state or federal government.
7. Ensure by reporting agreements and other contractual agreements with generators that generation output that supports the Certified Product has not been used for compliance with any government procurement, renewable portfolio standard or other renewable energy requirement of local, state or federal government.
8. Agree to use only environmental marketing claims in advertising that are factually based (and be objectively verifiable to the extent technically possible) and:
• Be sufficiently clear and prominent to prevent deception;
• Not represent that customers are actually delivered electrons from specific generation facilities;
• Not overstate environmental attributes or benefits, expressly or by implication;and
• Present comparative claims in a manner that makes the basis for the comparison sufficiently clear to avoid customer deception.
9. Disclose information, but not make specific claims about the attributes of system power purchased as part of an electricity product.
10. Agree to be clear and prominent in all advertising materials to prevent deception. Do not represent that customers are actually being delivered electrons from the specific generation facilities or that TRC purchases result in delivery to the customer of electrons from specific generation facilities.
11. When advertising both electricity and TRC products on the same marketing piece, clearly differentiate the products.
12. Use the Green-e logo only in compliance with the logo usage requirements and guidelines outlined in the contract under "Use of Logo" and in accordance with the Green-e Customer Disclosure Requirements, including using the specified artwork and colors as indicated. Violators of the usage standards and guidelines can loose their eligibility to use the Green-e logo upon action by the Board. Board certified providers may not use the Green-e logo in conjunction with any product unless the

product reflects not less than 50% of its energy supply from renewable resources or meets the block product renewable content and size criteria and meets all additional eligibility requirements outlined in Green-e Competitive Electricity Standard - All Regions.
13. Submit to the Board applications for licensed secondary logo use only from “eligible retail customers,” as defined above.
14. Notify customers and the Green Power Board annually if/when an eligible product does not meet its eligibility requirements (e.g., if the renewables fraction is reduced by over 5 percent even after the three month remedy period) and:
i) Allow the customer the option of canceling the service if the product reflects a lower renewable content than that for which they have contracted;
ii) If this change results in a product that does not meet threshold criteria, notify customers that this product is no longer eligible to use the Green-e logo.
15. Notify customers in writing if the Green-e certified product they are purchasing (1) loses Green-e certification for any reason, or (2) the Company decides to opt out of the Green-e Program; clearly state that the Green-e certified product they are purchasing is no longer Green-e certified; and:
i) Provide these customers with a list of alternative Green-e certified products and contact numbers and web addresses for the companies selling those products; or ii) Provide these customers with the Green-e website, www.green-e.org, and toll free number, (888) 63- GREEN, with instructions that the customer can find alternative Green-e certified products through the Green-e website and toll free number; or iii) Provide the Center for Resource Solutions with the names and addresses of customers who were purchasing the Green-e certified product that is no longer certified.

A. Definition of New Renewable
An eligible new renewable generation facility must either be: (1) placed in operation (generating electricity) on or after the regionally specified new renewables date; (2) repowered on or after the regionally specified new renewables date such that at 80% of the fair market value of the project derives from new generation equipment installed as part of the repowering; (3) a separable improvement to or enhancement of an operating existing facility that was first placed in operation prior to the regionally specified new renewables date, such that the proposed incremental generation is contractually available for sale and metered separately than existing generation at the facility; or (4) a separately metered landfill gas resource that was not being used to generate electricity prior to the regionally specified new renewables date. Any enhancement of fuel source that increases generation at an existing facility, without the construction of a new or repowered, separately metered generating unit, is not eligible to participate, with the exception of new landfill gas resources identified (4) above. An eligible "new renewable generation facility" must be an “eligible renewable resource” as described in the Green-e Code-of-Conduct. Hydropower facilities may not contribute toward achievement of the new renewable requirement at this time except where defined as eligible in regional standards.

C. [sic] New Renewable Requirement Start Date
All retail products offered must meet the regionally defined new renewable requirement. CRS reserves the right to modify the standard start date on a state-by-state basis to increase consistency within a region.

D. Percentage Requirements for New Resources
Green-e commits to reviewing the percentage level, at least two years before a change is made, to assess whether and how much to increase the percentage level further Green-e has a goal of increasing the percentage to at least 50% by 2008, in 5% or greater annual increments. This requirement is a strict minimum requirement.

E. Accounting/Audit Mechanism
The verification for new renewable resource content occurs during the Green-e annual process audit. Total new renewable demand for each certified product in a given year must be met with the appropriate level of new renewables in that year with a three-month grace period into the following year. This is consistent with Green-e Verification Protocol.

F. Customer Notification Requirements
All Green-e certified products must meet the new renewable requirement. Green-e respects the fact that some customers will remain with their existing products (i.e., those that were certified prior to the new standard “start date”) and that marketers may decide not to upgrade those products to meet the new renewable requirement for existing customers. As these products no longer meet the Green-e Standard, they may no longer bear the Green-e logo and all communications with customers purchasing these

products must not include any reference to the Green-e Program after the new renewable requirement “start date.” In most cases, it is expected that to meet this requirement marketers will simply remove any reference to the Green-e Program from customer bills and other communications material.

If requested by marketers, these products will be eligible for Green-e verification after the new renewable requirement “start date” (i.e., resource supply can be verified through completion of the Green-e audit) but marketers will not be able to claim certification of products that do not meet the new renewable requirement. On the new renewable requirement “start date,” marketers are not required to immediately notify these customers that their product no longer meets Green-e certification criteria. However, such notification must be provided, with an offer to upgrade the customer's product at a cost if the customer so wishes, at the expiration of the customer-marketer agreement term (typically one year) or by one year after the new renewable requirement “start date,” at the discretion of the marketer. Green-e staff will work with marketers to develop suitable notification language.

Green-e staff recommend to marketers that they begin marketing products meeting the new renewable requirement earlier than the new renewable requirement “start date,” and at the same time they cease marketing "old" Green-e certified products that will no longer be certifiable on the “start date.” This will reduce situations such as a customer signing up for a 1999 Green-e certified product that is marketed as such in December 1999, but not being served until February 2000.

APPENDIX C. Budget for COP Implementation

Start-up costs (year 1)		**Notes**
½ time management position	£30,000	
Logo design	£5000	
Website development and design	£5000	
Printing costs and basic advertising	£20,000	Posters, public service announcements, etc
TOTAL START-UP	**£60,000**	
Operational costs (annual)		
½ time management position	£30,000	
Review process	£25,000	
Meeting costs	£1000	2-3 meetings a year - space rental + refreshments
Advisory Board travel expenses	£2000	
Annual marketing material	£2000	Reprinting, website updates, etc
TOTAL ANNUAL OPERATION	**£60,000**	