ofgem Promoting choice and value for all gas and electricity customers

Cutting the green customer confusion - next steps

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Target audience: This document will be of interest to suppliers, customers, certification service providers, environmental bodies and agencies, NGOs and other interested parties.

Overview:

In response to the global challenge of climate change, a number of suppliers are offering "green" tariffs to customers. A recent study by the National Consumers' Council concluded that there is considerable customer confusion and, as a result, a level of customer mistrust in tariffs that are being marketed as "green". We want to ensure that customers who want to take advantage of these tariffs can be confident about what they are buying.

Since June this year we have carried out a period of active stakeholder consultation on these issues. This document provides an update regarding the proposals that have emerged from that consultation process. In particular this document contains Appendices setting out information relevant to the proposals set out in the main document.

We would welcome further responses to this consultation and intend to publish a revised set of guidelines in February 2008.

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Context

Tackling climate change is now a global priority. At an EU level, Member States have committed to setting targets to reduce the overall level of greenhouse gas emissions and to increase the contribution of renewable energy by 2020. The energy sector has an important role to play in meeting these challenges as it accounts for approximately half[1] of all greenhouse gas emissions.

Ofgem's primary objective is to protect present and future customer interests through promoting competition where possible. We also have an important role in contributing to sustainable development as a result of our duties under Energy Act 2004. This is a key area for Ofgem not only from a customer protection perspective but also to improve the level of transparency and understanding of this part of the market. We believe that this will encourage future generation investment decisions to be made in response to customers' choices regarding for renewable or low carbon technologies.

Associated Documents

- Guidelines on Green Supply Offerings, Consultation Document, December 2001 http://www.ofgem.gov.uk/Sustainability/Environmnt/Policy/Documents1/136-19dec01.pdf
- Guidelines on Green Supply Offerings, April 2002 http://www.ofgem.gov.uk/Sustainability/Environmnt/Policy/Documents1/2183-31green_supply_offerings_guidelines.pdf
- Revision of Guidelines on Green Supply Offerings, Consultation Document, March 2005 http://www.ofgem.gov.uk/Sustainability/Environmnt/Policy/Documents1/10367-10905.pdf
- Developing Guidelines for Green Supply, Consultation Document, June 2007 http://www.ofgem.gov.uk/Sustainability/Environmnt/Policy/Documents1/Developing%20Guidelines%20on%20Green%20Supply.pdf
- Materials from the series of workshops held in June - July and wrap-up workshops in September http://www.ofgem.gov.uk/Sustainability/Environmnt/Policy/Pages/Policy.aspx

[1] See the Stern Review on the economics of climate change 2006, available from: http://www.hm-treasury.gov.uk/independent_reviews/stern_review_economics_climate_change/stern_review_report.cfm

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Appendix 1 - Consultation response

1.1. Ofgem would like to hear the views of interested parties in relation to any of the issues set out in this document.

1.2. We would especially welcome responses to the specific questions which we have set out at the beginning of each chapter heading and which are replicated in a table in Appendix 2.

1.3. Responses should be received by 9 January 2008 and should be sent to:

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1.4. Unless marked confidential, all responses will be published by placing them in Ofgem's library and on its website www.ofgem.gov.uk. Respondents may request that their response is kept confidential. Ofgem shall respect this request, subject to any obligations to disclose information, for example, under the Freedom of Information Act 2000 or the Environmental Information Regulations 2004.

1.5. Respondents who wish to have their responses remain confidential should clearly mark the document/s to that effect and include the reasons for confidentiality. It would be helpful if responses could be submitted both electronically and in writing. Respondents are asked to put any confidential material in the appendices to their responses.

1.6. We welcome responses to the following questions that we have raised within the consultation as well as any other relevant aspects of 'green' supply.

Appendix 2 - Consultation questions

No.	Chapter ref	Question	Your response
1	3	Do you think that the provision of greater information will empower customers to make more informed decisions regarding their environmental preferences associated with supply tariffs, thereby providing an indication to suppliers of customer demand for renewable or low carbon forms of generation?	
2	3	Do you consider it appropriate for the guidelines to be voluntary where companies 'sign up' to comply with both the guidelines and accreditation scheme?	
3	3	Do you think that the guidelines, as currently drafted, are appropriate for non-domestic customers or would changes be required to facilitate this?	
4	3	Do you think that the guidelines, as currently drafted, are useful for companies to market their corporate social responsibility?	
5	3	Do you consider that it is appropriate for separate sets of guidelines to be created for tariffs sourced from renewable generation and those sourced from non renewable low carbon generation?	
6	3	Do you think that it is appropriate for suppliers to provide information to customers regarding the contributions that they are already making to Government sponsored environmental programmes?	
7	3	Do you consider that information regarding the environmental benefits associated with 'green' supply tariffs should be provided to customers in a standardised format, and if so, what key information should be made available by suppliers to customers at the point of sale?	

8	3	Should evidence of supply be linked to the Fuel Mix Disclosure obligations, with the sub-division of renewable generation to identify a particular technology or source?	
9	3	Should LECs be provided by suppliers in respect of renewable or low carbon tariffs where available?	
10	3	What, in your opinion, would be the costs associated with the administration of a centrally administered 'green' fund?	
11	3	Do you agree with our assessment of the 5 options available to measure additionality including BE's and Centrica's proposals?	
12	4	Do you think it is appropriate that renewable tariffs should comprise 100% renewable electricity or a stated percentage?	
13	4	Is it appropriate to rate supply tariffs by their carbon intensity to allow an at-a-glance comparison of different offerings made by each supplier as well as competing tariffs across different suppliers?	
14	4	What is an appropriate treatment for electricity that is not supported by a REGO or generator declaration in order to calculate a tariff's emission intensity?	
15	4	Is it appropriate to calculate carbon intensity using standardised emission factors at the point of generation, and recognising the lower emissions of certain technologies e.g. CCS and CHP?	
16	4	Should CCS be treated as a low carbon technology or should the carbon sequestered be included in the calculation of emission intensity?	
17	4	Are the illustrative bands presented in this document appropriate? If not, how should they be amended?	
18	4	Who should be responsible for setting the low carbon bands?	

19	4	Should the bandings adjust over time to reflect a growing commitment to reduce the carbon intensity? Are the 2020 or 2050 targets the most appropriate basis on which to make these adjustments?	
20	5	Do you agree with out proposals to progress compliance with the guidelines and development of the accreditation scheme?	
		Any other comments	

Appendix 3 - Revised guidelines

Draft Guidelines for Renewable tariffs

Aims of the guidelines

1.1. The key aims of these guidelines are to provide tariffs that apply the principles of:

- transparency: tariffs need to be clear and consistent with public understanding and expectations as to what constitutes renewable supply. Customers should have easy access to specific information regarding the tariff as well as more general information regarding renewable supply;
- evidence of supply: suppliers will need to have and retain evidence to verify all claims and to make it available to the public or an external verifier;
- additionality: customers choosing a renewable tariff need to be able to be satisfied that their support is contributing to additional environmental benefits; and
- certification: suppliers will be required to develop a third party administered certification scheme, to employ a certification scheme operator, and to sign up to the scheme when implemented within given time periods.

1.2. These draft guidelines do not set out specific requirements with respect to how additionality should be delivered but provide increased information transparency so that customers are aware of the environmental benefits associated with the tariffs on offer. This does not preclude suppliers offering particular additional environmental benefits and including this in their marketing material.

Scope of the guidelines

1.3. The guidelines apply to all tariffs for both domestic and non-domestic customers that are marketed as renewable supply tariffs by suppliers who are signatories to them.

Renewable supply

1.4. To comply with these guidelines, a supplier must provide Renewable Energy Guarantees of Origin (REGOs) or equivalent European Guarantees of Origin (GoOs) to support either of the following alternatives:

- **Alternative 1:** 100% of the electricity sold to customers within the tariff; or

- **Alternative 2:** A stated percentage of the electricity sold to customers within the tariff.

1.5. For both alternatives: If the supply is to a domestic customer and there is a Levy Exemption Certificate (LEC) associated with the renewable supply, the supplier should also retire the LEC that relates to this supply.

Transparency

General requirements

1.6. All marketing material and related information should be based on correct, up to date and specific information about the product that is being offered.

1.7. The use of images and symbols should reflect the product being offered; for example, the use of images of wind generation should only be used for a tariff that includes a substantial portion of wind generation.

Requirements relating to individual supply tariff:

1.8. The supplier should include information on its website and in all marketing material and information related to the tariff so as to be available to the customer at the point of sale. This information should set out:

- **Alternative 1:** that the renewable supply tariff meets Ofgem's Renewable Supply Guidelines [and is certified[2]] to guarantee that electricity equivalent to 100% of the customer's usage is generated from renewable technologies;

- **Alternative 2:** that the renewable supply tariff meets Ofgem's Renewable Supply Guidelines [and is certified[3]] to guarantee that electricity equivalent to the stated percentage of the customer's usage is generated from renewable technologies;

For both alternatives:

- the contribution to renewable energy made by the customer under its renewable supply tariff; and

- a Fuel Mix Disclosure chart for the renewable supply tariff showing the specific technologies employed (where these are included in the advertising of the tariff).

1.9. The supplier should include this information for all of the supply tariffs it makes available for customers i.e. not only those tariffs marketed as renewable or low carbon tariffs.

[2] Following implementation of the certification scheme
[3] Following implementation of the certification scheme

1.10. This list does not preclude suppliers providing any additional environmental information with their renewable (or other) supply tariffs; for example associated greenhouse gas and nuclear waste information.

1.11. This list is also distinct from and additional to any other legal requirements on suppliers to release information associated with their tariffs.

General environmental information

1.12. The supplier should also provide a statement on its website and in any marketing material or information relating to the tariff including the following information:

- suppliers have a Renewable Obligation under which they have to either pay a fee to Ofgem and/or buy Renewable Obligation Certificates to fulfil their annual obligation;
- the Government's ongoing aim of the Renewables Obligation is to encourage an increased amount of electricity to be generated from renewable technologies;
- the amount that the suppliers' average domestic / non-domestic (as appropriate) customer on a standard electricity tariff is already contributing to renewable energy as a result of the Renewables Obligation;
- a description of supplier's EEC obligations;
- the amount that the suppliers' average domestic / non-domestic (as appropriate) customer on a standard electricity tariff is already contributing towards the supplier's EEC obligations;
- for non-domestic tariffs, a description of the climate change levy and levy exemption regulations;
- for non-domestic tariffs, the average contribution that non-domestic customers make to support through climate change levy exemption certificates.

1.13. The format of this information is discussed in paragraph 1.14 below:

Format of information

1.14. Suppliers should agree a format following consultation with customers for the provision of the information specified in paragraphs [1.8 and 1.12] within 4 weeks of the publication of the final sets of revised guidelines.

1.15. Once the format described in paragraph [1.14] above has been agreed between suppliers, it should be sent to Ofgem. Ofgem will then publish the agreed format on its website for transparency.

1.16. In agreeing the format of information under paragraph [1.14] above suppliers should take into consideration the need to ensure that the information is as accessible to customers as possible as well as the need to keep the costs of publicising the information manageable.

1.17. Suppliers are required to provide the information in the format agreed under paragraph [1.14] above by May 2008 (3 months from the publication of the guidelines).

Evidence of supply

1.18. Suppliers will need to have and retain evidence to verify that the total renewable energy sold under renewable supply tariffs does not exceed the amount of renewable generation claimed in the supplier's Fuel Mix Disclosure label.

1.19. A Renewable Energy Guarantee of Origin (REGO), or equivalent European Guarantee of Origin, relating to the generation in the disclosure period should be provided.

1.20. Where specific technologies are specified, the supplier should obtain a generator declaration relating to that period indicating the renewable energy source.

Additional benefits associated with the tariff

1.21. Suppliers may choose to include other measures of additionality, above the required renewable supply detailed in either Alternative 1 or Alternative 2, as a way of distinguishing their product. If suppliers are offering such measures the following provisions will apply.

Deletion of Renewable Obligation Certificates (ROCs)

1.22. If suppliers use the acquisition of ROCs beyond those required for their obligation to provide an indication of additional benefits associated with their renewable tariff, these ROCs should be deleted from the Register or held by other parties, such as third party accreditation bodies.

Operation of funds

1.23. If the tariff includes contribution to a renewable fund, premiums raised under renewable tariffs should be paid into a fund that is completely and verifiably separated from the general accounts of the supplier. Third party auditing of payments into and out of the fund is essential to match money collected with payments made, and to verify consistency with the criteria for payments.

1.24. The criteria for payments into and out of the fund should be clear and published.

1.25. The criteria should also be clear in relation to the timing of expenditure; whether the expenditure is in the form of grants, loans or equity investments; and whether the provision is directed at commercial entities or community organisations.

1.26. In the case of commercial investment in new generating capacity, the treatment of future benefits (e.g. from ROCs) will need to be addressed in detail.

1.27. Suppliers should evaluate expenditure from contribution-based tariffs and report to customers their performance against the funds criteria.

Price differences for renewable tariffs

1.28. Where suppliers are able to clearly demonstrate the additional environmental benefits associated with a renewable tariff it is open for the supplier to add a premium to the price of the tariff in respect of these benefits if they choose to do so. Where customers would not be making a contribution to benefits in excess of the existing legal requirements on the supplier no premium should be charged.

Third party assessment of renewable supply tariffs

1.29. Suppliers are required to develop a certification scheme for renewable supply tariffs and employ an independent certification body to operate the scheme and certify the tariffs by August 2008 (6 months following publication of the guidelines).

1.30. The scheme should include provisions to ensure the auditing and verification of claims and the creation of a renewable supply certification mark which can be assigned to all tariffs which fulfil the requirements set out in these guidelines.

1.31. The certification scheme may also include provisions relating to the certification of low carbon supply tariffs if this is considered appropriate.

Draft Guidelines for Low Carbon supply tariffs

Aims of the guidelines

1.32. The key aims of these guidelines are to promote tariffs that apply the principles of:

- transparency: tariffs need to be clear and consistent with public understanding and expectations as to what constitutes low carbon supply. Customers should have easy access to specific information regarding the carbon credential of the tariffs and the supplier's overall fuel mix;
- evidence of supply: suppliers will need to have and retain evidence to verify all claims and to make it available to the public or an external verifier;
- additionality: customers choosing a low carbon supply tariff should be clear as to the extra benefits in terms of reduced carbon emissions associated with the tariff; and
- certification: suppliers will be required to sign up to a third party administered certification scheme.

1.33. These draft guidelines do not set out specific requirements with respect to how additionality should be delivered but provide increased information transparency so that customers are aware of the environmental benefits associated with the tariffs on offer. This does not preclude suppliers offering particular additional environmental benefits and including this in their marketing material.

Scope of the guidelines

1.34. These guidelines apply to all low carbon supply tariffs for both domestic and non-domestic customers. This may include tariffs specifying a substantial element of renewable supply.

Main requirement

1.35. Suppliers should calculate the CO2 intensity associated with a tariff within the bands shown in Table 1.

1.36. The CO2 intensity associated with a tariff should be calculated in accordance with section 11(a) of the Electricity (Fuel Mix Disclosure) Regulations 2005.

Table 1: Carbon Intensity Bands

Band	Carbon intensity (g/kWh)	Associated technologies
Band A	0	Renewables (excluding biomass), Nuclear
Band B	1-100	Carbon capture and storage
Band C	101-300	CHP
Band D	301-500	CCGT
Band E	501-1000	Coal, Oil
Band F	Greater than 1001	OCGT, Biomass

Transparency

General requirements

1.37. All marketing and related information should be based on correct, up to date and specific information about the product that is being offered;

1.38. The use of images and symbols should reflect the product being offered; for example, the use of images of wind generation should not be used for a tariff that does not include substantial wind generation.

Requirements relating to individual supply tariff;

1.39. The supplier should include the following information on its website:

- a statement that the product meets Ofgem's Low Carbon Supply Guidelines [and is certified[4]] and that has annual auditable evidence to support a CO2 intensity corresponding to the marketed carbon intensity banding as shown in Table 1 above;
- a Fuel Mix Disclosure chart for the low carbon supply tariff showing the specific technologies employed (where these are included in the advertising of the tariff) which is consistent with any claims made about the tariff regarding its fuel mix. This should include an indication of the certified renewable content of the tariff.

1.40. The supplier should include this information for all of the supply tariffs it makes available for customers i.e. not only those tariffs marketed as low carbon or renewable tariffs.

1.41. This list does not preclude suppliers providing any additional environmental information with their low carbon (or other) supply tariffs; for example associated greenhouse gas and nuclear waste information.

[4] Following implementation of the certification scheme

1.42. This list is also distinct from and additional to any other legal requirements on suppliers to release information associated with their tariffs.

Format of information

1.43. Suppliers should agree a format following consultation with customers for the provision of the information specified in paragraph [1.39] within 4 weeks of the publication of the final sets of revised guidelines.

1.44. Once the format described in paragraph [1.43] above has been agreed between suppliers, it should be sent to Ofgem. Ofgem will then publish the agreed format on our website for transparency.

1.45. In agreeing the format of information under paragraph [1.43] above suppliers should take into consideration the need to ensure that the information is as accessible to customers as possible as well as the need to keep the costs of publicising the information manageable.

1.46. Suppliers are required to provide the information in the format agreed by suppliers under paragraph [1.43] above by May 2008 (3 months from the publication of the guidelines).

Evidence of supply

1.47. Suppliers will need to have and retain evidence to verify that the total low carbon energy sold under any supply tariffs marketed as low carbon does not exceed the amount of equivalent generation claimed in the supplier's Fuel Mix Disclosure label for the relevant period.

1.48. Evidence of supply should be retained for the fuel mix of the low carbon supply tariff as specified by the supplier. This evidence should follow the requirements of paragraph 8 of the Electricity (Fuel Mix Disclosure) Regulations 2005.

1.49. Where particular generation sources are specified, the supplier should provide this evidence by category of generation source.

Additional benefits associated with the tariff

1.50. Suppliers may choose to include other measures of additionality in their marketing materials, further to the requirements detailed above, as a way of distinguishing their product. Any such measures will not adjust the carbon banding associated with the tariff, as measured in Table 1.

Carbon offsetting

1.51. A supplier may choose to include carbon offsetting activities as an additional benefit associated with a low carbon tariff. Such carbon offsetting activity cannot be used to lower the carbon intensity associated with the tariff for the purposes of determining which band the tariff falls within, as measured in Table 1.

1.52. Where the supplier undertakes carbon offsetting activity the supplier must specify:

- whether the carbon offsetting scheme meets the requirements of Defra's Code of Practice regarding carbon offsetting;
- details of the type of carbon offsetting activity that is taking place; and
- an indication of the amount of CO2 emissions that are being offset by the scheme.

Price differences between tariffs

1.53. Where suppliers are able to clearly demonstrate the benefits associated with different low carbon tariffs (including carbon offsetting as discussed above) it is open for suppliers to add a premium to their tariff to reflect these benefits should they choose to do so. Where customers do not receive additional benefits above the suppliers legal obligations no premium should be charged.

Third party assessment of low carbon supply tariffs

1.54. Suppliers are required to develop a certification scheme for low carbon supply tariffs and employ an independent certification body to operate the scheme and certify the tariffs by August 2008 (6 months following the publication of the guidelines).

1.55. The scheme should include provisions to ensure the auditing and verification of claims and the creation of a low carbon supply certification mark which would include the rating band assigned to the low carbon tariff.

1.56. The certification scheme could be part of the scheme referred to in paragraph 1.29 of the renewable supply guidelines or separate from that scheme.

Appendix 4 - Overview of selected climate change policies

Renewables obligation (RO)

Background

1.1. The RO was introduced by Government in 2002, and is the primary means to support the development of renewable technologies in Great Britain. It is a market based mechanism that requires electricity suppliers to source an increasing percentage of their electricity sales from eligible renewable sources.

1.2. Obligations exist for England & Wales, Scotland, and Northern Ireland and are underpinned by separate legislation. The Renewables Obligation Order came into effect in April 2002, as did the Renewables Obligation Order (Scotland). The Renewables Obligation (Northern Ireland) Order came into effect in April 2005.

Technologies eligible under the RO

1.3. The legislation is not explicit about which technologies are eligible for support under the RO. However, examples of the types of generation technologies that Ofgem has accredited for the scheme include:

- Onshore and offshore wind power;
- Biomass;
- Co-firing of biomass with fossil fuels;
- Landfill and sewage gas; and
- Hydro-electric with a DNC of 20 MW or less, or commissioned after 1 April 2002.

1.4. Generation technologies specifically excluded from the RO include:

- Generating stations commissioned before 1 January 1990 which have not been renewed since 31 December 1989;
- Offshore generating stations outside of the UK;
- Generating stations fuelled wholly or partly by peat; and

- Generating stations built at the same location as an Non Fossil Fuel Obligation (NFFO), Scottish Renewable Obligation (SRO) or Northern Ireland NFFO (NI NFFO) contract[5].

Supplier obligations under the RO

1.5. An individual supplier's obligation under the RO is calculated by multiplying its volume of sales (in MWh) by the percentage of supply that must be sourced from renewable generation. In 2006/7 suppliers must source 6.7% of their supply from eligible renewables and this percentage is set to rise to 15.4% by 2015/6 and remain at that percentage until 2027.

1.6. Companies can meet their obligation in one of three ways:

- Presenting Renewable Obligation Certificates (ROCs);
- Paying a buy-out fund contribution (equivalent to £33.24/MWh in 2006/07) and rising each year with the Retail Price Index; or,
- A combination of the two.

What is a ROC?

1.7. A Renewables Obligation Certificate (ROC) is a certificate issued to an accredited generator for eligible renewable electricity generated within the United Kingdom and supplied to customers within the United Kingdom by a licensed electricity supplier. One ROC is issued for each megawatt hour (MWh) of eligible renewable output. The ROC Register provides the means though which certificates can be traded and, in this respect, records transfers of ROCs between Registered Holders and Prospective Registered Holders.

Who pays for the RO?

1.8. The RO is paid for by all customers through their electricity bills. In 2005/06 the associated cost was around £600 million (£7 per household).

Who administers the RO?

1.9. The RO Order gives Ofgem specific functions in relation to the implementation of the RO including monitoring suppliers' compliance with the RO. Ofgem's powers and functions include:

[5] The NFFO, the SRO and the NI NFFO Orders were the initial means used by the Government to implement its renewable energy policy prior to the introduction of the RO. These required the then Public Electricity Suppliers to purchase electricity from renewable generators and provided for this electricity to be purchased at fixed prices for long term contract periods (typically 15 years)

- Accrediting generating stations;
- Issuing ROCs;
- Establishing and maintaining a register of ROCs;
- Revoking ROCs where necessary;
- Monitoring compliance with the RO;
- Calculating the buy-out price and receiving buy-out payments; and
- Publishing an annual report on the operation of the RO and compliance.

What are the proposed changes under the Energy White Paper?

1.10. BERR has proposed a number of reforms to the RO with the objective of bringing on additional technologies with the appropriate levels of support, protecting the position of existing projects and investors, and allowing adjustments to the RO over time to avoid over-subsidisation as new technologies evolve.

1.11. Proposals have been put forward to achieve these aims which include introducing a mechanism to increase the level of the Obligation if the level of generation requires, and introducing banding to support various technologies at different rates.

1.12. Under BERRs proposals there would be four bands:

- Established (Receiving 0.25 ROCs/ MWH): Sewage gas; landfill gas; co-firing of non-energy crop (regular) biomass;
- Reference (Receiving 1.0 ROCs/ MWH – no change): Onshore wind; hydro-electric; co-firing of energy crops; EfW with combined heat and power; other not specified;
- Post demonstration (Receiving 1.5 ROCs/ MWH): Offshore wind; dedicated regular biomass; and
- Emerging technologies (Receiving 2.0 ROCs/ MWH): Wave; tidal stream; advanced conversion technologies (anaerobic digestion; gasification and pyrolysis); dedicated biomass burning energy crops (with or without CHP); dedicated regular biomass with CHP; solar PV; geothermal).

Energy Efficiency Commitment (EEC)

Background

1.13. The EEC was introduced by Government in 2002 and forms part of the Government's Climate Change Programme and Fuel Poverty Strategy. The Energy White Paper stated that the cheapest, cleanest, and safest way of addressing the Government's energy policy objectives is to use less energy, in which the EEC plays a major role.

1.14. The EEC requires obligated electricity and gas suppliers to achieve targets for the improvement of energy efficiency in domestic properties in Great Britain. The scheme is run in phases with targets for EEC 1 (2002-2005) and EEC2 (2005-2008) of 62 TWh and 130 TWh respectively.

1.15. The statutory basis for the EEC is The Electricity and Gas (Energy Efficiency Obligations) Order 2004.

Supplier obligations under the EEC

1.16. Each licensed energy supplier group with at least 50,000 gas or electricity domestic consumers is subject to an individual target. The overall target is apportioned in relation to each supplier's domestic consumer numbers.

1.17. At least half of the target must be achieved within the "Priority Group" (households receiving certain income related benefits and tax credits) to ensure that this group receive a significant share of the benefits of the EEC.

1.18. Energy efficiency measures covered by the EEC include insulation, efficient heating, lighting and appliances.

1.19. Under EEC2, innovative measures which were not used under EEC1 are awarded a 50 per cent additional 'uplift' in savings, to encourage and support innovation in energy saving measures through the programme. These measures have included ground source heat pumps, CHP, efficient consumer electronics, solar water heating and intelligent mains panels (these switch off multiple sockets at once to avoid appliances being left in standby mode). Suppliers may achieve up to 10 per cent of their target through innovative action. However, to date levels of take-up have been much lower than this.

What are the proposed changes from 2008?

1.20. The Government has proposed that the Carbon Emissions Reduction target (CERT) should replace the EEC from 2008. This mechanism would run from 2008 to 2011 at around double the level of activity of the current EEC. It is proposed that the scope of the EEC will be extended to include, in addition to energy efficiency

measures, micro-generation and other measures for reducing the consumption of supplied energy. It proposes to introduce new approaches for innovation and flexibility while maintaining a focus on low-income consumers.

Who administers the EEC?

1.21. Ofgem has procedures to assess suppliers' schemes, and oversee progress and compliance. Ofgem will approve a scheme if satisfied that it will lead to an improvement in energy efficiency.

1.22. After statutory consultation led by Defra, Government will set the level and form of the Carbon Emissions Reduction Target 2008-2011 under the provisions of the Gas Act 1986 and Electricity Act 1989.

Climate Change Levy (CCL)

Background

1.23. The CCL was introduced by Government in 2001 under the Finance Act 2000. It forms a key part of the Government's overall Climate Change Programme and is designed to promote energy efficiency and stimulate investment in new energy technologies.

1.24. The levy is a tax on energy use in the non-domestic sector (industry, commerce, agriculture and the public sector). It entails no increase in the tax burden on industry as a whole because of offsetting cuts in employers' National Insurance Contributions, and additional support for energy efficiency schemes and renewable sources of energy.

How much is the levy?

1.25. Rates of levy on various energy sources are:

- 0.15p/kWh for gas;
- 0.98p/kg (equivalent to 0.07p/kWh) for liquefied petroleum gas (LPG);
- 0.44p/kWh for electricity; and
- 0.12p for any other taxable commodity.

Are there any exemptions from the CCL?

1.26. All energy sources are covered by the CCL except those specifically exempt. Such exemptions were introduced to encourage the use of less-polluting alternative energy sources and include:

- Supplies of electricity generated from new forms of renewable energy;
- Electricity generated from coal mine methane; and
- Energy from Good Quality combined heat and power (CHP) plants.

1.27. Levy Exemption Certificates (LECs) are evidence of CCL exempt electricity supply generated from qualifying sources and are redeemed by suppliers to HM Revenue & Customs to prove the amount of non-climate change energy that had been supplied to non-domestic customers in the given period.

Who administers the CCL?

1.28. HM Revenues & Customs collects the levy. Ofgem monitors exemption in Great Britain. This includes the provision of accreditation for Levy exemptions, issuing LECs, reconciliation of output, and providing information to HM Revenue & Customs.

Renewable Guarantee of Origin (REGO)

Background

1.29. The Renewable Energy Guarantee of Origin (REGO) electronic certificate system was implemented in 2003, and enables producers of renewable-sourced electricity that is eligible under the EU Renewables Directive to be issued with evidence (guarantees) that their electricity is indeed renewable.

1.30. One REGO is provided for every kilowatt hour (kWh) of electricity produced that is renewable by the producer to prove their electricity is renewable.

What is the rationale behind REGOs?

1.31. The main purpose of REGOs is as a demonstration that renewable electricity has been produced. This is particularly useful for renewable generators, such as existing large hydro plants, who are not eligible under the RO as well as for smaller generators and those who wish to conduct trade across national boundaries.

1.32. Generators will be able to prove their ‘green’ credentials at home and abroad as the scheme is based around mutual recognition between EU Member States.

Although the certificates have no actual monetary value in and of themselves and there is no formal arrangement for REGOs to be traded.

What technologies are eligible for REGOs?

1.33. REGO's are issued for energy produced from:

- Bioenergy;
- Hydropower;
- Geothermal;
- Offshore wind;
- Onshore wind;
- Ocean energy;
- Solar photovoltaics; and
- Waste (organic).

Who administers REGOs?

1.34. Ofgem is designated as the body to issue REGOs in Great Britain. Ofgem's functions under the Regulations include:

- Establishing and maintaining a Register of REGOs (the REGO Register);
- Issuing REGOs in response to properly made requests;
- Transferring REGOs;
- Revoking REGOs as appropriate; and
- Recognising REGOs issued by Ofgem and guarantees of origin issued by other Member States and Northern Ireland.

EU Emissions Trading Scheme (EU ETS)

1.35. The EU ETS is one of the policies being introduced across Europe to tackle emissions of carbon dioxide and other greenhouse. It is the largest multi-country, multi-sector greenhouse gas emission trading scheme. The scheme currently includes carbon dioxide only, although this may be extended to other gases in future years.

1.36. The EU ETS commenced on 1 January 2005 and runs in phases. The first phase runs from 2005-2007 and the second phase will run from 2008-2012 to coincide with the first Kyoto Commitment Period. Further five-year periods are expected subsequently.

1.37. The scheme works on a "Cap and Trade" basis: EU Member State Governments are required to set an emission cap for all installations covered by the Scheme.

1.38. The greenhouse gas emissions trading scheme (Amendment) and National Emissions Inventory Regulations 2005 transpose the EU Emissions Trading Directive and the Linking Directive into UK law.

Installation obligations under the EU ETS

1.39. The EU ETS covers electricity generation and the main energy intensive industries (refineries, iron and steel, cement and lime, paper, food and drink, glass, ceramics). Overall, these account for around 50% of UK CO2 emissions.

1.40. Each permitted installation receives an allocation of allowances, which determines the annual volume of carbon dioxide it may emit. Installations can meet their target by restricting output, reducing their emission levels through direct abatement or from buying additional allowances from other participants.

1.41. The number of allowances allocated to each installation is based on the Member State's National Allocation Plan (NAP) which must be approved by the European Commission.

Who administers the EU ETS?

1.42. Defra is the lead Government Department and works in close partnership with BERR. BERR takes the lead in certain areas of the EU ETS, namely the allocation methodology and procedures for new entrants and closures, as well having a strong interest in investigating its impact on UK industry.

1.43. Allowances traded in the EU ETS are held in accounts in electronic registries set up by Member States. All of these registries are overseen by a Central Administrator at EU level which, through the **Community Independent Transaction Log**, checks each transaction for any irregularities. Regulators have responsibility for permitting, monitoring, reporting and verification of emissions and registry administration.

1.44. The Environment Agency acts as the UK's Registry Administrator on behalf of Defra. The registry allows account holders to hold, transfer, or acquire EU allowances and Kyoto units. It also enables regulators and nominated authorities to manage regulated industries (those with legal emissions reduction targets), and monitor national compliance and performance against international emissions reductions obligations.

Appendix 5 - The operation of the RO and ROC retirement

Our view on the Renewables Obligation (RO)

1.1. The Government is currently consulting on proposals to amend the RO and change the level of support offered to different renewable technologies. In our response to BERR's consultation[6], we set out our support for the Government's efforts to reduce carbon dioxide emissions to tackle climate change. However, we also set out our views that neither the existing scheme nor the Government's proposed changes are the best way to either promote renewable generation or to cut carbon dioxide emissions.

1.2. The Heads of Government across the EU have signed up to targets to ensure that 20% of primary energy is supplied by renewables by 2020 and that there is a reduction in greenhouse gas emissions of 20% by 2020. Although meeting the renewables target will help to meet existing carbon emissions targets there may be cheaper low carbon technologies than renewables. We would prefer to see Government focus on tackling climate change directly through reducing carbon dioxide emissions rather than setting targets for particular technologies such as renewables in order to achieve these targets in the most efficient way for customers. To facilitate this we think the EU ETS should be at the heart of the Government's approach. We also think that any domestic policies need to be consistent with the EU ETS and be robust to future developments in the ETS scheme.

1.3. Historically, the effectiveness of the RO has been limited by two key external factors; delays associated with the planning process and with connecting to the transmission grid (which is also related to the planning process). Delays in the planning process for new wind farms and development of transmission lines are slowing the growth of renewables in response to the strong financial incentives created by the RO. The total cost of the RO to customers is capped. This is because if the volume of renewable generation is below the target the cost to customers is fixed at the level of the obligation multiplied by the buy-out price. But these penalty payments are "recycled" to renewable generators raising the level of support they receive and increasing the cost of any carbon emission reductions under the scheme.

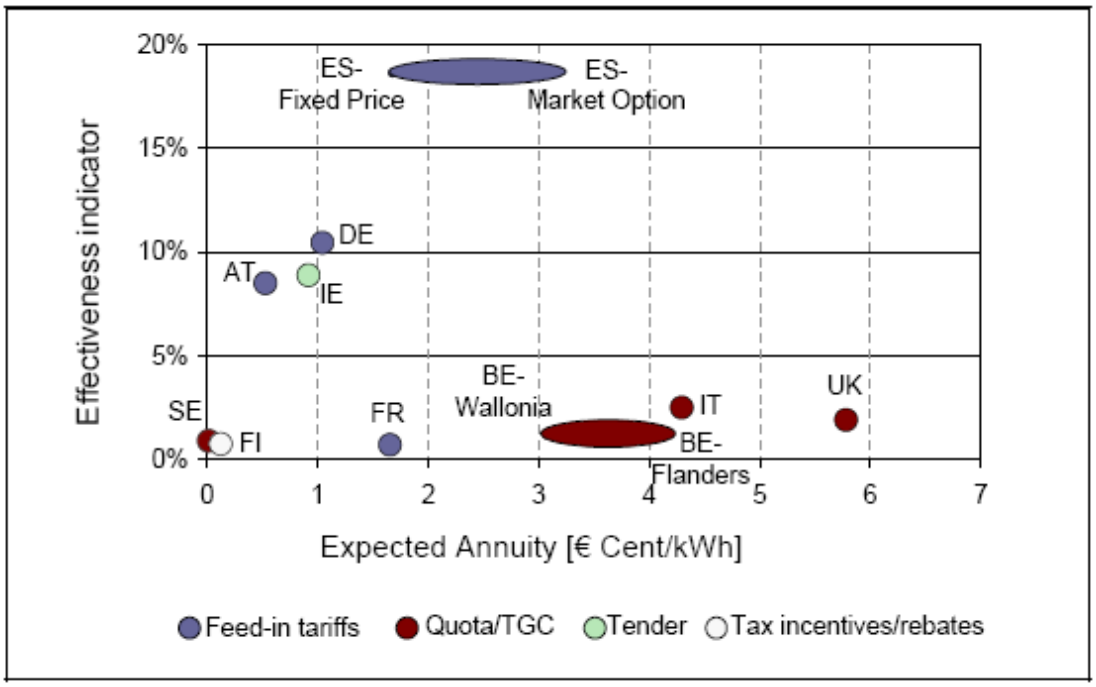
1.4. There is mounting evidence that while the RO has been effective at reducing carbon emissions that other schemes or policies could have delivered the same (or greater) emissions reductions at lower costs. In 2006/07, the cost of carbon abatement through the RO was in the range £65-140/tCO2 depending on the fuel that is assumed to be displaced. In contrast the cost of abatement in the UK Emissions Trading Scheme is around £18/tCO2 and in the EU Emissions trading

[6] See our website: http://www.ofgem.gov.uk/Sustainability/Environmnt/Policy/Documents1/Ofgem%20response%20to%20Renewables%20Obligation%20consultation%5B1%5D.pdf

scheme it has been between £0-22/tCO2 due to variations in allowance prices. Other policies within the UK include the Climate Change Levy in which costs are around £5-11/tCO2, and the Energy Efficiency Commitment in which some carbon abatement can be achieved at negative cost (due to the associated energy cost savings).

1.5. There is also increasing evidence that there are more efficient and effective policy tools which can be used to encourage the deployment of new renewables. The European Commission compared the costs and associated effectiveness of "feed-in tariffs" to support renewables implemented in Europe with corresponding quota schemes, such as the RO. The analysis showed that the RO was the most expensive and least efficient method of support. However, it is also clear that the RO scheme's effectiveness has been hampered by the delays in planning for wind farms and transmission lines.

Figure 1: Cost and effectiveness of renewable support mechanisms[7]



1.6. We think the Government should consider alternatives to the RO such as long term contracts for difference. The key benefits we see are that it will reduce the costs to the customer of meeting renewables targets as it would allow technologies to compete for subsidy and would avoid over-rewarding certain technologies.

1.7. Further details can be found in our consultation response.

[7] Source: Communication from the Commission: The support of electricity from renewable energy sources, 7 December 2005

Our view on ROC retirement

1.8. We have concerns that a ROC retirement mechanism may not be an effective approach to incentivising further investment in renewable generation. The reasons for this are set out below.

1.9. ROCs are essentially tradable certificates that were established to allow suppliers to demonstrate that they are compliant with the RO through the purchase of eligible renewable generation. However, in the event that suppliers cannot secure ROCs they can make payments into a buyout fund at an administered price to comply with the RO. The aggregated buyout fund payments are then recycled back to those suppliers that presented ROCs in compliance with the RO. Therefore, while the RO requires the purchase of ROCs, this obligation can be offset by making payments into the buyout fund and, as such, the obligation can be seen as a financial mechanism rather than an obligation to obtain access to physical renewable supply.

1.10. ROC retirement would effectively reduce the volume of available ROCs on the market and have the corresponding effect of increasing the level of payments into the buyout fund. We are aware that many contracts include provisions to allow sharing of the buyout payments between suppliers and the generators from which the ROCs were purchased. ROC retirement would therefore increase the recycled benefit for both suppliers continuing to hold ROCs and the associated generators that produced ROCs. This weakens the argument that an increase in recycled payments will create incentives for generators to invest in renewable generation due to potential returns that could be earned.

1.11. We have concerns that the pre-conditions for ROC retirement to provide effective incentives for new renewable generation are not met for the following reasons:

- **Supply side constraints:** There are supply side constraints to increasing renewable capacity in the UK due to issues associated with obtaining connection to the electricity grid and access to required capacity. There are also wider problems related to the planning process for renewable generation including both extended timings and the associated uncertainty for renewable generation. In this regard, we are aware that there is currently around 11GW of renewable generation held up in planning8. Both of these issues currently act as barrier to the further deployment of renewable generation and even where there are signals to invest in additional renewables, due to the increased recycled benefit from the buyout fund, the difficulties associated with planning and commissioning of this generation mean it is not coming to market. As a result, the ROC retirement mechanism would simply provide existing generators with greater profits without the scope to reinvest this money given the barriers to new entry

[8] As reported by the British Wind Energy Association (BWEA) in January 2007 http://www.britishwindenergy.co.uk/pdf/briefings/ukwindstatusJan07.pdf

on the supply side. We are aware that these supply side constraints are long-standing issues and that initiatives are currently being progressed in an attempt to address them in the form of the Transmission Access Review (TAR) and the Planning White Paper. While we welcome these initiatives we anticipate that the resolution of these problems will take time to finalise.

- **Uncertainty of recycled benefit:** It has been suggested that ROC retirement and the associated increase in recycled benefit from the buyout fund will create certainty for renewable investors as they will achieve greater returns into the future. However, ROCs are not a fully bankable commodity and provide highly volatile revenue streams. Increased returns resulting from ROC retirement will only be earned where (other) suppliers continue to retire ROCs and, in the event that suppliers choose that they no longer wish to engage in ROC retirement, these increased returns will disappear. As such, the volatility of returns from the buyout fund means that it will be difficult for investors to obtain loan funds leveraged against these anticipated but uncertain returns. Even in the event that investors are able to secure a loan on this basis, it is likely that, due to the associated risks the repayments will need to be made at a high rate of interest.

- **Implementation of banded ROCs:** ROC retirement will likely be complicated further by banded ROCs under the proposals to reform the RO. While the retirement mechanism will work in the same way, the number of ROCs awarded to technologies will differ depending upon the extent to which they have become established technologies. As such, banding may further reduce the additionality effect of ROC retirement and increase the revenues obtainable from investing in renewable generation technologies that fall within higher bands. To the extent that commercial factors, such as profit, are restricting development of higher-banded technologies, RO banding may increase the deployment of such generation. However, to the extent that supply side constraints are restricting the deployment of certain generation technologies, RO banding will have no appreciable effect on new build and will merely increase the profitability of existing installations.

1.12. For ROC retirement to be privately profitable, suppliers will need to include a surcharge on tariffs offering this feature to compensate them for the fact that they would then incur a buy-out penalty, fail to benefit from buy-out fund recycling and face cost disadvantages relative to suppliers who do not engage in ROC retirement. We therefore have concerns that customers may pay a premium on their electricity to secure a tariff incorporating ROC retirement and that these tariffs may not actually facilitate further environmental benefits.

Appendix 6 - Anecdotal evidence on fund set-up costs

1.1. Ofgem conducted informal telephone interviews to gain an indication of the costs which would arise from setting up a commercially run environmental fund, as might be necessary under BE's proposal for a centralised fund.

1.2. Interview partners suggested that a commercially run fund should have at least £50m under management to have critical mass. At lower funding levels, funds are unlikely to have the required diversity of projects, the revenue stream required for the administration fees to cover the overheads and the scope for growth needed to generate the returns sought and attract the calibre of people needed. Depending on the nature of the investments the £50m of equity can be geared up with debt to be able to give a larger level of net assets under management – fund managers typically gear the individual assets, or could gear the fund holding company as well. The debt levels may vary from 80% of the project to zero if there is significant technology risk.

1.3. To run a fund of this order of magnitude would require two experienced fund managers – which would involve consideration of whether they would sit in the fund or in a separate management company. These fund managers will need to have FSA CF 21 (control function) permissions. The typical market rate for such people is a minimum of approximately £150,000 base salary with a 20% free carry. A 20% free carry in this context means that 20% of any returns over and above a target level (say 10%) is recycled back to the fund managers. So if the fund makes a 15% return and has a 10% target return, the two fund managers get 20% of 5% divided by 2[9]. Fund managers might also have a 20% carry in the management fee typically levied quarterly on the net asset value (NAV)[10].

1.4. Interview partners suggested that the set-up time required for a fund is approximately 6 months.

1.5. Initially there will need to be a period of the fund's sponsors designing and structuring the fund, preparing the investment strategy and the distribution strategy, They need to get this written up in term sheets for their advisers, for pre-marketing and for themselves. At the same time they need to select and appoint advisers.

1.6. After that they will need to obtain FSA authorisation, which takes a minimum of 2.5 months. One interview partner suggested that a likely outstanding question would be whether the fund would be authorised by the FSA or whether a separate FSA authorised corporate or partnership would be established to manage the fund i.e. to make the investment decisions.

[9] The 20% free carry hence relates to ho well the investment goes and is the real source of income and motivation for the fund manager. The Funder/Investor gets the remaining 80% - i.e. the rest of the investment's value.
[10] NAV = net asset value - i.e. the market value of the assets under management.

1.7. Running in parallel is:

- document preparation - i.e. offering document, partnership agreement, other agreements – which will take a minimum of 2-3 months;
- Issues associated with getting fund managers into position – i.e. this could take a minimum of 3 months, due to the gardening leave provisions at their previous jobs etc; and
- Other associated "delays" can easily add 1 to 2 months.

1.8. Set up costs for a fund are estimated to include about £100-150,000 legal fees for the basic offering document and partnership agreement assuming that the fund being set up is an onshore or a simple offshore fund (without US investors). Legal fees are higher if more operational advice is required, e.g. about promotion in the UK or in overseas jurisdictions. Having US investors in a fund adds considerable costs arising from the need to set up feeder funds, tax advice e.g. on PFIC status, how to avoid a full public placement, etc.

1.9. Furthermore setting up a fund requires a working capital of about £1m to 2m. This working capital needed for:

- obtaining FSA registration - approximately £12-15,000;
- offices, wages; and
- finding and retaining a non-executive board – non-executives could expect to cost £10-15,000 annually on average.

1.10. The most significant expenditure is due diligence on potential investments. Out of 10 projects one looks at more closely, about 3 are likely to go through to due diligence and 1 might obtain investment. Due diligences entail legal fees, consultancy fees and third party technical reports required by the banking community.

1.11. Once the fund is up and running it will still incur overheads:

- wages (fund manager base salary and free carry, plus a secretary, plus payments for the non-exec board);
- office costs (about £50-100,000 a year). The fund can outsource its administration i.e. all accounting, managing board meetings and all share dealings. If it is offshore it will have to employ an administrator and will incur charges for this, e.g. first £50 million of NAV at 18bps or 0.18% of NAV per annum, thereafter e.g. 0.12% of NAV per annum, with minimum annual charges;
- due diligences; and

- Custodians Fees e.g. 6.5 basis points applied to net asset value (NAV).[11]

1.12. The overhead costs need to be covered by the 2% administration charge on the net assets undermanagement[12].

1.13. The reaction of one interview partner to the suggestion of setting up one centralised fund was generally that it is not a good idea due to the duplication of set-up and running costs, relative to a solution which uses already established funds.

1.14. An alternative suggestion was to set up a committee which runs a competition along the following lines:

- specify the characteristic projects are required to have into which the money raised under the scheme can be invested; and
- invite tenders from existing funds for management fee (typically 2% of the money invested) and the free carry (typically 20% as outlined above) they would require for investing allocated money.

1.15. It was suggested that to ensure diversity, the committee should allocate the money raised between 4-6 existing funds. Under this scheme the "committee" effectively becomes a "Fund of Funds" - it could re-invest its fees to be a non profit organisation. If the committee is investing funds from several sources it is likely to be treated as a collective investment scheme and will be need to be established as a regulated fund.

1.16. Another interview partner was of a different opinion and suggested that if you want to manage a large asset portfolio, and give investors the advantage of asset diversification as well as regulatory oversight, then a centralised fund might be a good idea. There are the additional tax advantages if the fund is offshore.

1.17. Ofgem has no views on the accuracy of the information provided in this Appendix and invites responses on this matter.

[11] The custodians are third parties who keep track of the assets purchased and keep the particulars of ownership.
Basis point = 1/100th of a percent, i.e. 1bp =.01%
[12] If the fund is £100m then the management fees in this example are £2mpa - this will need to pay the overheads.

Appendix 7 - Illustrative low carbon tariffs

1.1. This appendix provides examples of the types of tariffs that could be constructed using electricity from different generating technologies. Three examples are provided:

- a single banding applied to the average generation mix of all electricity sold;
- a banding applied to each of two tariffs, one containing renewables only and the other containing the remaining generating mix; and
- a banding applied to each of three tariffs, one containing renewables only, one containing nuclear only, and the other containing the remaining generating mix.

Banding of a single tariff

1.2. Figure 2 below shows the current fuel mix in UK electricity generation and the weighted average emissions using the emission factors prepared by BERR for Fuel Mix Disclosure purposes. This shows that weighted average UK emissions were roughly 460g/kWh in 2006.

Figure 2: Current UK fuel mix and weighted average emissions

Fuel	Carbon emissions (g/kWh)	Proportion of supply (%)
Coal	890	33%
Natural Gas	370	39%
Nuclear	0	21%
Renewables	0	4%
Other	580	3%
Weighted average	460	100%

Electricity sold in a single tariff from a generating portfolio representative of the UK average13 would also have associated emissions of 460g/kWh and using the illustrative banding in

1.3. Figure 3, the electricity would be rated in Band D.

[13] The UK fuel mix is shown for illustration. The guidelines apply to Great Britain only.

Figure 3: Illustrative Carbon Intensity Bands

Band	Carbon intensity (g/kWh)	Associated technologies
Band A	0	Renewables (excluding biomass), Nuclear
Band B	1-100	Carbon capture and storage
Band C	101-300	CHP
Band D	301-500	CCGT
Band E	501-1000	Coal, Oil
Band F	Greater than 1001	OCGT, Biomass

Banding of two tariffs

1.4. One alternative would be to sell all of the renewable generated electricity (representing 4% of the total supplied) under a renewable tariff, which would receive Band A and a 100% renewables certification, and the remainder under a single tariff. This would increase the weighted average intensity of the remaining electricity but it would be possible for customers to see this through the provision of Fuel Mix Disclosure at the point of sale.

Banding of three tariffs

1.5. A second alternative would be for a supplier to sell all of the renewable generated electricity under a renewable tariff, all of its nuclear generated electricity under a low carbon tariff and the remainder in a residual tariff. This would result in the renewable and low carbon tariffs having an intensity of 0g/kWh which would receive Band A, although the overall fuel mix of that supplier may be more carbon intensive. However, through the complementary provision of Fuel Mix Disclosure and carbon intensity information available for customers in respect of both a suppliers tariff as well as its other offerings, customers would be able to assess and understand the overall position as part of their selection process.

Appendix 8 - International experience

1.1. There is evidence in Europe, Australia and the US of disclosure of information on the fuel mix of electricity supply tariffs as well as measures of the associated environmental impacts including greenhouse gas emissions and nuclear waste intensity.

1.2. In Europe, Government and regulatory focus has been on implementing the EU Directive 2003/54/EC, which ensures that customers receive information on a supplier's overall fuel mix, rather than on the fuel mix supporting any particular retail product chosen.

1.3. Beyond the implementation of Directive 2003/54/EC little evidence of involvement of European regulatory or Government agencies in electricity retail product labelling is evident. Typically, in most European countries there is no Government agency backed scheme to regulate which retail products can call themselves 'green', renewable or low carbon.

1.4. Electricity information provision initiatives in the US are generally regionally based (consistent with the geographic reach of power pools and system operators) and focus on providing annual information regarding generation sources and emissions on a supplier basis. This is similar to the requirements of EU Directive 2003/54/EC.

1.5. Many European regulators (e.g. E-Control in Austria and the BNetzA in Germany) consider retail to be competitive and outside their remit. Labelling and other marketing used by companies for individual products might in that context give rise to concerns about advertising standards or to possible competition policy issues, but not directly to regulatory issues.

1.6. Internationally there are several 'green' labels which electricity suppliers can use for marketing specific retail products. There are examples of these labels being awarded by Government organisations (e.g. GreenPower in Australia) but mostly they are based on certification by non-Government organisations, especially in Europe (e.g. the EUGENE Standard) and the USA (e.g. Green-e). The content of such non-Government certified labels will be greatly influenced by the certification agency and reflect their policy agenda. The credibility of these labels is a direct function of the agency backing them. Mostly 'green' labels focus on the renewables content of generation and less on its carbon content.

1.7. The following sections discuss specific examples of the information provided at the supplier level and tariff level.

Labelling at the supplier level

1.8. Austria's approach to implementing Directive 2003/54/EC on electricity labelling is typical of the approach taken in Europe generally. All Austrian generation units are required to obtain certificates for their output, which are then held (and transferred to suppliers) through a centralised data bank. This central data bank generates information on the generation mix sold by each supplier along the following categories:

- fossil fuel;
- renewables;
- other primary energy sources; and
- UCTE-Mix (the residual, unaccounted for energy).

1.9. Suppliers are obliged to provide this information to their customers on their annual bill and on promotional material.

1.10. In Germany customers are provided with more information regarding the environmental impact of their supplier's overall fuel mix, than the minimum required by Directive 2003/54/EC. German energy law (EnWG) imposes a duty on suppliers to label the electricity they supply (Stromkennzeichnung), showing the generation sources used as a percentage of the total electricity supplied by the retailer, and highlighting the difference between the national fuel mix.

1.11. In addition companies provide an indication of the environmental impact of their fuel mix in terms of CO2 emissions and radioactive waste generation. This information is included on customers' annual bills and in promotional material. It is optional for suppliers to provide further information on energy efficiency or other relevant environmental aspects of the products they offer. This information is calculated company-wide and not on a retail product specific basis.

1.12. New York State provides an example of a regional scheme within the US. The Public Service Commission introduced a requirement for environmental disclosure labels for fuel sources and emissions for electricity suppliers in 2000/01. These disclosures are made on a supplier basis. They offer information on suppliers' SO2, NOx and CO2 emissions relative to the average supplier in New York State, and detailed information on the percentage of electricity supplied by the supplier by generation type (biomass, coal, gas, hydro, nuclear, oil, solar, solid waste and wind). The information is published on the New York State Public Service Commission's web-site.

1.13. These examples suggest that there may be customer demand for more detailed information on the environmental impacts of a particular supplier's fuel mix including nuclear waste intensity, CO2, SO2 and NOx emissions.

Renewables labels at the tariff level

GreenPower: An example of a Government agency run certification scheme

1.14. GreenPower was introduced in 1997 in New South Wales, Australia and was extended nationally as a joint initiative between Government agencies in 2000. Its primary objective is to facilitate new renewable generation over the requirements of the Mandatory Renewable Energy Target (MRET).14 Furthermore the scheme aims to enhance consumer confidence by guaranteeing that the renewable electricity sold under a given tariff by energy suppliers meets stringent environmental standards. This scheme forms an important precedent for a Government-backed energy label at the retail product level.

1.15. In 2007 GreenPower had 478,000 domestic customers sourcing 450 GWh and 21,000 commercial customers sourcing 500 GWh of GreenPower. The combination of GreenPower and the MRET has resulted in about ~1.5-2% additional renewable generation to date.

1.16. Currently there are over 182 new renewable energy generators that are certified under the GreenPower program. GreenPower only certifies companies that produce electricity from 'eligible' renewable energy resources. Eligible renewable resources include:

- solar power;
- wind;
- biomass (landfill gas, municipal solid waste, agricultural wastes, energy crops, wood wastes);
- hydro-electric power (small-scale or on existing dams);
- geothermal energy; and
- wave and tidal power.

1.17. A certified GreenPower product carries a 'tick' label showing the proportion of the electricity sourced from renewables. Through the GreenPower scheme customers can purchase up to 100% renewable power. Most customers opt for a lower proportion of renewable energy in their supply. The average cost is $AU2 extra on an average bill of $AU20 per week.

[14] The federally legislated MRET aims to increase renewable energy generation in Australia by 9500GWh by 2010. This target remains at 9500GWh until 2020. When MRET was introduced in 2001 9500GWh it was about 2% of total generation, but with increased demand, this target equates to about 1.5% of total generation in 2007.

1.18. The Australian GreenPower experience suggests the following observations:

- the scheme has been successful in generating customer confidence because it is clear and simple, with clearly defined objectives.
- Government involvement has proven very important to give customers comfort in the credibility of the scheme.
- the Government agencies involved have been successful in ensuring that audit and compliance procedures for the companies and tariffs involved are as robust as possible.

1.19. However, there are differences between the UK and the Australian regulatory environment:

- the UK system of incentives for renewables and to create a low carbon energy sector is more complicated than the Australian MRET. The co-existence of the RO and CCL in the UK means that proving that any given renewables generation facility is additional to the legal requirements already imposed is more complicated than in Australia; and
- the UK has a broad range of tariffs with a variety of established brands.

Green-e: An example of a national, non-Government certified energy label in the US

1.20. The leading scheme in the US at present is the Green-e programme. Electricity suppliers can undergo an annual audit to verify their purchase of renewable energy. The scheme certifies electricity for which at least 50% comes from renewable sources, and any non-renewable part of the product has lower emissions than a traditional mix of electricity.

1.21. The Center for Resource Solutions (CRS) administers the Green-e program. Twice a year, CRS conducts a compliance review of Green-e participants. It also conducts an annual verification of all certified renewable power products. The results of the annual verification are documented in the annual CRS Verification Report.

Eugene standard: An example of an international, non-Government certified energy label in Europe

1.22. The Eugene Standard aims to be an international benchmark for ‘green’ energy tariffs. It is managed by a not-for-profit membership-based organisation, called the Eugene Network, comprising the leading ‘green’ energy labelling bodies across Europe. This Eugene Network aims to promote ‘green’ energy labelling as a market tool to facilitate and stimulate additional generation of renewable and efficient energy services, and to foster a clean energy system.

1.23. Key aspects to which suppliers must adhere if they are to be certified under the Eugene Standard include:

- the retail product must be backed by generation from eligible sources. This includes geothermal, wind, solar electric, hydropower, biomass and natural gas-fired CHP. Each of these sources must comply with strict criteria. For instance, hydropower is only eligible if it operates so that the river system's principal ecological functions are preserved.

- offerings must lead to the increase of 'green' electricity generation compared to that which would have occurred otherwise. There is a 'gold' and a 'silver' class of additionality to reflect differences in 'green' markets across Europe. This must be met entirely over and above Governmental renewable legislation.

1.24. Suppliers must conduct a verification process each year to substantiate their claims. The supplier must employ an independent certified public accountant to conduct this verification.

An example of national, non-Government certified energy labels in Europe

1.25. In addition to the EUGENE label German electricity suppliers use the following certificates to show that the electricity they offer provides environmental benefits.

1.26. ok-Power-Zertifikat: This certificate indicates that these products provide 'additional environmental benefits'. To obtain this certificate the electricity supplier has to support new built for renewables generation and CHP plant. However, there is no mention of the extent of this support relative to the electricity sold under this label.

1.27. Grüner-Strom-Label: This label is backed by several environmental, consumer and peace organisations. This label requires the support of renewable energy sources plus the fulfilment of additional criteria. For example, the supplier certified with this label must not operate any nuclear power stations and must buy at least one percent of the energy supplied from photovoltaic Installations. Depending on the extent to which further ethical criteria are met, suppliers can obtain a silver or a gold rated badge.

1.28. Some suppliers also use a TÜV- Certificate to give credence to the 'green' credentials of their product offerings. The requirements of this certificate are less stringent than those posed by those above and focus more on the technical quality of the suppliers' renewables installations than the overall fuel mix of the suppliers.

Appendix 9 - Glossary

A

Additionality

Suppliers offering 'green' tariffs must be able to show that consumers choosing the tariff will be making a difference to the environment over and above the legal requirements that suppliers are obliged to meet under the Renewables Obligation (defined below). This concept is known as additionality.

C

Climate Change Levy (CCL):

The CCL was introduced by Government in 2001 and is designed to promote energy efficiency and stimulate investment in new energy (electricity and gas) technologies. The levy is a tax on energy use in the non-domestic sector (industry, commerce, agriculture and public sector). It applies to gas, electricity, LPG and coal and is based on the primary energy content of the fuels, not the carbon content.

Carbon intensity:

Used in this document to refer to carbon dioxide emissions at the point of generation per unit of electricity generated, measured in gCO2/kWh. Carbon banding refers to the allocation of a particular supply tariff to a band which contains a specific carbon intensity range. This differs from some other definitions which include the lifetime emissions of a particular generating technology.

D

Domestic customer:

Customers excluding the Industrial and Commercial (I&C) sector and Small and Medium Enterprises (SMEs).

F

Fuel Mix Disclosure:

The Electricity (Fuel Mix Disclosure) Regulations 2005 implement the requirements of Article 3(6) of Directive 2003/54/EC concerning common rules for the internal market in electricity. This Directive obliges Member States to ensure that each supplier is required to provide details to its customers on the mix of fuels used to produce the electricity it supplies together with certain other environmental information (which at a minimum must be the emissions of CO2 (in grams of carbon

dioxide per kilowatt hour) and the radioactive waste (in grams per kilowatt hour) resulting from the electricity produced).

For each disclosure period (1 April- 31 March each year from 31 March 2004), suppliers are required to provide fuel mix information to customers. The following categories of energy sources are to be used for the purposes of Fuel Mix Disclosure:

- coal
- natural gas;
- nuclear;
- renewable (which has the same definition as the European Renewables Directive and the REGOs); and
- other.

L

Levy Exemption Certificates (LECs):

Exemptions from the CCL were introduced to encourage the use of less-polluting alternative energy sources. These include exemptions for supplies of electricity generated from new forms of renewable energy, for electricity generated from coal mine methane and energy for Good Quality combined heat and power (CHP) plants. LECs are evidence of CCL exempt electricity supply generated from qualifying sources and are redeemed by suppliers to HMRC to prove the amount of non-climate change energy that had been supplied to non-domestic customers in the given period.

N

Non-domestic:

The term non-domestic refers to the Industrial and Commercial (I&C) sector as well as Small and Medium Enterprises (SMEs). This definition differs from that used in the CCL which specifies that the non-domestic consumers are: Industry, commerce, agriculture, the public service, and other services.

R

Renewable Energy Sources (Renewables):

This document uses the same definition for renewables as The Electricity (Guarantees of Origin of Electricity Produced from Renewable Energy Sources) Regulations 2003. Renewables are defined in these Regulations as “renewable non-fossil energy sources, that is, wind, solar, geothermal, wave, tidal, hydropower, biomass (biodegradable fraction of products, waste and residues from industries such

as agriculture, and forestry, as well as the biodegradable fraction of industrial and municipal waste), landfill gas, sewage treatment plant gas and biogases.

Renewable Guarantee of Origin (REGO):

Introduced in 2003, The Electricity (Guarantees of Origin of Electricity Produced from Renewable Energy Sources) Regulations 2003 were produced in response to the EU Renewables Directive. This regulation implemented a certificate system that allows producers of renewable-sourced electricity eligible under the EU Renewables Directive to be issued with evidence. One REGO is provided per KWh of electricity produced that is renewable by the producer to prove their electricity is renewable. The scheme provides generators a means of proving their 'green' credentials within EU Member States. The certificates have no actual monetary value themselves.

Renewables Obligation (RO):

Introduced by the Government in 2002, the RO is the primary means to support the development of renewable technologies in Great Britain. It is a market based mechanism that requires electricity suppliers to source a percentage (increases every year) of their electricity sales from eligible renewable sources. In 2006/7 suppliers must source 6.7% of their supply from eligible renewables and this percentage will rise to 15.4% by 2015/6 and remain at that percentage until 2027. Companies can meet their obligation in one of three ways, which are: presenting Renewable Obligation Certificates (ROCs); paying a buy-out fund contribution equivalent to £33.24 MWh in 2006/07 and rising each year with RPI; or, through a combination of the two.

Renewable Obligation Certificates (ROCs):

Under the RO scheme, companies can prove that they are meeting their obligations by presenting ROCs. ROCs are issued to accredited renewable generators for each 1MWh of eligible electricity generated; generators can sell them to electricity supply companies.

Appendix 10 - Feedback questionnaire

1.1. Ofgem considers that consultation is at the heart of good policy development. We are keen to consider any comments or complaints about the manner in which this consultation has been conducted. In any case we would be keen to get your answers to the following questions:

1. Do you have any comments about the overall process, which was adopted for this consultation?
2. Do you have any comments about the overall tone and content of the report?
3. Was the report easy to read and understand, could it have been better written?
4. To what extent did the report's conclusions provide a balanced view?
5. To what extent did the report make reasoned recommendations for improvement?
6. Please add any further comments?

1.2. Please send your comments to:

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Appendix 11 - The Authority's Powers and Duties

1.1. Ofgem is the Office of Gas and Electricity Markets which supports the Gas and Electricity Markets Authority ("the Authority"), the regulator of the gas and electricity industries in Great Britain. This Appendix summarises the primary powers and duties of the Authority. It is not comprehensive and is not a substitute to reference to the relevant legal instruments (including, but not limited to, those referred to below).

1.2. The Authority's powers and duties are largely provided for in statute, principally the Gas Act 1986, the Electricity Act 1989, the Utilities Act 2000, the Competition Act 1998, the Enterprise Act 2002 and the Energy Act 2004, as well as arising from directly effective European Community legislation. References to the Gas Act and the Electricity Act in this Appendix are to Part 1 of each of those Acts.15

1.3. Duties and functions relating to gas are set out in the Gas Act and those relating to electricity are set out in the Electricity Act. This Appendix must be read accordingly16.

1.4. The Authority's principal objective when carrying out certain of its functions under each of the Gas Act and the Electricity Act is to protect the interests of consumers, present and future, wherever appropriate by promoting effective competition between persons engaged in, or in commercial activities connected with, the shipping, transportation or supply of gas conveyed through pipes, and the generation, transmission, distribution or supply of electricity or the provision or use of electricity interconnectors.

1.5. The Authority must when carrying out those functions have regard to:

- the need to secure that, so far as it is economical to meet them, all reasonable demands in Great Britain for gas conveyed through pipes are met;
- the need to secure that all reasonable demands for electricity are met;
- the need to secure that licence holders are able to finance the activities which are the subject of obligations on them[17]; and
- the interests of individuals who are disabled or chronically sick, of pensionable age, with low incomes, or residing in rural areas.[18]

[15] Entitled "Gas Supply" and "Electricity Supply" respectively.
[16] However, in exercising a function under the Electricity Act the Authority may have regard to the interests of consumers in relation to gas conveyed through pipes and vice versa in the case of it exercising a function under the Gas Act.
[17] Under the Gas Act and the Utilities Act, in the case of Gas Act functions, or the Electricity Act, the Utilities Act and certain parts of the Energy Act in the case of Electricity Act functions.

1.6. Subject to the above, the Authority is required to carry out the functions referred to in the manner which it considers is best calculated to:

- promote efficiency and economy on the part of those licensed[19] under the relevant Act and the efficient use of gas conveyed through pipes and electricity conveyed by distribution systems or transmission systems;
- protect the public from dangers arising from the conveyance of gas through pipes or the use of gas conveyed through pipes and from the generation, transmission, distribution or supply of electricity;
- contribute to the achievement of sustainable development; and
- secure a diverse and viable long-term energy supply.

1.7. In carrying out the functions referred to, the Authority must also have regard, to:

- the effect on the environment of activities connected with the conveyance of gas through pipes or with the generation, transmission, distribution or supply of electricity;
- the principles under which regulatory activities should be transparent, accountable, proportionate, consistent and targeted only at cases in which action is needed and any other principles that appear to it to represent the best regulatory practice; and
- certain statutory guidance on social and environmental matters issued by the Secretary of State.

1.8. The Authority has powers under the Competition Act to investigate suspected anti-competitive activity and take action for breaches of the prohibitions in the legislation in respect of the gas and electricity sectors in Great Britain and is a designated National Competition Authority under the EC Modernisation Regulation20 and therefore part of the European Competition Network. The Authority also has concurrent powers with the Office of Fair Trading in respect of market investigation references to the Competition Commission.

[18] The Authority may have regard to other descriptions of consumers.
[19] Or persons authorised by exemptions to carry on any activity.
[20] Council Regulation (EC) 1/2003