Environmental Action Plan

Annual Review 2001–02

June 2002

Foreword

Reconciling economic, social and environmental goals is one of the recurring challenges for all who work on aspects of energy policy. It is a central concern for government as a whole, as the report to government by the Performance and Innovation Unit of the Cabinet Office so clearly showed. Within the narrower confines of Ofgem's statutory powers and duties, which give Ofgem important but limited environmental responsibilities, the question of how we discharge our environmental duties is one which we address seriously and constructively. This, the first report on Ofgem's Environmental Action Plan, sets out what we have done in the past year.

It is a year in which Ofgem has taken on and discharged a series of executive duties aimed at helping the government implement its climate change programme for the energy sector: the accreditation of generators and issue of exemption certificates under the Climate Change Levy; and the establishment of procedures for administering the Renewables Obligation and the Energy Efficiency Commitment.

Ofgem has also driven forward the process of identifying how electricity transmission and distribution can be changed to accommodate the fundamental changes needed if the government's targets for renewables and combined heat and power generators are to be achieved while maintaining the standards of reliability and service to which consumers are accustomed and which they require. This is a major and essential contribution to achieving the government's aims.

In addition to these specific projects, much of Ofgem's other work is aimed at promoting environmental as well as social and economic objectives. Thus our work on transmission access will make it easier for new generators to access the electricity systems; our proposals on locational pricing are designed to discourage the environmental damage created by the location of generation uneconomically distant from demand; the change mechanisms built into the New Electricity Trading Arrangements have been used to make a series of modifications which assist smaller generators; the price controls for both gas and electricity transmission have been designed to reduce wastage.

Going forward, Ofgem intends to increase the attention it devotes to environmental issues. We are establishing a high level advisory group of experts to advise us on our environmental work; and we have identified a number of areas for research, which we will do either in cooperation with other interested parties or within Ofgem. We will continue in all Ofgem's work to seek to reconcile where we can our economic, social and environmental objectives, always in the interests of consumers.

There is keen interest in Ofgem's work on the environment. I hope this report enables you to understand more fully all that we are doing, and how this fits within the statutory duties and powers which provide the basis for all that Ofgem does.

Callum McCarthy
Chairman of the Gas and Electricity Markets Authority,
Chief Executive of Ofgem

June 2002

Executive summary

This document is Ofgem's first Annual Review of its Environmental Action Plan (EAP). The EAP, published in August 2001, was in response to new duties and responsibilities given to Ofgem under the Utilities Act. It set out Ofgem's policy principles in regard to its environmental responsibilities. It also set out an environmental workplan which is reported on in this review.

Principal achievements of 2001–02

Major projects since the publication of the Environmental Action Plan have included the following:

- Establishment of procedures for two of Ofgem's latest executive functions, The Renewables Obligation and the Energy Efficiency Commitment, have been set in place to allow their full implementation from 1 April 2002.

- Successful completion of the first full year of accreditation of generators and certification of renewable energy as exempt from the Climate Change Levy.

- Issue of guidelines for 'green supply' offerings, helping to clarify what these offerings should consist of, how they should be marketed and how they should be verified.

- Publication of a review of the effects of the New Electricity Trading Arrangements (NETA) on small generators.

- Issue of proposals for action by distributors on interim measures for connection charges for distributed generation.

- Issue of proposals for the reform of electricity transmission access and losses in England and Wales, to move towards locational pricing signals.

- Inclusion of environmental performance in the output measures forming part of the price control for gas transmission and distribution.

- Ofgem has been accredited under the ISO 14001 standard and is committed to internal environmental improvements throughout its operations.

The year ahead

The work programme for the coming year includes the following:

- Continuing to administer the Climate Change Levy exemption, including its extension to good quality CHP and coal mine methane.
- Administration of the Renewables Obligation including administration of a registry for Renewables Obligation Certificates (ROCs).
- Administration of the Energy Efficiency Commitment (EEC) programme.
- Publication of the first annual review of NETA, which will include an assessment of the participation of the demand side and of smaller generators.
- Participation in the introduction of new electricity transmission access and losses arrangements for NGC's transmission system to provide incentives to reduce losses, and to provide signals for the efficient location of supply and demand.
- Agreeing the objectives and structure for the review of the next distribution price control to begin in 2005, including:
    - how future investment requirements will respond to uncertainty such as the development of distributed generation; and
    - a review into losses on distribution networks and how best to incentivise companies to reduce losses.
- Investigation of the demand for, and feasibility of, delivering consumption and environmental information to electricity consumers at acceptable cost, through bills or metering technology.

- Improving the scope and usefulness of information on the environmental performance of the gas and electricity industries, in consultation with the Environmental Agency and with industry bodies.

- Publication of a discussion document on the electricity industries' obligation to address its impacts on amenity under Schedule 9 of the Electricity Act.

Ofgem proposes to carry out a new programme of research into certain specific environmental issues over the next 1–2 years. This will inform the projects outlined above, as well as Ofgem's input to the Government's proposed Energy White Paper and broader debates on energy and environmental policy. A high level external group will be established to provide advice on the discharge of Ofgem's environmental responsibilities

Ofgem is committed to integrating consideration of the environment into its policies and undertaking environmental assessment of all its projects. Once environmental impacts have been assessed, these can be considered alongside the social and economic implications and appropriate action taken. Ofgem is further developing a framework for the environmental appraisal of its policies.

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1. Introduction

Purpose of this document

1.1 The Environmental Action Plan[1] (EAP) was published in August 2001. It set out Ofgem's role and responsibilities in relation to the environment, within its statutory duties. It also recognised the growing political importance of meeting environmental commitments, whether national or international.

1.2 This document reviews the progress that Ofgem has made over the past months in delivering the commitments in the Plan, and sets out our priorities for the coming year. This first review covers a period of less than a full year, from the publication of the Plan until 31 March 2002, to bring the reporting cycle into line with Ofgem's other annual reporting.

Recent developments

1.3 Since the Environmental Action Plan was published last year, there have been a number of important developments in the energy and environment field. Added to these, the events of 11 September 2001 have added to concerns about threats to security of supply; while the California black-outs and the failure of Enron have illustrated the other challenges to security of supply. All of these have brought the debate over security of supply and the future of energy policy closer to the top of the agenda.

1.4 In May the UK Government completed the process of ratifying the Kyoto Protocol, along with other EU Member States – the first states to do so. Nonetheless, the absence of the United States from the Kyoto process has sent a clear signal to other developed countries, concerned about global competitiveness, as well as to the developing world. The World Summit on Sustainable Development to be held in August in Johannesburg, marking the tenth anniversary of the Rio Conference, will look at a global response to sustainable development ten years on.

[1] *Environmental Action Plan.* Ofgem. August 2001 (50/01)

1.5 In February 2002, the Performance and Innovation Unit report to Government on the future of energy policy[2] was published. The PIU's principal recommendations were that, if we are to achieve a low carbon economy by 2050, then much tougher targets for the growth of renewable generation and the reduction in household emissions will be required. The PIU also argued that, where there is a conflict between economic, social and environmental objectives, then environmental objectives should be pursued.

1.6 Ofgem submitted a paper to the PIU setting out its position on issues which it has responsibility for. These include: evidence on whether the current arrangements have delivered security of gas and electricity supply; the actions that Ofgem is taking to further enhance security of supply; and those actions that need to be taken by agencies other than Ofgem.

1.7 The Government has since issued a discussion paper on the report and will issue a White Paper on energy policy. Ofgem is preparing its response to the PIU report, and to the consultation document. Ofgem is also co-operating with other agencies in an interdepartmental group taking forward analytical work to assist the development of the White Paper.

1.8 The European Directive on Large Combustion Plants has been finalised. The Directive sets emission standards for major plants such as power stations for the most significant air quality pollutants of sulphur dioxide (SO_2), oxides of nitrogen (NOx) and particulates. The Directive includes the option of flexible mechanisms to meet emission targets through a national plan for some plants. Ofgem is part of an interdepartmental group looking at the implications of the Directive for the electricity generation sector.

1.9 DEFRA has set up the world's first national CO_2 trading scheme in the UK. The auction for participation in the Emission Trading Scheme was held in March 2002 and 34 organisations have successfully bid to join the scheme. Over the five years of the scheme, participating companies have pledged to reduce their annual greenhouse gas emissions by more than four million tonnes of carbon dioxide, over 5% of the planned reduction in the UK's annual emissions by 2010. Participating companies began trading under the scheme at the start of

[2] *The Energy Review.* A Performance and Innovation Unit Report February 2002

April 2002, although to date trading has been fairly slow, with CO_2 reported to be trading for around £5.00 per tonne. Plans are continuing for the establishment of an EU-wide compulsory trading scheme to begin in 2005.

1.10 Advance trading of certificates to be issued under the Renewables Obligation has also commenced. The market price of certificates is estimated to be £40–£45[3] per megawatt hour.

Ofgem's statutory duties

1.11 The Environmental Action Plan set out in some detail Ofgem's revised set of statutory duties, introduced by the Utilities Act 2000 which amended the Gas and Electricity Acts. A summary of these is set out below.

1.12 Ofgem's duty is to carry out its functions in the manner best calculated to further the principal objective, which is to protect the interests of consumers, including future consumers, wherever appropriate by promoting effective competition.

1.13 In carrying out this objective Ofgem must also have regard to:

- the need to ensure that all reasonable demands for electricity are met and, so far as is economical, all reasonable demands for gas are met;
- the need to secure that licence holders are able to finance their obligations;
- the interests of individuals who are disabled or chronically sick, pensionable age, living on low incomes, and individuals residing in rural areas;

and may have regard to the interests of consumers of other utilities (gas, electricity, telecommunications, water or sewerage services) which may be affected by the carrying out of Ofgem's functions.

[3] Based on the January 2002 NFPA auction prices.

1.14 Ofgem is also required to carry out its functions in the manner which it considers best calculated to:

- promote efficiency and economy;
- protect the public from dangers, and
- secure a diverse and viable long term energy supply.

1.15 In carrying out its functions Ofgem must have regard to the effect on the environment of activities connected with the generation, transmission, distribution or supply of electricity, and the conveyance of gas through pipes.

1.16 Finally, Ofgem is required to have regard to social and environmental guidance to be issued from time to time by the Secretary of State. Although a draft of such guidance was issued for consultation in May 2001, final guidance has not yet been issued.

1.17 For each decision Ofgem takes it is necessary to weigh each element of the general duties in the light of relevant circumstances, and then to apply these to the principal objective. The duties apply to the functions, and do not, of themselves, give a right to do anything.

Ofgem's executive functions

1.18 The Utilities Act 2000 introduced new powers to make regulations to promote energy efficiency and the generation of electricity from renewable sources. These are executed through the Renewables Obligation – including the Renewables Obligation (Scotland) – and the Energy Efficiency Commitment.

1.19 The Finance Act 2000 provides for electricity from renewable sources to be exempt from the Climate Change Levy. Proposed amendments in the Finance Bill 2002 will extend this exemption to Good Quality Combined Heat and Power (CHP) and Coal Mine Methane. Ofgem is required to administer these policies.

1.20 The Electricity Act also provides for the Non Fossil Fuel Obligation (NFFO) and the Fossil Fuel Levy which were used to promote the development of renewable energy technologies before the introduction of the Renewables Obligation, and

which will continue until 2018. It requires Ofgem to collect information about the generation of electricity, particularly the development of generation using CHP.

Ofgem's work on the environment

1.21 The statutory duties require Ofgem to consider seriously the environmental consequences of its work, as set against the other duties. They also set effective boundaries to what Ofgem can and cannot do in the field of the environment. In the light of this, Ofgem has developed core principles for its work in relation to the environment, taking account of the fact that there are other bodies with a more specific role in this area. These principles were set out in full in the Environmental Action Plan and are summarised below.

1.22 Ofgem contributes to meeting important environmental challenges by taking action it can within its legislative remit, and by engaging with others with environmental responsibilities. In particular, Ofgem seeks opportunities to act in relation to the gas and electricity supply chain where there is synergy between its economic, social and environmental objectives. Ofgem also works to assess the environmental implications of its policies.

1.23 To advise on its work in relation to the environment going forward, Ofgem has established a high level Environmental Advisory Group, composed of experts from a range of backgrounds. The Group will meet every six months and members will participate as individuals, not as representatives of organisations.

1.24 It is for Ministers, not the regulator, to set environmental targets and to determine measures to achieve them. Ofgem is committed to working with Government to advise on the most effective means to achieve environmental targets at the lowest cost to consumers. With a view to informing the work in this area, Ofgem will contribute to research in a number of different areas over the coming months.

Commitments under the Environmental Action Plan

1.25 In the Environmental Action Plan Ofgem committed to specific actions in a number of different areas. These were:

- assessing the effect of NETA on renewables and smaller generators;
- encouraging emissions trading, as an efficient means of complying with environmental standards;
- further work to reduce gas and electricity transmission and distribution losses;
- a review of the treatment of distributed generation; and
- administration of programmes that Ofgem has an executive responsibility for:
  - Climate Change Levy exemption for renewables
  - Energy Efficiency Commitment (from 1 April 2002)
  - Renewables Obligation (from 1 April 2002)
  - Database of installed Combined Heat and Power (CHP).

1.26 Progress in these areas is set out in the report, while the following chapter sets out how Ofgem will carry its work on the environment forward over the coming years.

Principal achievements of 2001–2

- Establishment of procedures for two of Ofgem's latest executive functions. The Renewables Obligation and the Energy Efficiency Commitment have been set in place to allow their full implementation from 1 April 2002.
- Successful completion of the first full year of accreditation of generators and certification of renewable energy as exempt from the Climate Change Levy.

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- Inclusion of environmental performance in the output measures forming part of the price control for gas transmission and distribution.

- Ofgem has been accredited under the ISO 14001 standard and is committed to internal environmental improvements throughout its operations.

2. The year ahead

2.1 In line with the general principles set out in the introduction, Ofgem's work programme for the next three years should be seen against the following set of objectives, set out in Ofgem's Strategy and Plan 2002–5. These are:

- to assess the environmental implications of Ofgem's policies and where possible to maximise their benefits, and take action to minimise any adverse effects
- to pursue policies where there is synergy between economic, social and environmental objectives
- to administer the executive responsibilities in relation to the environment given to Ofgem by Government
- to contribute to wider debate on energy policy, in order that the Government's environmental targets are met at the lowest cost to consumers.

Generation

Renewables Obligation and Climate Change Levy Exemption

2.2 Ofgem will continue to play its role in administering these schemes to further the Government's environmental priorities. This will include planning for and administering the extension of the Climate Change Levy (CCL) exemption to good quality CHP and coal mine methane and the first issue of Renewables Obligation Certificates (ROCs) and administration of the ROCs registry.

Research on the broader impacts of renewables targets

2.3 In order to assist informed debate in the area of deciding future targets for renewables, Ofgem proposes to undertake research into three aspects of this issue:

- to estimate the full costs of meeting the 10% target by 2010, including costs to the system and costs to suppliers, ultimately borne by consumers;

- to estimate the full costs of meeting higher targets in future, acknowledging that there will be greater uncertainty the further out the time horizon; and

- to assess the environmental benefits of meeting renewables targets and, thereby, the full cost to customers of delivering this environmental benefit.

2.4 Elements of this work may be carried out in partnership with other interested parties, including the DTI.

New Electricity Trading Arrangements (NETA)

2.5 Ofgem is committed to continuing to review and report on the impact of NETA. This work will include publishing the first annual review of NETA, which will build upon the three month review Ofgem published in August 2001[4]. The review will be published in July 2002. Areas covered by the report will include:

- background, including the reasons for NETA

- wholesale prices and emerging market developments

- operation of the balancing arrangements

- demand-side participation

- smaller generators[5] [6]

[4] *The New Electricity Trading Arrangements: Review of the first three months.* Ofgem. August 2001(53/01)
[5] As part of the work to gather information for this review, Ofgem has issued a survey of 250 smaller generators seeking information about their own experience of the first year's operation of NETA and where there is a need for an information help facility.
[6] The review will also include an update on the work that the Department of Trade and Industry (DTI) and Ofgem are undertaking on the justification and practicality of unbundling embedded benefits.

- governance arrangements
- retail prices under NETA

Transmission and distribution

Electricity transmission access and losses

2.6 Ofgem will participate in the introduction of new transmission access and losses arrangements for NGC's transmission system in England and Wales. Subject to the relevant modifications being proposed and agreed to the Balancing and Settlement Code (BSC) and/or the Connection and Use of System Code (CUSC), new arrangements should be put in place in the coming year.

2.7 Reforms suggested by Ofgem would reduce transmission losses and enable accurate signals to be given about the costs of entry to the system at different locations, thereby delivering environmental benefits.

Electricity distribution price control review

2.8 Ofgem will be working in 2002 with the Distribution Network Operators (DNOs), suppliers, generators and consumers to agree the objectives and structure for the next price control review in 2005. Work will focus on, among other things, how the appropriate level and type of investment at the local distribution level is best incentivised at a time when future investment requirements are uncertain and being shaped by new considerations, such as the development of distributed generation.

2.9 The first year of this work will also see a review being carried out into losses on distribution networks (see paragraphs 2.12–13).

2.10 Work will continue on the review of the structure of charges for electricity distribution companies. This work will link closely with the work on distributed generation and will also cover issues concerning access to the electricity distribution networks.

2.11 Ofgem is currently undertaking preliminary research to estimate the climate change benefits of reducing sulphur hexafluoride (SF_6) emissions. As highlighted in the Environmental Action Plan, SF_6 is one of the most potent of the

greenhouse gases with a global warming potential over 20,000 times that of carbon dioxide. SF_6 is an effective electrical insulant and is widely used in transmission and distribution equipment.

Losses from the electricity distribution system

2.12 Ofgem has committed resources to a review of the incentive framework in respect of losses of electricity on the distribution systems in Great Britain. This project will:

- establish the main drivers of electrical losses on distribution systems;
- identify interim change to the incentive framework to appropriately incentivise the reduction of losses over the remainder of the price control; and
- identify changes in the regulatory framework for the next distribution price control.

2.13 Specific issues that will be considered in the review are the role of distributed generation in minimising losses and the importance of reactive power as a contributor to increasing losses in recent years.

British Electricity Trading and Transmission Arrangements (BETTA)

2.14 Ofgem is working to create BETTA, which will deliver transparent, market based arrangements for electricity trading and transmission to all of Great Britain, including Scotland. Arrangements will be based on NETA which currently applies in England and Wales. BETTA will allow the reforms to transmission access and losses to benefit all consumers in Great Britain.

Supply

Energy Efficiency Commitment (EEC)

2.15 Ofgem will continue to administer the EEC programme and will contribute to the ongoing evaluation of policies to promote end-use energy efficiency. In particular, it will be important for future policy development to understand the economic, social and environmental gains from the current programme and its

predecessors, set against their total costs. Ofgem will participate in the collection of this information during the coming year.

Billing information for consumers

2.16 Ofgem considers that energy bills are an important means of communication between suppliers and consumers. Therefore bills should be as accurate and informative as possible. Ofgem undertook, in the Environmental Action Plan, to provide guidance to suppliers on the provision of annual consumption data on consumer bills. Experience in other countries suggests there could be benefits from this both in improving the energy awareness of consumers and in helping consumers to switch.

2.17 Information for consumers on the environmental impact of energy use (e.g. the fuel mix used in generation and the associated impacts) could take this initiative a step further. Data about the environmental impacts of electricity consumption would provide non-price information which consumers could use to decide among alternative suppliers, and may further incentivise energy efficiency and the choice of supply arrangements perceived to benefit the environment. This could include green supply offerings based on renewable energy.

2.18 During the year Ofgem intends to investigate the demand for, and feasibility of, delivering such information at an acceptable cost to consumers.

Smart Meters

2.19 There is considerable interest in the impact on consumer behaviour of more advanced meters, in terms of economic, social and environmental benefits. Claims of 10% savings in energy consumption have been advanced in some trials. However, without more detailed research in this area, it is difficult to know whether these are realisable in British conditions. Ofgem is seeking to identify what research would be useful in this area.

Increasing openness, transparency and accountability

Incorporating environmental considerations into Ofgem's policies

2.20 Ofgem is committed to integrating consideration of the environment into its policies and undertaking environmental assessment of all its projects. Once environmental impacts have been assessed, these can be considered alongside the social and economic implications and appropriate action taken. Ofgem is further developing a framework for the environmental appraisal of its policies.

Environmental Advisory Group

2.21 Ofgem has established a high level external group to provide advice on Ofgem's environmental work. The group will be broadly similar to the Social Action Plan Review Group. Members will participate as individuals, not as representatives of organisations, but are drawn from Government, industry and the voluntary sector.

2.22 The group's purpose will be to advise Ofgem on the priorities for its work in relation to the environment. The scope will extend beyond considering the commitments made in the Environmental Action Plan, to cover the environmental aspects of any work Ofgem is undertaking, consistent with our statutory responsibilities.

2.23 It is also proposed to engage a small number of experts interested in the environment to act as advisors on specific pieces of research work which we decide to undertake.

Environmental reporting

2.24 In consultation with the Environment Agency and with industry bodies, Ofgem will look at ways of improving the scope and usefulness of information on the environmental performance of the gas and electricity industries. This will include consideration of more timely data based on actual market behaviour and the setting of information in the context of other industries and best practice.

Schedule 9 statements

2.25 Ofgem committed in the Environmental Action Plan to reviewing its role in the operation of Schedule 9 of the Electricity Act. Ofgem has been consulting informally with industry and the statutory consultees and will be releasing a discussion document on the issues in July 2002. The issues to be addressed will include:

- the current arrangements for Schedule 9
- guidelines for the content of Schedule 9 statements
- the use of a model statement for certain companies
- reporting on Schedule 9 statements, and
- related policy issues.

Environmental research programme

2.26 Ofgem proposes to carry out a new programme of research into certain specific environmental issues over the next 1–2 years. This work is designed to:

- inform Ofgem's existing projects and regulation,
- allow for opportunities to work in partnership with other interested parties, and
- equip Ofgem to participate in a more informed way in wider policy debates.

2.27 In the coming months, Ofgem will publish a detailed programme of work including timing and resources and arrangements for joint work. Research will cover many of the areas of work outlined in this chapter. It is proposed that the research will also help to inform Ofgem's input to the Energy White Paper and broader debates on energy and environmental policy.

3. Generation

New Electricity Trading Arrangements

3.1 In February 2001, the then Minister of State for Energy and Competitiveness in Europe asked Ofgem to undertake a review of the initial impact of the New Electricity Trading Arrangements (NETA) on smaller generators after the first two months of generation. The report[7] was published at the end of August 2001, at the same time Ofgem published a document reviewing the first three months of NETA operation[8].

3.2 Evidence from those who responded to Ofgem's survey of smaller generators showed, amongst other things, that prices achieved by smaller generators were significantly lower than under the Pool for a comparable period but a smaller reduction in prices than for generators in total; and that smaller generators' output had fallen substantially. As expected, very few smaller generators had chosen to become BSC signatories.

3.3 There was also concern about the availability of consolidation services either by new consolidators entering the market or in other ways. Consolidation is a process by which exposure to imbalance cash-out prices can be reduced by combining the output of a number of generators and/or demands in order to reduce the average variability. The benefit of consolidation arises because individual market participants may have fully or partially offsetting imbalances such that if their imbalance positions are combined the net exposure to imbalance prices is reduced. In addition, consolidators can offer improved access to the NETA market mechanisms.

3.4 It is believed that significant new entrants offering of consolidation services did not occur immediately after Go-Live as many smaller generators had already signed annual contracts with their local supplier from 1 April 2001. From the new independent consolidators' point of view, they needed to obtain a supply licence, sign up to the Balancing and Settlement Code (BSC) and Master Registration Agreement (MRA) and develop systems and processes.

[7] *Report to DTI on the initial impact of NETA on smaller generators.* Ofgem. August 2001 (52/01)
[8] *The New Electricity Trading Arrangements: Review of the first three months.* Ofgem. August 2001(53/01)

3.5 Ofgem formed the Consolidator Development Group (CDG) on 5 November 2001 to work to facilitate the resolution of some of the key issues in time for the next major contracting round of smaller generators from 1 April 2002. In November 2001 the DTI issued a consultation paper on the issue.

3.6 In that document the Government proposed to establish a Consolidation Working Group (CWG) of smaller generators, Elexon, National Grid Company (NGC), BSC participants, Ofgem, the DTI and the Department of the Environment, Food and Rural Affairs (DEFRA) to look urgently at possible structural or regulatory obstacles to consolidation. The DTI asked Ofgem to facilitate the CWG. The final report was published on 7 February 2002. The major findings of this report were:

- an obstacle to the development of consolidation services is the inability of small generators to sell fixed volumes of energy without becoming a party to the BSC; the mainly technical barriers that prevented this option from being available from the start of NETA have now been addressed by the CWG, Elexon and MRASCo[9];
- the commercial importance of embedded generators obtaining embedded benefits whether their output is sold to the regional electricity supplier or any other supplier;
- concerns exist over the negotiating position of smaller generators and independent consolidators relative to regional suppliers in some areas.

3.7 The CWG report noted that significant progress was being made to address many of the concerns through recent proposals for changes to the BSC and MRA. Other areas for future work were also identified. These included an investigation of the risk in registration of meters and the incentives to perform to standards, and a review of licensing procedures. Since the CWG was published further progress has been made to help smaller generators as follows:

- BSC Modification Proposal P67 was accepted on 1 March 2002. This modification enables smaller generators to sell fixed volumes of energy without becoming a party to the BSC.

[9] Master Registration Agreement Service Company

- BSC Modification Proposal P12 "Reduction of Gate Closure from 3.5 Hours to 1 Hour" was accepted on 2 May 2002 and is due to be implemented on 2 July 2002. This will allow all parties including smaller generators to notify their predicted output closer to real time. This should help smaller generators to manage their risk and reduce exposure to imbalance charges (that participants incur for not being in balance).

- Work is being progressed to address some of the administrative burdens of smaller generators. The Government proposes to make funding available to provide comprehensive and coherent advice for smaller generators, provided the need for this is established.

3.8 The specific issue of access to embedded benefits is being progressed in consultation with the DTI and relevant parties. Issues to be considered include:

- justification for enabling direct access to embedded benefits;

- quantification of embedded benefits; and

- methods of enabling direct access to embedded benefits.

Flexible regulatory instruments for air quality pollutants

3.9 Fossil fuel power stations are major contributors to national emissions of the air pollutants of sulphur dioxide (SO_2) and oxides of nitrogen (NOx). In England and Wales, emissions from these power stations are regulated by the Environment Agency. The Environment Agency has worked with the devolved administrations and other regulators to devise a UK strategy for their reduction. The proposed strategy will set reduction targets, based on the costs to industry and the resulting environmental benefits.

3.10 The Large Combustion Plant Directive is the most relevant legislation to assist the Environment Agency in achieving the reduction targets. This Directive allows EU Member States to use a national reduction plan to achieve the required standards by 2008.

3.11 Consistent with the LCPD, the Environment Agency is considering proposals for the use of flexible instruments such as an emissions trading scheme to deliver

reductions in emissions of sulphur dioxide and nitrogen oxides in the electricity generation industry. The principles for this scheme are applicable to other industries. The Agency's aim is to generate a regulatory process for sulphur dioxide and nitrogen oxides, which represents a more modern approach to regulation based on clear, long-term environmental objectives.

3.12 The Agency is consulting with the generation industry and with Government departments, including Ofgem, on the development of these mechanisms. It has also undertaken significant research in this area. The Agency intends to undertake formal consultation on proposals for a regulatory scheme in mid-2002.

3.13 As outlined in the Environmental Action Plan, Ofgem supports the greater use of flexible, market-based mechanisms for environmental regulation. These instruments can achieve environmental targets at least cost to consumers, and are less likely to create unintended distortions in commodity markets. Ofgem will continue to work with the Environment Agency and other regulators to assist in the design and implementation of these instruments in the electricity and gas industries.

Administration of the Government programmes to promote renewables

3.14 Ofgem is responsible for administering the exemption for renewables from the Climate Change Levy, and the Renewables Obligation. This year Ofgem introduced procedures for jointly administering these executive functions in relation to renewables. In October 2001, Ofgem's computer system for issuing Levy Exemption Certificates (LECs) and Renewables Obligation Certificates (ROCs) became fully operational in anticipation of the introduction of the Renewables Obligation. In January, Ofgem issued a set of guidance notes on the Climate Change Levy exemption for renewables. These covered topics such as information for generators and suppliers, LEC over- or under-issue and provision of meter readings.

3.15 After consultation with the industry, Ofgem brought the timetable for LEC issue into line with the timetable for ROC issue. This was to cut down on unnecessary administration for generators, enabling them to provide one set of output figures to Ofgem to determine numbers of certificates to be issued.

Climate Change Levy exemption for renewables

3.16 Certain electricity supply is exempt from the Government's Climate Change Levy, including supply from certain renewable sources. To qualify for the exemption, renewable electricity must be supplied to customers in the UK. Ofgem is responsible for monitoring the exemption claimed in Great Britain; Ofreg has a similar role in respect of electricity supplied in Northern Ireland. Ofgem's role in the exemption involves:

- accrediting generators;
- issuing Levy Exemption Certificates (LECs) in respect of qualifying output from accredited generators;
- confirming the LECs held to suppliers; and
- reporting to HM Customs & Excise.

3.17 In order for LECs to be issued, the generating station that generated the electricity must be accredited by Ofgem to ensure that the electricity generated meets the eligibility criteria for the CCL.

3.18 On receipt of monthly output information, Ofgem issues the LECs to the generator (in the case of non-NFFO generators) or the supplier (in the case of NFFO generators). One LEC is issued for each qualifying megawatt hour produced.

3.19 The LECs must be traded with the electricity and cannot be sold separately. Following the issue of the LECs, suppliers are required to notify Ofgem of the quantity and serial numbers of the certificates purchased from generators. This notification is only required from the final supplier i.e. the supplier who sells the electricity to the end consumer. Ofgem then validates this information using the details it holds of the LECs issued and provides confirmation to the suppliers.

3.20 If a dispute arises over any LECs issued, Ofgem may require information from any supplier who was involved in transactions with those LECs and the associated electricity and so there should be a clear audit trail in relation to any such transactions.

3.21 Electricity suppliers are required to provide quarterly returns to HM Customs and Excise showing the amount of Levy due. They are also required to declare the amount of renewables exemption claimed and to produce details of the LECs held and confirmed by Ofgem as part of their evidence of this. Ofgem will report to HM Customs & Excise to verify the quantity of LECs held by each supplier and will provide information on LECs as requested.

Levy Exemption Certificates (LECs)

3.22 Table 1 below shows the numbers of LECs issued by Ofgem by month and certain technology classes (wind, on and off-shore, hydro and other[10]). These figures are for the first year of operation of the Climate Change Levy.

Table 1: Number of LECs issued by month[11]

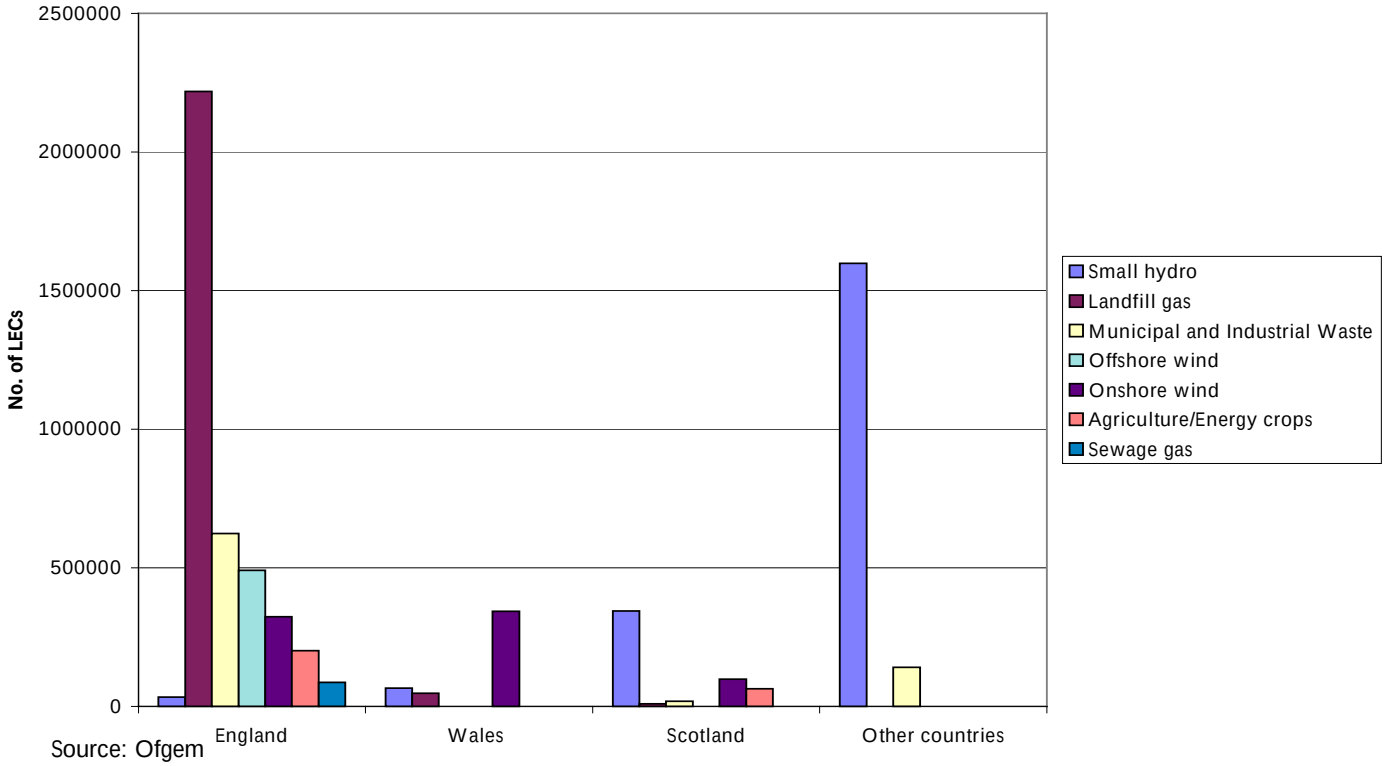
(thousands of LECs)

Month	Hydro	Wind	Other
April 2001	40	61	312
May	368	31	312
June	252	47	319
July	224	41	341
August	158	37	341
September	135	59	334
October	153	83	329
November	169	62	334
December	150	58	361
January 2002	152	99	334
February	202	119	298
March	46	79	312

Source: Ofgem
Note: these figures are subject to revision, and are correct at time of going to press

[10] "Other" includes landfill gas, sewage gas and energy crops.
[11] LECs for Northern Ireland generators are issued by Ofreg.

Chart 1 – LECs issued by country and technology 2001–2

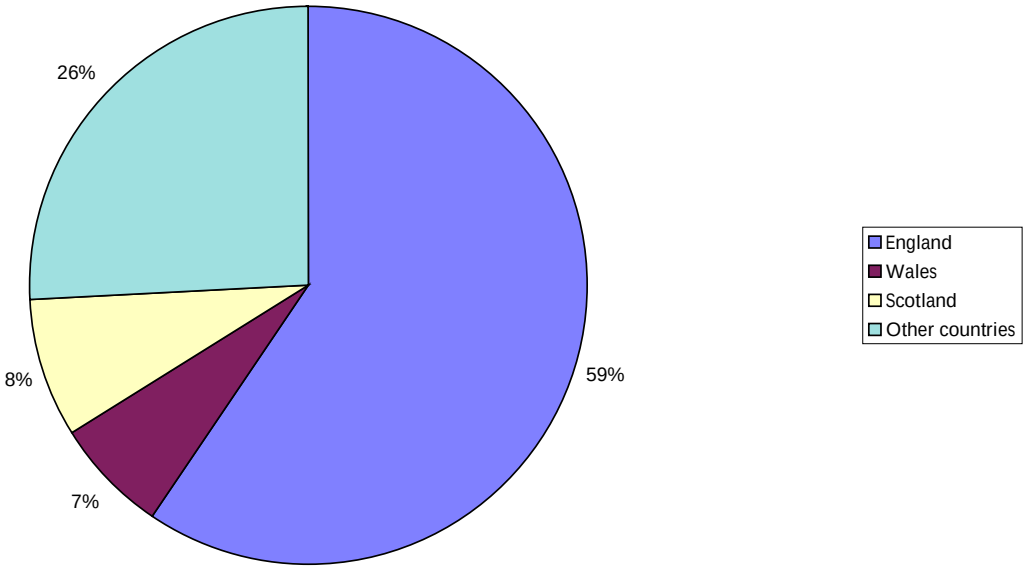


Source: Ofgem

3.23 Chart 1 above shows numbers of LECs issued by technology and country in Great Britain. In England the largest number of LECs have been issued to landfill generators closely followed by municipal and industrial waste. Scotland is dominated by small hydro, while Wales has mainly onshore wind power.

3.24 Chart 2 shows total numbers of LECs issued by Ofgem to generators in Great Britain and outside the UK. LECs may be issued to generators who supply to the UK but are located outside the UK. Currently there are accredited generators in France and Belgium. LECs for generators in Northern Ireland are issued by Ofreg and are not included.

Chart 2 – LECs issued by country 2001 – 2



Renewables Obligation

3.25 In February 2002, Ofgem finalised the procedures for the Renewables Obligation[12]. This followed a formal consultation document sent to interested parties, as well as two workshops, held in London and Glasgow. Also in February a new combined application form for accreditation was issued. This now enables generators to apply for both CCL and RO accreditation at the same time, if appropriate.

3.26 Ofgem is responsible for monitoring and enforcing compliance with the Obligation. This includes a number of functions:

- ♦ accrediting generators;
- ♦ issuing Renewables Obligation Certificates (ROCs);
- ♦ establishing and maintaining a register of ROC holdings;
- ♦ assessing compliance;

[12] References to the Renewables Obligation include Renewables Obligation (Scotland)

- calculating the buyout price;
- receiving and recycling buyout; and
- reporting annually to the Secretary of State of Trade and Industry and the First Minister of Scotland on compliance with the Obligation.

3.27 ROCs will be issued to accredited generators for eligible renewable electricity generated within the United Kingdom and supplied to customers in Great Britain.

3.28 In order for ROCs to be issued, the generating must be accredited by Ofgem to ensure that the electricity generated meets the eligibility criteria for the Obligation. In time for the beginning of the RO, on 1 April 2002, Ofgem had accredited over 350 generating stations.

3.29 ROCs are to be issued electronically into the relevant account in the Register. Each certificate will have a unique number and will detail the generating station and the period in which the electricity was generated. A supplier may discharge the Obligation by presenting ROCs bought from generators or another party as ROCs can be sold separate from the electricity.

3.30 The Register will be a record of eligible ROCs and will facilitate tracking the transfer of ROC ownership. The Register will enable Ofgem to be satisfied that, when ROCs are presented for compliance purposes, the presenter is entitled to them.

3.31 To ensure industry involvement and to provide a central focus for industry feedback and comments in relation to the development and implementation of the Register an Industry Implementation Group has been set up. The Group includes representatives from generators, suppliers, traders and other interested parties.

3.32 Ofgem will be responsible for assessing and monitoring the extent of compliance by suppliers. Suppliers will be required to provide evidence of their compliance with the Obligation by a specified date, after the end of each Obligation period. This can be through the presentation of ROCs or by paying a 'buy out' price to Ofgem for part or all of the Obligation.

3.33 The legislation sets the buyout price as £30/MWh until 1 April 2003. Ofgem will then adjust this in line with the retail price index and announce the new buyout price each year. The proceeds from such buying out will be returned to suppliers by Ofgem, according to the amount of eligible renewable electricity, represented by the ROCs, that each supplier presents to discharge the Obligation.

3.34 If a supplier fails to present evidence of fulfilling the Obligation, either through ROCs or through paying the buy out, by the specified day, they will be considered in breach of a 'relevant requirement' within the meaning of section 25 of the Electricity Act 1989.

3.35 As at June 2002, the market price of a ROC is estimated to be £40–£45[13] reflecting the avoidance of paying the buyout price and the expectation of a recycle premium.

Non-Fossil Fuel Obligation

3.36 Between 1990 and 1998 the principal instruments for supporting renewable energy in Great Britain were the Non Fossil Fuel Obligation (NFFO) in England and Wales, and the Scottish Renewables Obligation (SRO) in Scotland. Orders made under these schemes (five NFFO orders and three SRO orders) required the former Public Electricity Suppliers (PESs) to purchase a specified amount of electricity from renewable sources. The aim of the orders was to create an initial market for established renewable technologies. Ofgem has ongoing responsibilities in regard to these programmes in setting the amount of the fossil fuel levy and in oversight of contracts.

Fossil Fuel Levy

3.37 Suppliers' additional costs in purchasing electricity from renewable sources under these contracts have been met by means of the Fossil Fuels Levy (FFL) and the Fossil Fuel Levy (Scotland), which are payable on almost all electricity. The levies effectively fund the difference between the contract prices payable to the renewable generators and the market price of electricity. Ofgem (formerly OFFER) sets the rate of the Levy.

[13] Based on the January 2002 NFPA auction prices.

3.38 In England and Wales, the contracts, for which suppliers now bid in six-monthly auctions conducted by the Non-Fossil Purchasing Agency (NFPA), will last for up to another seventeen years. Within the framework set by the Fossil Fuel Levy Regulations 1990, as amended, the NFFO auction arrangements, and the Renewables Obligation, Ofgem must review the Levy rate annually. Future variations to the Levy rate will take account of:

- current and forecast balances of levy funds held in dedicated bank account;
- forecast sales of leviable electricity (and hence expected Levy receipts);
- forecast NFFO generation;
- prices achieved in the NFPA auctions of NFFO contracts;
- investment income from Levy funds on deposit; and
- the expenses of Ofgem and the Levy Collector.

3.39 During 2001–02, Ofgem announced a reduction in the levy to zero (with effect from 1 April 2002) based on the above factors[14]. The current level of the FFL in Scotland is 0.6%. In May 2002, Ofgem announced that it is reviewing the rate in Scotland. It is expected that the revised rate will be announced in June 2002.

Other activities

3.40 Ofgem has further ongoing duties in relation to NFFO contracts. If a generator seeks a NFFO contract amendment and the Non Fossil Purchasing Agency (NFPA) agree to the proposed change, NFPA contacts Ofgem to establish whether such a contract amendment would cause that revised arrangement to cease to be a qualifying arrangement under the order. The concept of a qualifying arrangement is relevant to the payment of fossil fuel levy support to NFFO generators. Ofgem can only make payments in respect of qualifying arrangements.

[14] The levy has been set to zero because additional funding is not required to meet the cost of NFFO generation; this is the result of the high prices received in NFPA auctions. Although the rate of the levy is set to zero, the levy is not abolished and could be increased in future years.

3.41 The Locational Flexibility Order agreed during the year enables NFFO projects to move site and continue to be a qualifying arrangement. Similar arrangements are in place in respect of SRO contracts in Scotland.

Combined heat and power (CHP)

3.42 During the year Ofgem continued to maintain the database on CHP projects in accordance with our requirement under the Electricity Act. This database can be accessed through Ofgem's website at: www.ofgem.gov.uk/renewables/chp.xls.

3.43 In the EAP, Ofgem committed to improving the data held on the CHP database. In order to facilitate this Ofgem has been in negotiation with DEFRA, which is responsible for the Government's CHP quality assurance (CHPQA) scheme, and the DTI. It has been agreed that provision for providing data to Ofgem should be incorporated into Future Energy Solutions' work in managing the CHPQA on behalf of DEFRA. As part of the revised CHPQA scheme application forms, issued in the New Year, a new clause has been added which requests that generators give permission for data about their CHP scheme to be released to Ofgem. Data from this source will ensure that the CHP database remains up to date and a useful resource. It should also reduce the burden on CHP generators with regards to reporting on their schemes.

3.44 In the 2002 Budget, the Government announced the extension of the exemption to the Climate Change Levy to all good quality CHP (and coal-mine methane). Ofgem will be responsible for administering these exemptions and the issue of LECs for electricity generated.

3.45 In May 2002, the Department for Environment, Food and Rural Affairs (DEFRA) released a public consultation draft of its *Strategy for Combined Heat and Power to 2010*. This consultation runs until August 2002. The draft strategy highlights the various support measures available to CHP such as Climate Change Levy exemption for good quality CHP, enhanced capital allowances, VAT reduction for domestic CHP.

3.46 According to the current available data, CHP capacity in the UK is 4,632 MWe. On the basis of modelling work carried out for DEFRA by Cambridge

Econometrics as part of the draft Strategy, it is suggested that CHP capacity will reach 9,300 –10,300 MWe by 2010. The current target is 10,000 MW.

4. Transmission and distribution

Electricity transmission access and losses

4.1 Ofgem has issued proposals to reform the transmission access and losses arrangements[15] in England and Wales The current access arrangements do not provide strong signals to generators and large customers about the transmission costs associated with locating at different points on the network. Moreover, the current arrangements for charging for transmission losses do not encourage efficient use of the transmission system as the costs are averaged nationally across all users.

4.2 One of the key aims of the proposed reforms is to reduce the overall level of losses. Ofgem believes that, by better reflecting the costs of transmission losses on participants, existing generation will be used more efficiently in the short-term and participants will face long-term incentives to take transmission losses into account when making investment decisions. Any reduction in overall transmission losses will mean less energy is required to meet electricity demand and hence would mean an overall reduction in emissions.

4.3 Better targeting of transmission costs also has the potential to encourage more local, distributed and on-site generation, as they will be able to capture greater benefits from reducing overall transmission costs. Over time there is also potential for this better cost targeting to reduce the need for investment in additional transmission assets. This will reduce the resources consumed in electricity transmission and any visual intrusion caused by new overhead transmission lines.

4.4 Ofgem recognises that many renewable technologies are dependent on fixed natural resource e.g. wind or river flows, and therefore do not have locational flexibility. However, cost reflective pricing for transmission will help to promote efficient investment decisions between alternative technologies and projects.

4.5 A number of factors other than the transmission access and losses arrangements

[15] *Transmission access and losses under NETA revised proposals.* Ofgem. February 2002 (19/02)

will influence the operational and investment decisions of participants and NGC. For example, local planning regulations and the potential introduction of tradable emissions rights for generators could both be significant factors for participants to take into account. However, greater transparency in transmission costs would enable participants to balance these factors appropriately.

Transco output measures

4.6 As part of the Transco 2002 price control, Ofgem has introduced a requirement for Transco to provide an annual report on the medium-term performance of its National Transmission System (NTS) and each of its Local Distribution Zone (LDZ) networks.

4.7 Ofgem will collect information in four main areas, including environmental performance. Transco will be required to submit an annual environmental report for the NTS and LDZ networks. The reports are to include information on a number of specified environmental measures as shown in Table 2.

Table 2: Environmental measures for Transco's NTS and LDZ networks[16]

Measure	Definition	Applicable assest group(s)	Reporting Detail
Methane emissions	Methane emitted from plant.	NTS	Estimated kg of methane emitted per annum, normalised by energy delivered – kg methane per GWh.
Methane emissions	Methane emitted from pipe network due to leakage.	Distribution Network asset group (MP and LP pressure tiers)	Disaggregated by Distribution Network asset group, estimated tonnes of methane per annum.
CO_2 emissions	Carbon Dioxide emitted by gas-powered compressors.	NTS	Normalise by energy delivered – estimated kg of CO_2 per GWh.
NOx emissions	NOx emitted by gas-powered compressors.	NTS	Normalise by unit of annual throughput
Loss of containment	Number of incidents involving release of gas that are subject to reporting under COMAH.	LDZ storage	Number reported and total gas lost in tonnes.

4.8 Transco's environmental report is to take into account guidance from the Government, the Environment Agency and other relevant bodies. It will explain

[16] *Review of Transco's price control from 2002, Revised Regulatory Instructions and Guidance for reporting outputs.* Ofgem. February 2002 (14/02)

levels of carbon dioxide, oxides of nitrogen, and methane emissions (where appropriate) for the NTS and Transco's LDZ networks and performance against any other relevant environmental targets. It will also describe in detail the differences in performance between LDZs. Accurate information about environmental effects of gas transmission and distribution and the variation in performance across the systems will allow development of future policy in this area.

Losses from the electricity distribution system

4.9 Approximately 7% of energy produced in Great Britain is lost when transported over local distribution systems. Reducing electricity losses has the potential to deliver simultaneous progress towards meeting economic and environmental goals.

4.10 The following table (Table 3) shows the trends in losses on electricity distribution systems since 1990. It shows that the proportion of electricity lost in the transfer to end customers has not decreased since the mid 1990s despite incentives to minimise losses being included in distribution price controls. These incentives reward electricity distribution businesses for savings in units distributed relative to historic performance. They also penalise companies that report levels of unaccounted units above these allowed levels. As total electricity consumption has been increasing annually, thus represents a steady increase in losses in absolute terms.

4.11 Ofgem has done some preliminary work to identify the most important drivers of electrical losses in preparation for a project to review the present incentive framework during the coming year.

Table 3: Losses from the GB distribution system 1990 - 2002

DNO	1990/91 (%)	1995/96 (%)	1996/97 (%)	1997/98 (%)	1998/99 (%)	1999/00 (%)	2000/01 (%)	2001/02 (%) (est.)
Eastern	7.0	6.9	7.1	7.0	7.1	7.3	7.1	7.1
East Midlands	6.6	6.1	6.1	6.1	6.1	6.1	6.0	5.9
London	7.8	6.7	7.1	6.8	7.1	6.5	7.3	7.2
Manweb	9.8	8.8	8.8	9.0	9.0	8.9	9.1	9.0
MEB	6.2	5.5	5.6	5.5	5.4	5.4	5.4	5.4
Northern	7.5	6.8	6.9	6.7	5.6	6.7	6.6	6.7
Norweb	7.1	4.8	5.0	5.7	6.0	5.9	6.2	6.2
Seeboard	7.9	7.1	7.6	7.7	7.6	7.4	7.6	7.6
Southern	7.1	7.2	7.2	7.2	7.2	7.2	7.2	7.2
Swalec	8.9	6.7	8.0	6.9	6.1	7.7	7.2	6.2
Sweb	8.6	7.2	7.9	7.3	7.5	7.3	7.9	6.6
Yorkshire	6.3	6.5	6.5	6.5	6.6	6.7	6.6	6.4
Ave. (England &Wales)	**7.4**	**6.6**	**6.8**	**6.7**	**6.8**	**6.8**	**6.9**	**6.7**
Scottish Power	8.5	6.7	7.2	7.2	7.2	7.2	n/a	n/a
Scottish Hydro	9.4	9.0	9.0	9.1	9.0	9.1	n/a	n/a
Ave. GB	**7.6**	**6.7**	**6.9**	**6.8**	**6.9**	**6.9**	n/a	n/a

Source: Ofgem

Distributed generation

4.12 Distributed generation[17] is electricity generation which is connected to the distribution network rather than the high voltage national grid. Distributed generation is typically smaller generation such as Combined Heat and Power (CHP) or renewable generation such as small hydro, wind or solar power.

4.13 As noted in the Environmental Action Plan, the joint government-industry Embedded Generation Working Group (EGWG) report of June 2001 contained two main recommendations. These were that:

- Ofgem should review the structure of regulatory incentives on distribution network operators (DNOs) in the light of the new statutory duty on DNOs to facilitate competition; and
- a group should be established under Government leadership to co-ordinate and take forward the implementation of EGWG's recommendations for the longer term.

[17] referred to as "embedded generation" in the EAP; "distributed generation" has been adopted to be consistent with international usage.

4.14 Ofgem's September 2001 consultation paper[18] and its subsequent summary/proposals paper of March 2002[19] have begun the process of implementing the first recommendation. Ofgem's recommendations for early implementation include:

- the option of 'annualised charging' under existing connection charge methodology;
- consultation on reimbursing non-domestic 'initial contributors' from proceeds of later connections;
- establishing agreed classification (banding) of distributed generation;
- separate and appropriate identification of import and export active power quantities as the general commercial best practice for distributed generation;
- protecting the commercial position of existing distributed generation; and
- full and comprehensible information for all prospective distributed generators.

4.15 This review of regulatory incentives will continue through the next distribution price control review to take effect in April 2005.

4.16 In response to the second recommendation, DTI and Ofgem have established the Distributed Generation Co-ordinating Group (DGCG). The group has met three times (in November 2001 and in January and April 2002). Its terms of reference are:

- to recommend priorities for action arising from the recommendations of the joint government industry working group on embedded generation; to monitor and comment on action taken in respect of the recommendations of the report and to advise on progress;

[18] *Embedded generation: price controls, incentives and connection charging: A preliminary consultation document*. Ofgem. September 2001. (58/01).
[19] *Distributed generation: price controls, incentives and connection charging. Further discussion, recommendations and future adtion.* Ofgem. March 2002 (26/02)

- to provide advice to DTI, DEFRA, the Scottish Executive and Ofgem on any additional action which may be required as a result of the progress made or events encountered which hinder such progress;
- to establish a Technical Steering Group (TSG), to review reports from it and to direct its work programme;
- to consider and make recommendations as to any complementary (e.g. research and development) action that may be helpful in achieving the objectives set out in the EGWG report;
- to disseminate the results of its activities to the wider community.

4.17 The DGCG subsequently created the Technical Steering Group (TSG), which draws on a wide range of expertise from the electricity industry and associated organisations. Its terms of reference are to steer and report on work programmes necessary across the industry to support the objectives set by the DGCG. It will address a considerable number of technical and technical/commercial issues likely to arise from increased connection of distributed generation.

4.18 The TSG co-ordinates the work of six workstreams, each of which will manage a number of projects. The workstreams and their overall tasks are set out in Table 4 below.

Table 4: TSG workstreams

Workstream	Area of work
Distributed Generation Status and projections	Current status of connected and planned distributed generation. Likely future distributed generation mix.
Standardisation of Information and Solutions	Relevant and accessible standards for the industry, reflecting current developments. Appropriate categorising, or banding, of distributed generation types. EGWG recommendations on information and guidance documents.
Short-term Network Solutions	Technical, regulatory and commercial issues relevant to the development of basic active management of distribution networks. Identification of short-term measures to allow fuller recognition of the contribution of distributed generation to network security and performance.
Micro-generation Solutions	Removal of barriers to micro-generation. Simple, standard solutions for connection of micro-generation. To advise on micro-generation in the context of the next distribution price control review.
Long-term Network Concepts and Options	Technical, regulatory and commercial issues pertaining to the longer-term transformation of distribution networks in order to facilitate distributed generation.
Industry Skills and Resources	To help ensure that future skills and human resource requirements of DNOs and other organisations do not present barriers to the implementation of EGWG recommendations.

Extension of the gas network

Gas (Connection Charges) Regulations

4.19 Approximately 5 million or 20% of households in Great Britain are currently not connected to the gas network**.** Connecting these premises to the gas network may require the installation of pipelines and other connections assets (e.g. a pressure reduction station).

4.20 In August 2001, Ofgem issued a consultation document to examine the option of amending the Gas Connection Charges Regulations to enable gas transporters a period of up to 20 years in which to recover costs. This would make marginal gas main extensions more viable.

4.21 In May 2002, the Gas and Electricity Markets Authority approved the amendment to the Gas (Connection Charge) Regulations. This is now awaiting formal approval from the Secretary of State.

4.22 The amendment to the Regulations should encourage extensions of the gas network to premises not currently served. This should have a positive effect on the environment as more people will use natural gas as an alternative to other fuels. It also gives consumers a greater chance to switch energy supplier and take advantage of available savings.

Working group on access to gas

4.23 Ofgem participated in the work of this group set up by the DTI. Final recommendations included considering the case for Government help for the fuel poor in non-gas areas. It was concluded that a Government-funded broad extension of the gas network was not a cost effective measure. A list of deprived communities was provided. The report stated that this should be the basis for detailed investigation to establish the best way of assisting individual communities and households.

5. Supply

Energy Efficiency Standards of Performance

5.1 During 2001–02 Ofgem administered the third (and final) Energy Efficiency Standards of Performance programme (EESoP3), a two-year programme which concluded in March 2002.

5.2 The EESoP programmes were set up in 1994 in England and Wales as part of the Public Electricity Suppliers' (PES) Supply Price Control, and a year later in Scotland. The first programme ran until March 1998, and gave obligations to each of the 14 PESs to achieve specified energy savings, and the ability to fund them through a special revenue allowance equivalent to £1 per franchise customer per year. The EESoP 1 scheme was extended for two years under EESoP 2, which ran between April 1998 and March 2000.

5.3 Under EESoP 3, the obligation was extended to include electricity suppliers other than PESs, and gas suppliers, and was based upon suppliers spending £1.20 for each customer for each fuel per annum. There was a further requirement for 65% of expenditure to be focussed on disadvantaged customers.

5.4 All the EESoP 3 schemes have been approved and suppliers are in the final stages of delivering their programmes. It has been estimated by the Energy Saving Trust that EESoP 3 will result in a lifetime saving of 8.6 million tonnes of CO_2 (for more information on EESoP3 savings see Chapter 7). Over the next year suppliers will be compiling completion reports for each scheme, incorporating quality and customer satisfaction monitoring. Ofgem will be assisted by the Energy Saving Trust in assessing this information to ensure suppliers' compliance with their targets.

5.5 There were approximately two hundred EESoP 3 schemes. The following examples are of schemes that are innovative in the way that they achieve the required savings targets.

Powergen Lighting ESCo

5.6 This scheme provided a package of four energy efficient light bulbs to around 75,000 customers. As this project was delivered as an energy service package, customers were not required to pay for the measures in advance. Instead, customers were charged one payment of £10, six months after they had received and installed the measures. It was calculated that by the time the customer paid this amount, they would have saved more than £10 through reduced electricity usage.

London Electricity: Tower Hamlets Combined Heat and Power (CHP)

5.7 This scheme involved joint funding from Tower Hamlets Council and London Electricity for community heating within a housing estate. Under the scheme, the existing heating system, considered incapable of producing adequate temperatures, has been replaced with a CHP based community heating system. The project will increase the efficiency of the heating system and improve comfort and warmth for residents. The estate comprises over 60 social housing flats, with over 75% of tenants being elderly, disabled or on low incomes.

Energy efficient appliance exchange scheme

5.8 This nation-wide scheme was funded jointly by Eastern Energy, London Electricity, Norweb, Seeboard and SWEB. Suppliers delivered the scheme in partnership with the Energy Saving Trust, Energy Efficiency Advice Centres, manufacturers and a range of national retailers. The scheme encouraged customers to trade in their existing inefficient fridges, freezers and fridge-freezers for a new 'A' rated model at a subsidised cost. The old appliances were removed and disposed of in an environmentally friendly way. The project ran for six weeks and replaced a total of 22,000 old and inefficient appliances with new energy saving models.

Energy Efficiency Commitment

5.9 By including household energy efficiency in the UK's Climate Change Programme, the Government has shown that it expects these initiatives to contribute to reductions in carbon dioxide emissions. The main tool by which it expects to deliver this reduction is the Energy Efficiency Commitment (EEC),

which replaced the EESoP programmes from 1 April 2002. The Department for Environment, Food and Rural Affairs (DEFRA) estimates that the investment required to meet the target will be three times the EESoP 3 programme, with more than a million homes expected to be insulated over the three years of the programme.

5.10 While the Government now has the responsibility for setting the target, Ofgem is required to oversee the suppliers' energy efficiency work and to enforce the Commitment where necessary.

5.11 All energy suppliers with at least 15,000 domestic customers have an obligation to achieve improvements in their customers' energy efficiency. Suppliers are required to meet this target by providing and installing energy efficiency measures in homes. At least 50% of the energy savings must be targeted at customers receiving income-related benefits or tax credits. Ofgem is required to carry out a number of determinations in the course of administering the EEC:

- Ofgem is required to determine the apportionment of the overall obligation to each supplier. Ofgem will determine each supplier's target each year of the EEC based on its customer numbers. The apportionment will comply with rules established by DEFRA.

- Ofgem is required to determine whether actions proposed by a supplier qualify for the purpose of meeting the obligation. Suppliers will be required to submit schemes for approval and, through this, Ofgem will determine which actions qualify. Suppliers can start work with their contractors before their schemes have been approved. In this way suppliers' work will not be delayed while Ofgem considers their proposals.

- Ofgem is required to determine what improvement in energy efficiency is attributed to the qualifying action. These energy savings are taken from recognised sources, e.g. data for insulation measures and condensing gas boilers has been obtained from the Building Research Establishment. Ofgem will collect data on each scheme to estimate the actual energy saving achieved.

5.12 Suppliers have the option of trading either energy savings from approved measures or trading their obligation to another supplier. Part of Ofgem's role is to oversee trading between suppliers. Suppliers will be required to notify Ofgem of all proposed trades of energy savings or trades of obligation.

5.13 Suppliers have full flexibility in how they meet their EEC obligations. This allows for the contracting out of the design, management or carrying out of the scheme. It also allows for collaborative arrangements with, for example, other energy companies, local authorities, housing associations. DEFRA have also encouraged suppliers to incorporate EEC into their general marketing campaigns.

Ofgem's role in the EEC programme

5.14 Ofgem finalised its administration procedures in December[20] setting the EEC targets and ensuring compliance through scheme submission and approval and scheme monitoring. Ofgem has also produced a technical guidance manual[21] for suppliers providing information on delivering energy efficiency measures including the relevant quality standards for insulation measures. Both documents are available on the Ofgem website.

5.15 Ofgem's first duty under the EEC was to divide DEFRA's overall target of 62 TWh between supplier groups with over 15,000 domestic customers. Eleven supply groups[22] were set a provisional target which will be adjusted according to their customer numbers in January 2003 and 2004.

5.16 Suppliers meet their targets by setting up energy efficiency schemes, which are submitted to Ofgem for approval. The Statutory Instrument[23] provided for suppliers to submit schemes from February 2002. Over 50 schemes have now been submitted covering a range of energy efficiency measures including insulation, heating, appliances and lighting and identifying a range of delivery mechanisms such as working with Local Authorities, Housing Associations and retailers.

[20] *Energy Efficiency Commitment: Administration Procedures.* Ofgem. December 2001 (82/01)
[21] *Energy Efficiency Commitment 2002–2005: Technical guidance manual issue 1.* Ofgem March 2002
[22] The EEC targets were set on supplier groups, i.e. a supplier and any affiliated licensees, rather than on an individual licensees basis.
[23] SI 2001 No. 4011 The Electricity and Gas (Energy Efficiency Obligations) Order 2001

5.17 Ofgem is currently in the process of approving suppliers' schemes. To date approximately 50 schemes have been approved. The following are examples of the types of schemes which have been approved.

Seeboard Solar Water Heating Initiative

5.18 This scheme is a partnership between Lewes District Council and Seeboard Energy Ltd to encourage the installation of solar water heating systems within the private housing sector. Grant funding will be offered to owner-occupiers in the region, together with full technical assistance to ensure lower energy bills and reduced carbon dioxide emissions. The initiative is an innovative example of how to raise environmental awareness and aims to install 100 solar water heating systems and 400 low energy lamps.

npower Home Energy Survey Energy Services Company (ESCo)

5.19 This scheme aims to provide a range of measures as part of an energy service package. An energy audit of the property is initially carried out. This information is used to determine what measures are suitable for the property, including loft, cavity wall and hot water tank insulation, draughtproofing and compact fluorescent lightbulbs. Households will be targeted through a range of delivery routes, predominantly aimed at owner occupiers. As this scheme is designed as an energy service package, customers will be offered the choice of a deferred payment for the measures through npower or a credit union. Energy efficiency advice will also be offered to the householder to encourage behavioural changes in their energy use.

ScottishPowered Boilers

5.20 Scottish Power has put a framework boiler scheme in place to deliver heating measures to both private households and social housing. The scheme will adopt a variety of delivery mechanisms. Partnerships will be set up with Local Authorities, Housing Associations and Energy Efficiency Advice Centres to promote the measures. Scottish Power will also market the scheme directly to consumers outside of the priority group, who will receive the measures at a subsidised cost. Condensing boilers will also be provided to some new builds to enable developers to exceed overall the Building Regulations with regards to

energy efficiency. This project is due to run until March 2005 and provide around 24 000 boilers.

5.21 Ofgem is required to submit a report on EEC to the Secretary of State in July 2003 and will also publish a report on suppliers' progress.

Green supply offerings

5.22 In the Environmental Action Plan, Ofgem committed itself to issuing guidelines for suppliers who offer a green supply to domestic customers. Ofgem issued a consultation document in December 2002[24].

5.23 This initiative underpins the development of the market for green electricity. This growing market is estimated to be worth around £15 million per annum.

5.24 The introduction of the Climate Change Levy and the Renewables Obligation[25] make it important to clarify the relationship between these programmes and the existing and future market for voluntary green supply.

5.25 Consumers need to be able to make informed choices on the basis of reliable and verifiable information if they wish to support the environment through their choice of electricity supply. Unreliable or misleading green claims limit the potential of green supply offerings to bring about environmental improvements because they discourage suppliers' investment in genuine environmental improvements and can de-motivate consumers.

5.26 The key features that Ofgem was inviting views on were:

- transparency – to be clear and consistent with public understanding of what constitutes 'green'
- additionality – that any premium goes towards ensuring additional generation or new renewable generation capacity, and
- verification – claims should be verifiable without the need to access confidential information.

[24] *Guidelines on green supply offerings.* Ofgem. December 2001 (81/01)
[25] Including both the Renewables Obligation (England and Wales) and Renewables Obligation Scotland.

5.27 Ofgem received 27 responses to the consultation document. Final guidelines were issued on 11 April 2002[26].

[26] *Guidelines on green supply offerings: A consultation document.* Ofgem April 2002 (31/02)

6. Increasing openness, transparency and accountability

Environmental Reporting

Schedule 9 statements

6.1 Ofgem committed in the Environmental Action Plan to reviewing its role in the operation of Schedule 9 of the Electricity Act. With the introduction on 1 October 2001 of the new licensing arrangements separating suppliers from distribution businesses it is important to clarify companies' obligations.

6.2 All licence holders and persons authorised by exemption have obligations under Section 38 and Schedule 9 of the Electricity Act. These require a transparent policy for preserving amenity when constructing or operating power stations, installing overhead (or underground) lines, or carrying out other works in connection with the transmission or supply of electricity.

6.3 Each company is required to produce a statement of this policy, which is to be updated from time to time. The Statement must be produced in consultation with the following agencies (where applicable):

- England:
  - The Countryside Agency
  - English Nature
  - English Heritage
- Scotland
  - Ancient Monuments Board for Scotland
  - Historic Buildings Council for Scotland
  - The Fisheries Committee (for hydro)
- Wales
  - Countryside Council for Wales
  - Cadw: Welsh Historic Monuments

6.4 During the year Ofgem has consulted informally with industry and the statutory consultees and will be releasing a discussion document on the issues in July 2002. The aim of the consultation is to ensure that the Schedule 9 process is running well and is not an unnecessary regulatory burden. It is likely that the consultation will cover whether, in light of separate licences, the full requirement need apply to suppliers and smaller generators; whether there should be a requirement to report on Schedule 9 annually or whether the statements should be updated more frequently. The issues to be addressed will include:

- the current arrangements for Schedule 9
- guidelines for the content of Schedule 9 statements
- the use of a model statement for certain companies
- reporting on Schedule 9 statements, and
- related policy issues.

General reporting issues

6.5 In 2001, Ofgem commissioned KPMG to report on the current position of regulatory requirements and voluntary initiatives in the gas and electricity sectors. Ofgem has met and discussed with various organisations including the Environment Agency and the Electricity Association regarding environmental reporting in the electricity and gas industries.

6.6 In consultation with the Environmental Agency and with industry bodies Ofgem will look at ways of improving the scope and usefulness of information on the environmental performance of the gas and electricity industries. This will include consideration of more timely data based on actual market behaviour and the setting of information in the context of other industries and best practice performance.

Memorandum of Understanding

6.7 As reported in the Environmental Action Plan, Ofgem has a Memorandum of Understanding (MoU) with the Environment Agency. Ofgem and the

Environment Agency have a good working relationship and meet when required on matters of mutual interest. A meeting of the joint co-ordinating committee of the MoU was held in October 2001, and a high level meeting to mark the first anniversary of the MoU was held in May 2002.

6.8 Major issues of mutual interest that have been discussed and acted upon include the regulation of air quality emissions from fossil fuel power plants, environmental reporting by energy industries, the inclusion of environmental output measures in the regulation of monopoly transport and distribution companies and joint approaches to innovative environmental regulation.

6.9 Ofgem and the Scottish Environment Protection Agency (SEPA) are currently working towards agreeing a similar MoU. Ofgem looks forward to having a formal agreement with SEPA and will endeavour to agree the MoU as soon as possible.

Incorporating environmental considerations into Ofgem's policies

6.10 As part of Ofgem's internal project management procedures all new projects are assessed against a number of checks including legal powers to act, consistency with Ofgem plan and budget, value for money for consumers, and consideration of social and environmental impacts.

6.11 Ofgem is further developing a framework for the environmental appraisal of its policies.

Ofgem's internal environmental management

6.12 Ofgem's internal programme of environmental improvement is complementary the Government's 'Greening Government' initiative. This initiative aims to promote the integration of sustainable development across government, encourage the use of environmental appraisals as part of policy making and improve the environmental performance of departments in managing their buildings and operations.

6.13 Ofgem has now implemented an internal environmental policy on:

- building management – e.g. heating, lighting

- IT – i.e. power saving, recycling
- recycling – paper, cans and toner, and
- other policies such as business travel and cycling to work.

This policy is made available to all staff on the intranet, and is brought to the attention of all new starters through the induction process.

6.14 On 25 February 2002 Ofgem was awarded ISO 14001 accreditation for its environmental management. As part of the ISO 14001 process, Ofgem has set up an internal Environment Team who are responsible for defining and reviewing Ofgem's environmental impacts, objectives and targets. The team will be responsible for monitoring and reporting annually on Ofgem's environmental targets under the standard.

Green energy purchasing

6.15 Ofgem has contracted with a supplier to provide 10% of its electricity from green sources. This should contribute to reducing CO_2 emissions.

Research projects in 2001–02

Environmental reporting

6.16 Ofgem commissioned KPMG to carry out a study on environmental reporting within the gas and electricity sectors. The purpose of the study was to gain a better understanding of existing regulatory requirements and initiatives. This research has been used to inform work on Key Performance Indicators and on Schedule 9 statements. The outcome of this work was covered in more detail in Chapter 7 of the Environmental Action Plan. This work is available on Ofgem's website.

Methane emissions

6.17 In 2001, Ofgem commissioned a piece of work to examine the costs and benefits of reducing methane emissions[27]. Methane emissions contribute to

[27] Hope, C. *The Climate change benefits of reducing methane emissions* University of Cambridge 2001 (available at www.ofgem.gov.uk)

climate change. In Transco's Local Distribution Zones (LDZs) leakage represents 0.8% of the throughput.

6.18 Methane is the second most important greenhouse gas after carbon dioxide, and has a global warming potential per tonne 21 times that of carbon dioxide over a 100 year time horizon[28]. Reducing methane emissions would therefore bring benefits. The research uses the PAGE95 model to find out how big the benefits would be, and compare them with the benefits of carbon dioxide reductions. The outcome of this work was covered in more detail in Chapter 5 of the Environmental Action Plan. The report is available on Ofgem's website.

[28] *Climate Change The UK Programme* DETR November 2000

7. The environmental context

7.1 The Environmental Action Plan committed Ofgem to reporting annually, monitoring progress and publishing indicators for monitoring and measuring progress against the plan. As part of this commitment, Ofgem has been developing baseline indicators with which to assess changes in the industry and how these changes interact with our activities. In some cases Ofgem's actions may make an important contribution to changes in these indicators, while in others there will be only minor effects.

7.2 This process has involved the compilation of a number of key statistics that are useful indicators of environmental progress in the gas and electricity industries. These include:

- Emissions data:
  - greenhouse gases
  - sulphur dioxide emissions
  - oxides of nitrogen emissions
- Energy Efficiency data:
  - amount of money spent on schemes
  - TWh of electricity saved
  - tonnes of CO_2 saved
- Renewables data:
  - percentage of electricity generated from renewables
  - renewables capacity
- Combined Heat and Power (CHP)

7.3 Throughout most of the data a baseline date of 1990 is used. This is consistent with baselines used in targets such as the Government's target to reduce CO_2

emissions by 20% on 1990 levels by 2010, and the target to reduce greenhouse gas emissions by 12.5% on 1990 levels.

7.4 The data collected will be used internally and externally to illustrate the progress of policies that Ofgem is responsible for. A small sample is included below as an illustration. Most of the data are available from the Digest of UK Energy Statistics (published by the DTI), the Digest of Environmental Statistics (published by DEFRA), the National Atmospheric Emissions Inventory and the Energy Savings Trust.

EESoP 3

7.5 As mentioned in Chapter 5 the EESoP 3 scheme has finished and suppliers are in the final stages of delivering their programmes. The Energy Saving Trust has estimated that EESoP 3 will result in the environmental benefits shown in Table 5:

Table 5: Estimated EESoP 3 savings

Emission	Total lifetime saving (tonnes)
Carbon	2,347,600
CO_2	8,600,800
SO_2	80,800
NOx	27,900

Source: Energy Saving Trust

7.6 The cost of the Energy Efficiency Commitment is estimated to be three times more than EESoP 3 with a total carbon saving of around 0.4 million tonnes of carbon a year by 2005.

Electricity and gas industries' contributions to emissions

7.7 The gas and electricity industries are a large contributor to the greenhouse gas emissions of the United Kingdom. It is useful to put the industries that Ofgem regulates into perspective relative to other sectors of the economy.

7.8 Table 6 has been produced with data from the National Atmospheric Emissions inventory and the Digest of Environmental Statistics. Data from 1999 are used as this is the latest year for which there is complete data.

7.9 For the electricity sector emissions are from generation (CO_2 and N_2O) and sulphur hexafluoride. Emissions from the onshore gas industry are through gas end use (CO_2) and pipeline leakage (CH_4). Ofgem has no remit over the offshore gas industry, therefore emissions data from this sector were excluded. Data on HFCs and PFCs have been included for completeness, though neither the gas or electricity sectors emit these greenhouse gasses. Data for all greenhouse gases has been converted into tonnes of carbon equivalent (tC).

7.10 The first column shows data for 1999 and the second for 1990. Figures are for emissions from the gas and electricity sectors and as a proportion of total national emissions. Between 1990 and 1999, the amount of CO_2 emitted by the gas and electricity sectors fell by approximately 2 MtC from 77.66 MtC to 75.36 MtC. However as a proportion of total national emissions CO_2 from the gas end electricity sectors increased to over 51% in 1999, from 49% in 1990.

Chart 3 – Greenhouse gas emissions from gas and electricity sectors 1999

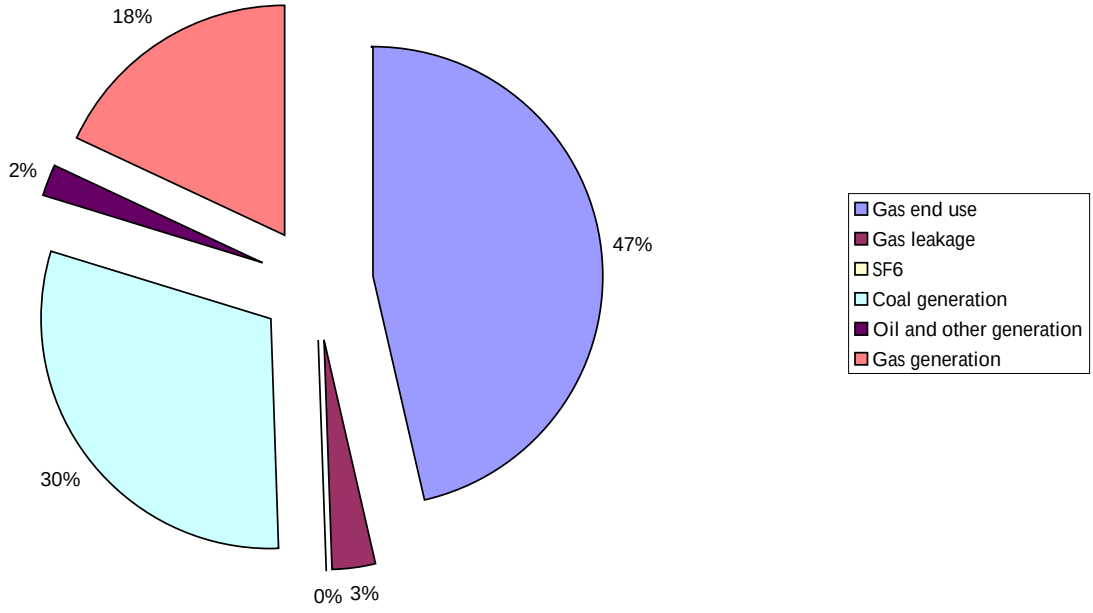
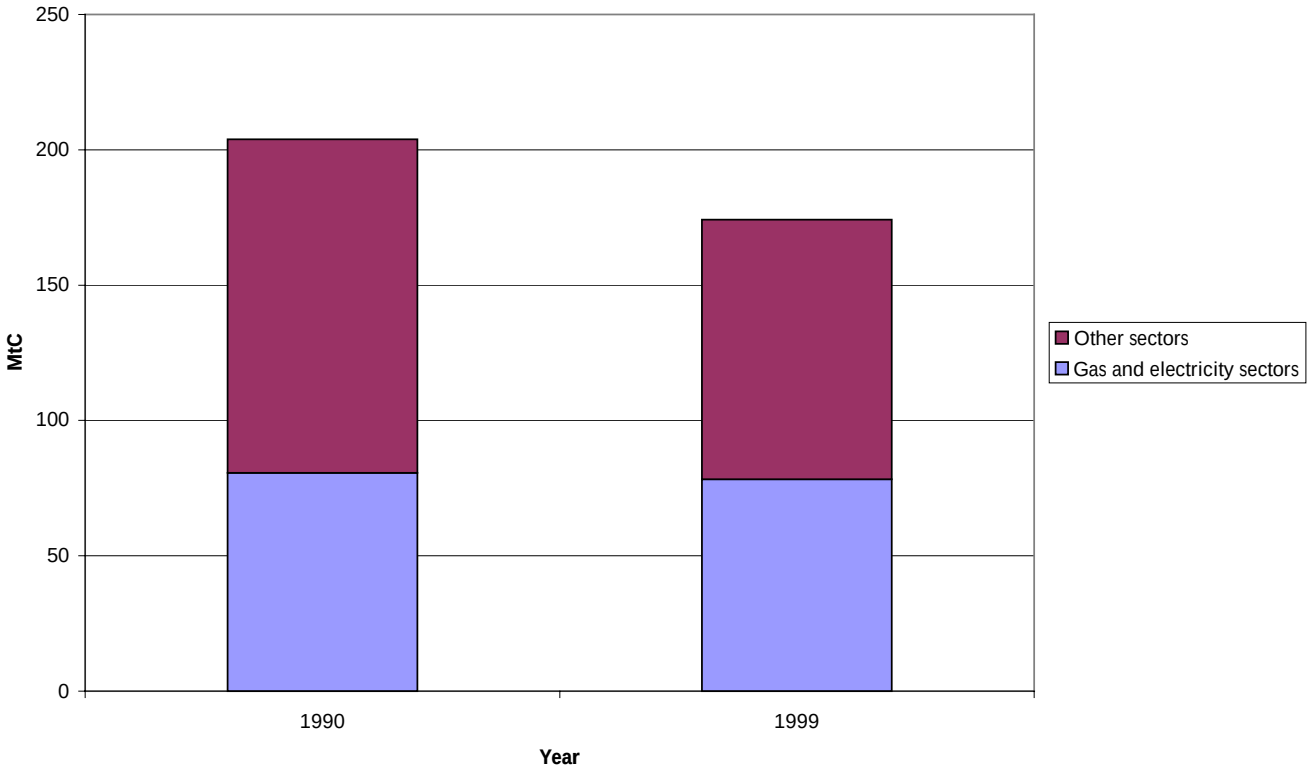


Chart 4 – Greenhouse gas emissions from the gas and electricity sectors



7.11 Methane is a significant greenhouse gas. Methane emissions from the gas industry arise from pipeline leakage. Emissions from the burning of gas are included in the figures for CO_2.These figures currently account for less than 15% of national emissions, more significant sources are the waste and agriculture industries and coal mining.

7.12 Nitrous oxide (N_2O) is also a potent greenhouse gas although the main emissions are from agriculture and industrial processes. Sources of N_2O in the gas and electricity industries are from combustion (electricity generation and gas end use). As a proportion of national N_2O emissions the gas and electricity industries are accountable for less than 5%.

7.13 Sulphur hexafluoride (SF_6) is one of the most potent greenhouse gases, having a global warming potential (GWP) some 20,000 times that of carbon dioxide. Using estimated data[29] the table shows that the electricity industry is responsible for 35% of SF_6 emissions. Although this proportion is significant, total emissions are relatively small compared with other major greenhouse gases.

[29] *Electricity and the Environment* Electricity Association March 2002

7.14 Emissions of Hydrofluorocarbons and Perfluorocarbons are low in the UK. However they do have high global warming potential values. There are no significant emissions of HFCs or PFCs linked to the gas and electricity industries.

7.15 These data are illustrated in Charts 3 and 4.

Table 6: Emissions from the gas and electricity sectors 1999 & 1990

All figures in MtC unless otherwise stated

	1999				1990			
	Gas and electricity sectors		National emissions	% of national	Gas and electricity sectors		National emissions	% of national
	Sub totals	Total			Sub totals	Total		
Carbon dioxide (CO_2)								
Electricity generation								
Coal	22.93				48.56			
Gas	15.31				0.005			
Oil and other[1]	1.73				5.57			
Gas end use[2]								
Domestic	18.55				15.57			
Industrial	10.62				7.96			
Other[3]	6.21				4.55			
CO_2 total		75.36	145.13	51.9%		77.66	159.45	48.7%
Methane (CH_4)								
Gas losses	2.21				2.44			
CH_4 total		2.21	15.08	14.7%		2.44	21.0	11.6%
Nitrous oxide (N_2O)								
Electricity generation	0.56							
Gas end use	0.02							
N_2O total[5]		0.57	11.71	4.9%		0.55	18.28	3.0%
Sulphur hexafluoride (SF_6)		0.13[4]	0.36	35%		N/A	0.20	–
Hydrofluorocarbons (HFC)		0	1.69	0%		0	3.10	0%
Perfluorocarbons (PFC)		0	0.18	0%		0	0.62	0%
Totals		**78.27**	**174.15**	**44.9%**		**80.65**	**203.9**	**39.6%**

Sources: National Atmospheric Emissions Inventory, Digest of Environmental Statistics (UNECE)

[1] Includes MSW, scrap tyres and sour gas

[2] Excludes electricity generation, oil and gas extraction and non-energy use and losses

[3] Includes commercial, agriculture and public administration

[4] Source: *Electricity and the Environment 2002* Electricity Association March 2002

[5] Includes emissions from combustion of natural gas, domestic, industrial, power stations, public services, railways and all emissions from power stations

Air quality

7.16 Table 7 below shows emissions of the major air quality pollutants (SO_2 and NOx) from electricity generation and the combustion of gas in the UK, in comparison with total national emissions

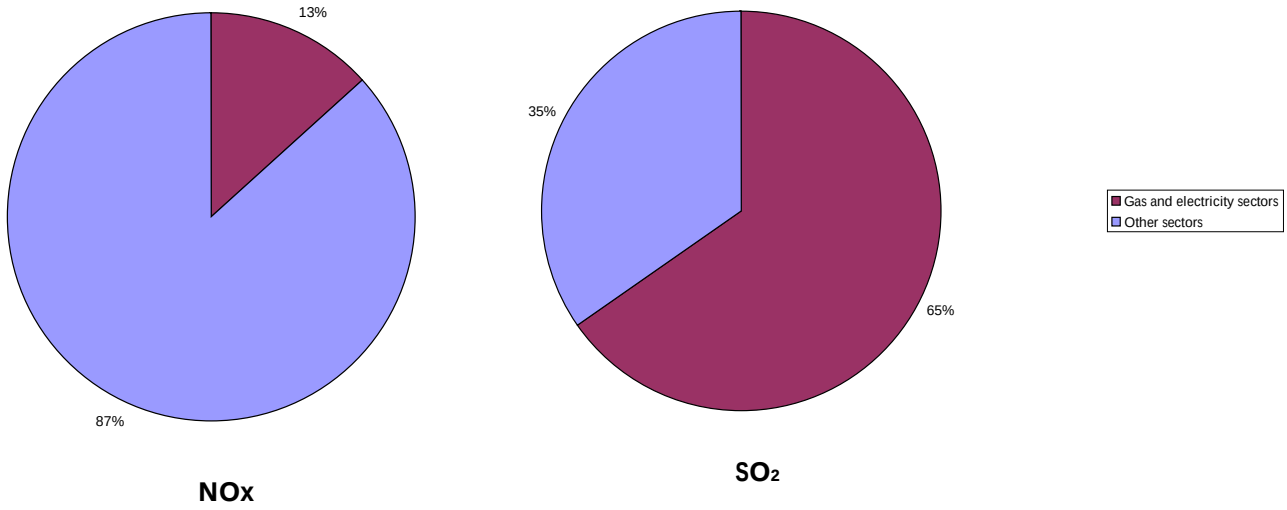
Table 7: Emissions of NOx and SO_2 1999

	National emissions in kilotonnes(kt)	Gas and electricity sectors (all figures in kt)			% of national emissions from gas and electricity sectors
		Generation	Gas end use	Total	
NOx	1605	74	141	215	13%
SO_2	1187	776	0	776	65%

Source: National Atmospheric Emissions Inventory
NOx is shown as equivalent tonnes of NO_2

7.17 Table 7 and chart 5 show that as a proportion of national emissions NOx which includes generation and gas end use was 13% in 1999. Other industries that contribute to NOx emissions are industry and agriculture. Emissions of SO_2, though, are a much larger proportion, mainly from generation at 65%. The next largest emitter is the iron and steel industry.

Chart 5 – NOx and SO_2 emissions from the UK gas and electricity sectors 1999



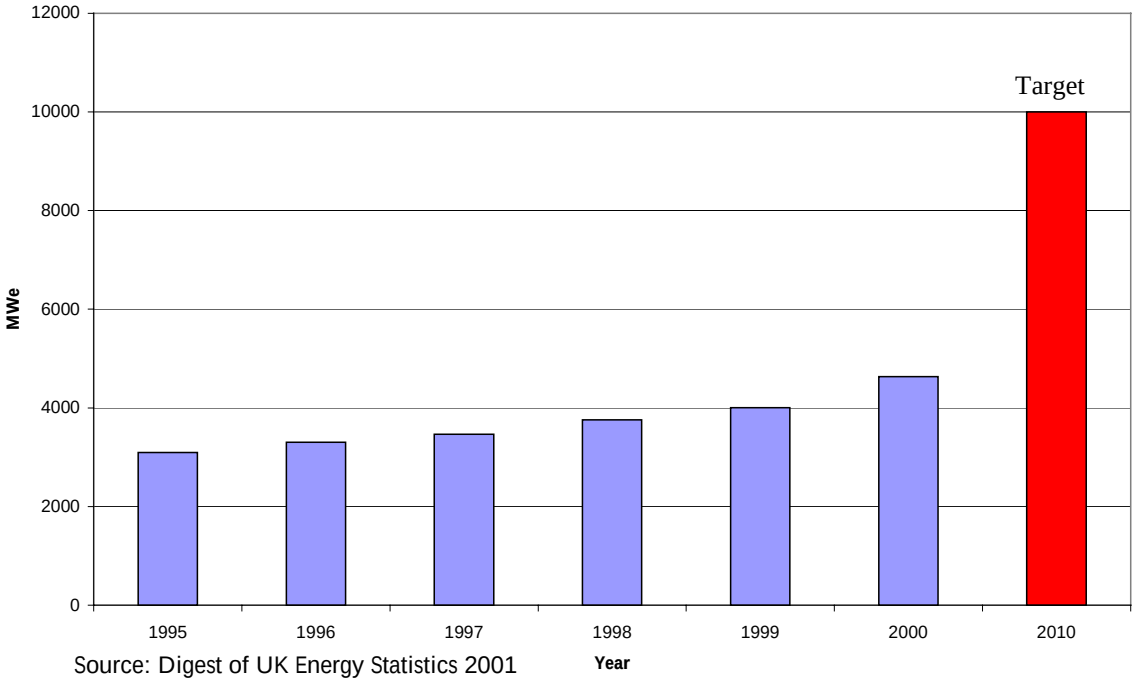
NOx **SO_2**

Combined Heat and Power

7.18 Combined Heat and Power (CHP) is the simultaneous generation of electricity and usable heat from the same plant. The Government has a target of 10,000 MWe from CHP by 2010. In May 2002, the Government published its draft CHP Strategy for consultation. The announcement in the 2002 Budget Statement is also aimed at providing additional support for CHP.

7.19 Chart 6 shows the historical trend of CHP electrical capacity in the UK and also the 10,000 MWe target to be met in 2010. There has been a gradual increase in CHP over the past 5 years of 1,538 MWe. Between 1999 and 2000 there was a 15% increase in CHP capacity. With higher wholesale gas prices and lower

Chart 6 - CHP capacity 1995 – 2000 (inc. 2010 target)



Source: Digest of UK Energy Statistics 2001

wholesale electricity prices more recently, the commercial prospects for CHP since 2000 have become more difficult. This is expected to be reflected in the data for 2001 when it becomes available.

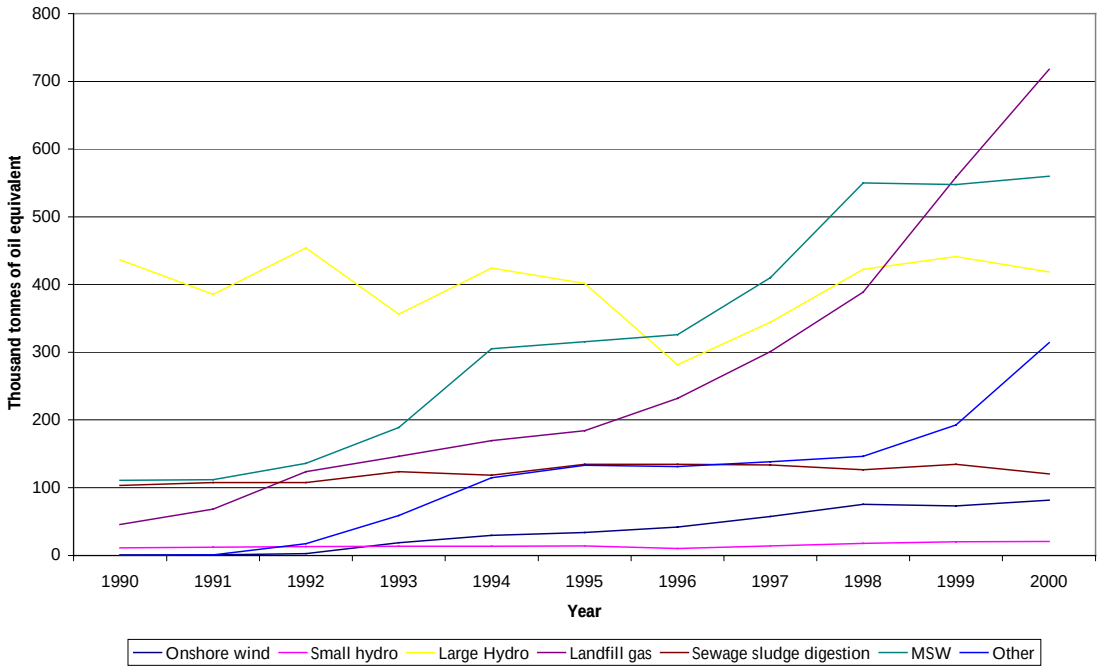
Renewables

7.20 As mentioned in Chapter 1 and detailed in Chapter 3, Ofgem has an executive function to administer certain mechanisms of the Government's renewables policy; namely the Climate Change Levy exemption for renewables and the Renewables Obligation. The Government has a target for 10% of electricity to

be supplied from renewable sources by 2010, provided that the cost to consumers is acceptable. The current contribution of renewables to Great Britain's electricity supply is 2.8 %. The recent PIU[30] report recommended that this be increased to 20% by 2020.

7.21 Chart 7 shows the renewable sources used to generate electricity from 1990 to 2000. This shows an overall increase in renewables, with the largest increase from 1996 onwards. Landfill gas has the largest increase with municipal solid waste (MSW) coming in second.

Chart 7 – Renewable sources used to generate electricity 1999–2000



Source: Digest of UK Energy Statistics 2001

Future environmental indicators

7.22 In addition to the statistics used above, Ofgem is considering using indicators that may be more directly relevant to the work undertaken on the environment. These would complement data that is widely available through such publications as the Digest of Energy Statistics and Digest of Environment Statistics. These are:

- level of losses from the gas and electricity transmission and distribution systems

[30] *The Energy Review.* A Performance and Innovation Unit Report. February 2002

- the capacity and output of accredited generators for the Climate Change Levy exemption for renewables and Renewables Obligation
- the number of new generators connecting to the distribution system, and
- the amount of energy savings as a result of the energy efficiency measures installed by gas and electricity suppliers under EEC. This will be included in the full EEC annual report to be published in July 2003.

Appendix 1 Commitments in the Ofgem's EAP

The following tables show specific progress or updates on work commitments that were included in the Environmental Action Plan.

Generation
Review the impact of NETA on small scale generators – The initial reviews have been completed, with initial reports published at the end of August 2001 and the report from the Consolidation Working group published at the beginning of February 2002.
Contribute to the Environment Agency's work on setting up a NOx trading scheme – This work is continuing. Ofgem is continuing to contribute to the development of this and other schemes, including the implementation in the United Kingdom of the European Large Combustion Plants Directive.
Administer renewables scheme – In 2001–02 systems were established for administration of the Renewables Obligation, introduced on 1 April 2002. In addition to administering the RO Ofgem is responsible for a registry of ROCs certificates which will track trades.
Consult on the future development of the CHP database – Ofgem is discussing with the DTI's CHP statistics steering group about how best to update the information in Ofgem's database. Ofgem will have an increased role in the exemption for good quality CHP from the Climate Change Levy. A review of the database is planned for the coming year.

Transmission and distribution
Examine the treatment of electricity losses as part of price control – Major work is planned for 2002–3.
Implement recommendations of Embedded Generation Working Group as appropriate. The main recommendations of the working group have been implemented. The subsequent work arising is being monitored by the Distributed Generation Co-ordinating Group, co-chaired by Ofgem and the DTI

Consider the effect of locational price signals – Transmission access and losses document published in February 2002.
Discuss operation of SF_6 equipment – Ofgem has commissioned research on evaluating the benefits of reducing SF_6 emissions and intends to continue examining the issue.
As part of the current price control review process, propose that Transco should collect and report on certain outputs regarding losses – Transco have agreed to their price control which includes reporting on leakage, as well as CO_2 and NOx emissions and other environmental factors.
Contribute to the Government's working group on access to gas – Ofgem participated in the work of this group. Final recommendations included considering the case for Government help for the fuel poor in non-gas areas. A list of deprived communities was provided. The report stated that this should be the basis for detailed investigation to establish the best way of assisting individual communities and households.
Consult on gas connections regulations – A consultation document was published in August 2001. The Gas and Electricity Markets Authority has approved changes to the regulations; these are now awaiting approval from the Secretary of State.
Seek further information and monitor the performance of reconciliation by difference (RbD) on an ongoing basis – A RbD working group has been established within Ofgem to examine and report back.

Supply
Continue to administer the Energy Efficiency Standards of Performance – The EESoP 3 scheme ended on 31 March 2002. Evaluation of the scheme is now underway.
Contribute to the establishment of the Energy Efficiency Commitment – Ofgem is responsible for administering, overseeing and where necessary enforcing the Commitment. In February 2002, Ofgem set new targets for energy suppliers for 2002 – 5. Administration of EEC is ongoing.
Encourage annual consumption data to be included on bills – Research on this is being undertaken in 2002–03. The project will be widened to include assessment

of the feasibility of providing other information.
Issue guidelines on the future of green tariffs for domestic customers – A consultation document was issued in December 2001. Final Guidelines were published in April 2002. More detail is contained at section 2.32.

Environmental Reporting
Work with DEFRA and the Environment Agency to consider Key Performance Indicators (KPIs) for gas and electricity sectors – A number of meetings have been held with various parties and this work is continuing.
Issue model Schedule 9 statement for all licensees and any new licensees – A consultation document is to be issued in July 2002.

Increasing openness, transparency and accountability
Develop procedures for taking account of social and environmental considerations in Ofgem's decision making process – A new environmental filter has been included in the Ofgem project management process. Every new project has explain how these considerations will be assessed in order for it to be progressed. Further work will be undertaken in this area
Seek certification under ISO 14001 – Ofgem has gained ISO 14001 accreditation
Develop Ofgem's environmental policies and practices – Ofgem now has an internal environmental and recycling policy in place.
Maintain and improve links with other organisations – This work is part of Ofgem's ongoing work.
Agree MoU with SEPA – Ofgem and SEPA are working on an agreement for a MoU between the two organisations.

Measure and review progress
Refine indicators for monitoring and measuring progress against the plan – Finalised for this annual report.
Issue first annual review – Completed