

CHAPTER 13 ENERGY

Introduction

Energy plays a vital role in our everyday lives through home, work and travel. Whilst most of us take the constant supply of energy for granted, unconstrained energy consumption at present levels could endanger our well-being through environmental problems such as global warming. Both the government and the energy industry are taking action to reduce overall energy consumption and increase the amount of energy produced from alternative sources so as to first stabilise and then reduce these problems. There is considerable scope for energy reduction in our everyday lives through simply changing our everyday habits. For example, we can reduce energy consumption by driving less and by making more journeys on foot, by bicycle or by public transport.

Energy consumption is significant in two key sectors - transport and the built environment. This chapter deals primarily with energy consumed in the built environment. However, transport is the biggest consumer of fossil fuels and a major contributor to greenhouse gas emissions. Reduction in the use of the private car and other forms of road transport is therefore central to the government's Environmental Strategy, and current initiatives to reduce car use are set out in Chapter 6 - Transport.

In general, most of our energy consumption occurs through the burning of fossil fuels such as coal, gas and oil. These sources of energy are non-renewable and although extensive reserves remain, they will eventually be exhausted. Burning fossil fuels produces greenhouse gases, such as carbon dioxide, and it is the increased presence of these gases in the atmosphere that is contributing to global climatic change. Research by the UK Climate Change Review Group (CCIRG) has concluded that in the absence of global environmental policies for reducing greenhouse gas emissions, climatic change could have significant effects on soil, crop yields, river flows and water resources, as well as storm damage. A continuing reduction in total emissions will be essential if climatic change and its potential harmful effects are to be tackled.

This chapter begins by examining energy generation, and proceeds by looking at its environmental impact and options for the development of sustainable energy supplies. As energy in the UK is supplied through the National Grid, the report concentrates on national rather than borough-wide energy generation. However, the section on renewable energy, includes initiatives in Reading. The chapter also looks at patterns of energy consumption, and the need for greater energy efficiency to reduce overall energy demand.

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Legislation and Guidance

Legislation

- **Gas Act 1986**

This Act brought about the privatisation of the gas generation industry in 1990, including the establishment of Offgas, the gas regulator. The privatisation process provided the opportunity for large consumers, namely the electricity generators and large industrial organisations, to choose their own suppliers. The liberalisation of the gas market has now been extended by the Gas Act 1995. This extends freedom of choice to include householders.

- **Electricity Act 1989**

This Act brought about the privatisation of the electricity industry and led to the establishment of two national power generation companies - Powergen and National Power. It introduced opportunities for private companies to enter the electricity market. At the same time, the electricity regulator, Offer, was created. The Act also introduced the Non-Fossil Fuels Obligation (NFFO), a scheme for the promotion of renewable energy. This guarantees a price for the supply of renewable energy in order to make it financially viable. This initiative is discussed under 'Renewable Energy'. A significant effect of the liberalisation of the energy market has been a reduction in the cost of energy to consumers, through increased competition (giving consumers a choice of supplier) and the pursuit of good value, the latter being one of the key objectives of the regulator. This has sustainability implications, which are mentioned under 'Energy Conservation'.

- **Government Energy Review, White Paper 1998**

The White Paper, which presents the findings of a review of national energy issues, sets out the government's main role in relation to energy, that being: *To set a framework for energy supply; to provide for regulation of consumer interests; and to monitor the wider public interest.* This includes a responsibility to ensure that energy generation and consumption accords with the principles of sustainable development, including the use of renewable energy and Combined Heat and Power (CHP). The White Paper also paves the way for the liberalisation of energy markets in Europe.

- **Other Legislation**

Petroleum Act Production Act	1934
Nuclear Installation Act	1965
Atomic Energy Authority Act	1971
Energy Act	1976
Oil and Gas Enterprise Act	1982
Oil and Pipelines Act	1985
Atomic Energy Authority Act	1986
Environmental Protection Act	1990
Home Energy Conservation Act	1995
Environment Act	1995

National Guidance

- **Planning Policy Guidance Note 22, Renewable Energy (1993)**

This document describes the various forms of renewable energy, explains how renewable energy policies should be included in development plans and notes the considerations which should apply when it is intended to locate renewable energy installations in designated areas. In general, the guidance aims to assist planning authorities in assessing the benefits of renewable energy proposals against local environmental impacts.

- **Regional Planning Guidance for the South East (1994)**

The document includes a reference to energy, including the need to promote development that reduces energy consumption, to site power generation facilities near to the sources of supply in order to reduce transmission wastage, and to develop renewable energy supplies.

- **A Sustainable Development Strategy for the South East (1998)**

This document, produced by SERPLAN (the regional planning body for the South East), sets out an overall strategy for the development of the region. The document was the subject of a Public Examination in the Summer of 1999, which will lead to the publication by government of revised Regional Planning Guidance in 2000. The document includes a policy promoting energy conservation and renewable energy.

Local Policy and Initiatives

- **Berkshire Structure Plan 1991-2006 (1995)**

Policy RE1 relates to renewable energy development. This states that development proposals which attempt to harness renewable energy sources will generally be given favourable consideration where they do not conflict with other policies in the plan.

- **Reading Borough Local Plan (1998)**

Although the Reading Borough Local Plan does not specifically contain a policy relating to renewable energy, one of its aims is to facilitate 'resource conservation and reduce pollution'.

- **Berkshire Renewable Energy Strategy (1995)**

This strategy was adopted by the former county council in September 1995. Although non-statutory, it provides advice to the Berkshire local authorities and to developers. The strategy built upon work carried out in the preparation of an earlier report *Renewable Energy in Berkshire - Background Paper* which was published in 1994. In addition, the work drew upon studies by ETSU (the Energy Technology Support Unit of the Department of Trade and Industry) in its *Berkshire County Resource Report* published in 1994.

Energy Generation Today

The major forms of energy supplied to built development are gas for heating and generated electricity. Electricity generation has historically been carried out at large, centralised, predominantly coal-fired power stations. The power generated has then been distributed through the National Grid. Over recent decades, there have been a number of changes in respect of electricity generation in the UK, most significantly following the privatisation of the energy market. This has resulted in a dramatic increase in the supply of electricity from gas-fired power stations because of the economic advantages of the development of gas infrastructure over coal.

Use of nuclear power for electricity generation has been growing steadily over the last 30 years. However, it is expected that there will be a slight decline after 2000 with the decommissioning of several facilities. The government is, however, committed to the continuation of the nuclear programme.

The coal industry has seen a steady decline over the last 30 years. Table 13.1 shows trends in generation over the period 1970 to 1997 for all forms of energy. The future of coal has, however, been under consideration as part of the government's overall energy review, which led to the publication of an Energy White Paper by the government in October 1998.

The White Paper found that market distortions favoured gas over coal, and that a further significant decline in coal-generation capacity, could undermine one of the Government's key

energy policy objectives of providing a diverse supply of energy. Following the findings, measures are being taken to ensure that coal-fired generation is adequately safeguarded.

Due to the distribution of electricity through the National Grid, it is difficult to estimate Reading's electricity consumption other than as implied by the characteristics of national generation. The supply of gas operates on a similar national framework. There is no traditional power generation in Reading. The nearest major power station is the coal-fired Didcot station in Oxfordshire. There is also a power station on the Slough Trading Estate which generates 90 Mw using a combination of coal, oil, gas and fibre-fuel manufactured from paper and card waste. Despite the objective, set out in RPG9, of improving the localisation of energy supplies, this is unlikely to be achieved from conventional sources.

	1970	1975	1980	1985	1990	1995	1997
Coal	72	67	80	66	70	46	34
Oil	18	19	9	14	4	1	0
Gas	0	4	0	0	0	20	30
Nuclear	9	10	11	17	18	23	25
Hydro etc*	0	0	0	1	1	1	1
Imports	0	0	0	2	8	9	9
Total (%)	100	100	100	100	100	100	100

* Hydro etc. includes renewable energy generation

Source: Conclusions of the Review of Energy Sources (DTI, 1999)
Table 13.1: England and Wales – Shares of Generation

Environmental Impact of Energy Generation

- **Air pollution**

Air pollution is addressed extensively in Chapter 7 – Air. A number of air pollutants are expected to be dealt with in the government's National Air Quality Strategy which will require a cut in emissions of a range of pollutants created during coal-fired electricity generation and the use of motor-vehicles.

Road transport is the most significant source of air pollution overall, and a reduction in the use of road transport, in particular the private car, will be central to achieving improvements. Initiatives to achieve this are referred to in Chapter 6 - Transport.

The combustion of coal in coal-fired power stations for electricity generation produces significant quantities of both sulphur dioxide (SO₂) and carbon dioxide (CO₂) which are responsible for a deterioration in air quality. CO₂ has been identified as a greenhouse gas, and its reduction is central to the government's national and international commitments to air quality improvements, in order to address local air quality problems and concerns over climate. Reductions in CO₂ emissions will need to be sufficient to restrain global warming to 0.1 degrees centigrade, the level judged as safe by the Inter-Governmental Panel on Climatic Change (IPCC, 1990).

Sulphur emissions have a significant adverse impact on local air quality and are responsible for acid rain, which is responsible for the disturbance of ecosystems over a wide area.

Gas generation represents a much cleaner form of generation, and nuclear generation produces none of the emissions associated with fossil fuels. However, serious concerns over safety and long-term handling of wastes continue to cause significant concern about nuclear powered generation.

- **Resource Depletion**

Although reserves of fossil fuels may appear to be freely available, there are often risks attached. As resources are depleted, the environmental and economic problems of further extraction generally increase as reserves are sought in less suitable locations. Resource depletion raises issues of energy efficiency. For energy supplied as electricity, 30% of generated energy is lost in transmission. Gas is more efficient when burnt at source but makes less of a contribution in the long-term.

- Impacts upon Landscape

Mining, and in particular open-cast mining - which is increasingly replacing deep mining due to its greater profitability - has a significant impact upon the landscape from the time the mineral is being extracted until restoration is completed. In addition the impact of over-ground cables and pylons on the landscape is a major problem.

Sustainable Energy Generation

In order to reduce the depletion of fossil fuels and achieve air quality improvements, a change in the pattern of energy supply will be needed in the UK. A number of key targets have been set including the following to tackle climatic change:

- To take measures to return the emission of greenhouse gases to 1990 levels by the year 2000. This was a commitment given under the Framework Convention on Climatic Change.
- To reduce six greenhouse gases to an average of 5.2% below 1990 levels over the period 2008 to 2012 (Kyoto Protocol). The EU agreed to an 8% reduction of which the UK's share is 12.5%.
- To reduce emissions of CO₂, one of the most important greenhouse gases, to 20% below 1990 levels by 2010. This is a longer term target set by the UK Government.
- To increase energy from Combined Heat and Power to 5000 Mwe by the year 2000. This was a target set by the previous government.
- To increase the proportion of energy generated from renewable resources to 10% by 2010. This is a UK target.

A major increase in gas generation in the UK, following the privatisation of the energy market, has resulted in a significant reduction in emissions of CO₂ since 1990 (see Table 13.2) despite an increase of 13% in power consumption between 1990 and 1996. As a result, the UK is set to exceed its target for 2000. Despite recent moves to support the continuation of a viable coal generation industry, it is expected that gas will continue to maintain its current share of generation.

1990	1991	1992	1993	1994	1995	1996	1997
168	169	164	160	159	157	162	155

Source: Intergovernmental Panel on Climatic Change
Table 13.2: CO₂ Emissions 1990-1997 (Millions of tonnes of carbon)

Similarly, improvements in air quality have been achieved through the development of nuclear power generation capacity. However, serious concerns over plant safety and the long-term storage of waste mean that it may not be appropriate to promote nuclear power as a source of generation in terms of a sustainability strategy.

Measures to reduce the environmental impact of energy generation will include the development of clean coal technology, flue-gas desulphurisation and other technological solutions and continued use of natural gas in place of coal. In addition, the development of CHP is being promoted. This uses electricity generated and heat from the generation process, which is normally dispersed to the environment. Using CHP, heat is most commonly supplied as heating to local properties. This has the result of significantly increasing the energy efficiency of power stations. Finally, renewable energy generation will have a crucial role to play.

Renewable Energy

The most significant opportunity for change probably lies in the development of alternative energy sources, in particular renewable energy, offering opportunities to preserve fossil fuels, cut emissions to air associated with traditional forms of generation and increase the diversity of supply for energy generation. In addition, renewable energy schemes offer the opportunity to move away from large centralised generation facilities to smaller, more localised plant. These will provide Reading with opportunities to develop schemes and contribute to the national supply of electricity.

Renewable energy sources include those that occur naturally in the environment (e.g. wind and sunlight) or are inexhaustible man-made products such as waste. Examples of renewable energy include wind power, solar power, biofuels, hydroelectric power, wave power and geothermal power. Renewable energy can therefore contribute to the overall principle of sustainable development, which is a key objective of the council.

The Non Fossil Fuel Obligation (NFFO) provides the most substantial market for renewable energy. The Electricity Act (1989) places a requirement upon each Regional Electricity Company to provide 1500 megawatts (Mw) of electricity from 'new' renewable sources by the year 2000 which if reached would represent 5% of total electricity generated in the UK.

The NFFO scheme works by providing a guaranteed price for electricity supplied from a facility over a period of time, in order to provide security for capital investment in such facilities. The scheme was introduced in recognition of the competitive disadvantages that most renewable energy schemes suffered compared with fossil fuel based energy schemes. Beginning in 1990, with the granting of a number of awards to predominantly landfill-gas powered schemes, the scheme has resulted in a doubling of renewable energy generation since 1990 (see Table 13.3). In November 1998, the government announced a fifth programme of NFFO's (see below).

This rate of progress will, however, be inadequate to meet targets for 2010. At the end of 1997, 507 Mw of electricity from 'new' renewable sources had been commissioned in the UK, representing only 1% of the UK's primary energy and 2.3% of electricity supplied in 1997. Latest figures show that in 1998, total renewable energy supply expressed in tonnes of oil equivalent (toe), an expression commonly used in the energy industry to express energy quantity, totalled 2.7 million tonnes of which 1.7 million tonnes was used to generate electricity and 0.9 million tonnes to generate heat.

	1990	1995	1996	1997	1998
Active solar heating	6.4	8.2	8.6	9.0	9.5
Onshore wind	0.8	33.6	41.8	57.2	76.1
Hydro	447.7	416.0	289.0	354.8	449.3
Landfill gas	79.8	205.8	251.5	308.7	400.8
Sewage sludge digestion	138.2	173.5	190.2	191.5	184.1
Wood	174.1	702.3	709.7	710.3	710.3
Straw	71.7	71.7	71.7	71.7	71.7
Municipal solid waste	160.0	357.6	368.7	427.0	567.7
Other biofuels	80.6	180.0	175.8	182.0	185.5

Total	1159.3	2148.7	2107.0	2312.2	2655.0
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Source: UK Energy in Brief (July 1999), DTI, 1999
Table 13.3: Total Use of Renewables in the UK (Thousand tonnes of oil equivalent)

Similarly, progress towards meeting targets for energy generated by CHP look increasingly unlikely to be met. Further market intervention by extending and strengthening the NFFO system will therefore be required, and is expected to be subject to further review by the government. In addition, if a significant expansion in renewable energy capacity is to be achieved, the potential role of different renewable energy technologies will need to be considered. The following section considers the different options for Reading.

Potential for Renewable Energy in Reading

The former county council, together with the Energy Technical Support Unit (ETSU) conducted research into the renewable energy potential for the Southern Electricity Region.

Table 13.4 illustrates the potential sources of renewable energy for Reading and the amount of energy that is capable of being generated from them. It can be seen that approximately 35 MW of electricity is capable of being generated from renewable energy sources in Reading. The most significant potential for electricity generation comes from incinerating municipal waste.

The Berkshire Renewable Energy Strategy was adopted in 1995. Much of the report was based on the studies outlined in Table 13.4. Since this date, very little new information has been produced and research and funding has mainly concentrated on large projects. Consequently, it has remained difficult to encourage renewable energy at a local level as many NFFO contracts are awarded to organised larger firms.

Renewable Energy	Energy Potential (MW)	Description
Forest Residue	1	Requires power plant.
Arable Coppicing	5	On arable land.
Straw	2	Requires small power plant at source.
Farmyard Manure	1.5	Produces methane. Requires generating plant.
Sewage Sludge	2	On site. Such potential is already being realised in the Berkshire area with four sewage works exporting electricity to the National Grid, one being at Manor Farm in Reading, which is operated by Thames Water.
Municipal Solid Waste	20	Incineration. Most significant resource, but due to environmental constraints such as Green Belt and Areas of Outstanding Natural Beauty (AONBs) together with densely urbanised areas, finding a site could be very difficult.
Landfill Gas	2.1	Landfill sites in Reading were not identified in the study.
Solar-Active Solar Design		Within Reading the most practicable application of this energy source is in the heating of water for swimming pools and domestic use.
Solar-Passive Design		Opportunities exist to incorporate passive solar design in new development.

Wind		There is insufficient wind to sustain a wind farm in the Berkshire area, outside the Areas of Special Landscape Importance, Green Belt and AONB. However, if wind turbines were allowed in the AONB up to 35MW could be generated. About 70 turbines would be required and these would have a considerable impact on the character and appearance of the AONB.
Hydro	2	Five sites have been identified in the Berkshire area as having renewable energy potential. However, no details of locations are given. These sites will be discussed with the Environment Agency in regard to their environmental constraints/implications.

Table 13.4: Potential for Renewable Energy in Reading

One significant development, however, has been the recent award under the NFFO Fifth Tranche to the Smallmead Landfill Site in the south of Reading in order to generate electricity from a turbine powered by landfill gas. This is the only major landfill site in Reading with potential for power generation. The Waste Strategy for Berkshire published in 1995, places incineration with energy recovery as an option for the management of the former county's waste. The strategy does, however, consider incineration as a last resort below recycling and other smaller scale forms of waste treatment. The council supports this approach (see Chapter 12 - Waste and Recycling).

Energy Consumption by Sector

The amount of energy consumed by sector and type of fuel for 1998 is shown in Table 13.5.

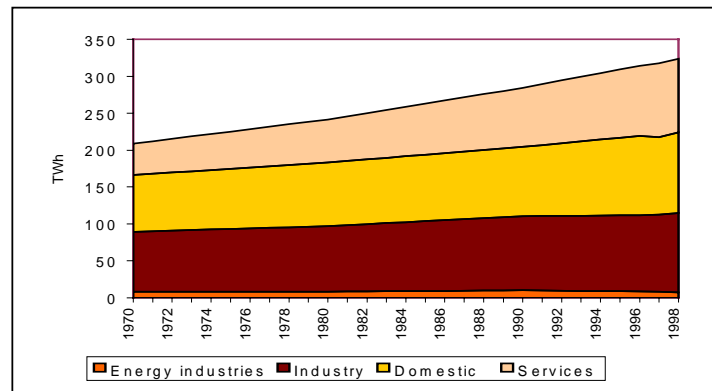
	Industry	Domestic	Transport	Services	Total
Coal & manufactured fuels	4.0	2.2	-	0.3	6.5
Gas	15.2	30.6	-	10.1	55.9
Oil	6.2	3.5	52.9	3.2	65.8
Electricity	9.1	9.4	0.6	7.9	27.1
Total	35.0	46.0	53.6	1.7	156.3

Source : UK Energy in brief (DTI, 1999)

Table 13.5: Final Energy Consumption 1998 (Million tonnes oil equivalent)

Transport is a major consumer of energy, and dominates oil consumption. For supplies to built development, gas supplied direct to households dominates overall gas consumption despite the increasing importance of the role of gas in electricity generation. The industrial, domestic and service sectors consume roughly equal proportions of generated electricity.

The consumption of electricity by the domestic and service sectors has grown by 5% and 15% respectively in the UK as a whole. Total electricity consumption has shown a significant long-term increase from 208.7 TWh in 1970 to 324.3 TWh in 1998 as shown in Figure 13.1.

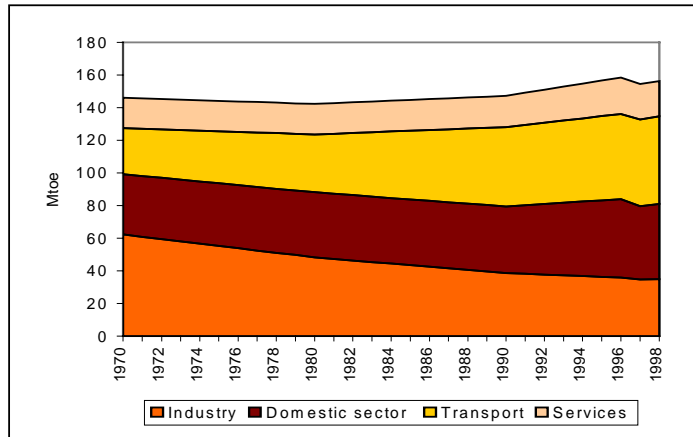


Source : UK Energy in brief (DTI, 1999)

Figure 13.1: Electricity Consumption 1970 – 1988 (terawatt/hours)

Figure 13.2 shows that overall consumption of energy has not increased dramatically since 1970. The highest rate of growth has taken place in the transport sector where it has increased from 28.2 to 53.6 Mtoe. The modest short-term reduction in overall consumption between 1996 and 1997 was due to the mild winter.

Figures also show that electricity consumption in all sectors has increased from 209 to 318 TWh between 1970 and 1998. The increase in the extent of the service sector has played a significant role in this trend. This is particularly significant in Reading where the service sector is of great importance to the local economy. Domestic consumption of electricity has also increased significantly.



Source : UK Energy in brief (DTI, 1999)
 Figure 13.2; Total Energy Consumption 1970 – 1988 (Million tonnes of oil equivalent)

Energy Conservation

Whilst other forms of energy consumption do not appear to be increasing significantly, they are presenting major problems of pollution and are having other environmental impacts even at current levels of use. Whilst renewable energy generation presents opportunities to increase the sustainability of the supply of energy, it can have adverse environmental impacts. Examples are the impact of wind farms on the landscape, concerns over emissions from waste to energy plants and the impact of hydro-electric schemes on the ecology of adjoining areas. In any case, technical and environmental constraints mean that renewable energy is unlikely to form a major component of total energy supply in the foreseeable future.

Energy used by transport has increased significantly since 1970, and is a growing cause for concern in relation not only to energy use and subsequent air pollution, but also congestion. The use of private vehicles presents a severe problem for Reading, in particular in the town centre. To this end, measures to reduce the use of private vehicles will be fundamental to any strategy to reduce energy consumption.

The privatisation of the energy industry has resulted in cheaper prices to consumers. Whilst this is supported by the terms of reference of the regulators, it has opposing sustainability implications. The availability of adequate energy supplies to all sectors of the community is fundamental to the achievement of the social objectives of sustainable development. However, cheaper energy will not provide incentives to consumers to improve energy efficiency. The government is not currently considering intervening in the energy market to artificially increase prices. A number of initiatives are underway. The Home Energy Conservation Act 1995 requires local authorities to produce local energy conservation plans with the target of making energy savings of 30%.

Attempts to make homes, offices, factories, schools and leisure facilities more energy efficient have proved difficult. In the UK, the historic neglect of this area has meant that there is a need to introduce energy efficient measures to a large proportion of the existing built stock. These

measures usually involve financial outlay. In certain cases, support can be inadequate, whilst in others the take up of grants may be low. Low income households are eligible for certain grants.

In July 1998, the government announced an increase in the budget for energy efficiency schemes. This includes extra support for the Home Energy Efficiency Scheme, which supports the installation of energy saving measures in low-income households. The scheme's budget is set to rise gradually from £75m to £175m by the year 2001/2002. Funding for the Energy Efficiency Best Practice Programme, which promotes energy saving initiatives by businesses and public bodies, and the Energy Saving Trust will increase progressively until 2001/2002.

Tackling energy efficiency in the built environment is a key task for local authorities, other public organisations, private businesses and local communities if towns and cities are to become more sustainable. However, whilst investment in energy saving infrastructure will go towards reducing overall energy use, much can also be achieved through simple efficiency measures, such as using energy efficient bulbs or fitting draught excluders under doors.

Energy Conservation Initiatives in Reading

Ealing Family Housing Projects

Ealing Family Housing Association in Reading is developing a significant affordable housing scheme at Amersham Road. The scheme will provide 190 affordable homes, including 50 with high specification energy efficiency measures, assisted by EC THERMIE grant funding¹. Under the scheme the developments are required to achieve the Environmental Standard, a scheme promoted by the Building Research Establishment (BRE) providing an award to housing developments where a minimum standard has been achieved in terms of impact on the environment. Features include a range of low energy lighting, maximum CO₂ emission limits, thermal insulation in lofts and gas-only cooking. The following performance is expected to be achieved in the houses benefiting from these measures: -

- 25% - 32.5% reduction in energy used by boilers
- 28% reductions in CO₂ emissions
- 27% reductions in NOX emissions
- 25.4% reduction in SO₂ emissions

A further two schemes are planned. The first is at Wilton Road, a scheme of 25 homes with planning permission and Housing Corporation funding, where the developers are currently investigating opportunities to optimise development arrangements to ensure sustainability issues are taken on board.

The other scheme is a housing development at Kenavon Drive, within the East Reading SRB² area, which provides a mix of 46 three and four bedroom homes for rent and 88 one and two bedroom flats for sale.

These schemes will include a range of sustainable features including high levels of thermal insulation and passive solar gain.

Infrared Survey

In September 1995, the council agreed to conduct a survey to determine the heat energy loss from all buildings in Reading. The survey was subsequently carried out in February 1996 as a means of:-

¹ EC THERMIE is an EC-funded programme to secure durable and reliable energy services at affordable costs, whilst recognising that a major concern today is the protection of the environment and the reduction in the impact of the production and use of energy, in particular CO₂ emissions.

² Single Regeneration Budget - the Government's Package for the regeneration of deprived or despoiled areas.

- Fulfilling the duties of the council as a local housing authority. The duty, under the provisions of the Home Energy Conservation Act 1995, required the authority to produce an energy report for the area.
- Responding to the council's Agenda 21 initiatives, and its Environmental Strategy, which require a reduction in the use of energy in council buildings, industry and commerce, the community and new developments.

The study targeted three main groups within Reading - local communities and neighbourhoods, small and medium sized enterprises and larger businesses and corporations and academics including Reading University.

The main objective of the survey was to determine the heat loss from buildings and to make the results available to businesses and private householders in order to improve awareness and allow remedial measures to be taken. The information gathered was also used to determine which forms of construction offer the best energy conservation, and, to apply the information to the council's own building stock.

Following the completion of the survey, the results were made available to the council and a major publicity campaign, aimed at private householders, was undertaken to raise awareness and to encourage householders to pursue improvements in the thermal energy efficiency of their own homes.

Non-Fossil Fuel Obligation

Under the NFFO, two schemes have secured funding. The Thames Water sewage gas scheme at Reading Sewage Treatment Works was awarded under the Second Tranche of NFFO funding in 1991, for 0.67 MW of energy generation and the Smallmead Landfill Site was awarded in 1998 under the fifth tranche for 2.87 Mw of energy generation.

Main Issues

The main issues are:

- Decreasing the amount of energy consumed by transport, by reducing vehicle movements, in particular the private car.
- Reducing energy consumption in the built environment, by pursuing energy efficiency in new buildings, and by encouraging householders and commercial and industrial occupiers to practice energy efficiency. Education is a key issue in this respect.
- Increasing the proportion of electricity generated from renewable energy, in order to increase the diversity and sustainability of energy supply. Renewable energy offers opportunities for the Borough to become more self-sufficient in its energy needs.

Key Contact(s)

For further information, please contact Mark Hillyer, Sustainable Projects Officer on 0118 9390232 or Paul Taylor, Principal Projects Officer (Housing Planning and Development) on 0118 9390224.

Reference Documents

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