7 PROTECTING THE ENVIRONMENT

Sustainable development is vital to ensure a better quality of life, consistent with higher and stable levels of economic growth and employment. The Government is committed to protecting and, where possible, enhancing the environment. Sustainable development is a global challenge, and there can be no relaxation in efforts to achieve it. Action is needed globally, nationally and locally.

The Government is committed to a long-term strategy to deliver its goals of tackling climate change, improving local air quality, regenerating Britain's towns and cities, and protecting Britain's countryside. It is announcing new steps and reporting on progress, including:

- business energy-efficiency: **by implementing the climate change levy package from April 2001, including successful implementation of 44 negotiated agreements with energy-intensive sectors; and the launch of the world's first economy-wide emissions trading scheme in April 2002;**
- the Green Technology Challenge: **by proposing further tax incentives in the form of enhanced capital allowances for environmentally-friendly investments;**
- tax incentives for future vehicles and fuels: **by considering further tax incentives for low-carbon vehicles and fuels in the context of the Government's draft strategy, *Powering Future Vehicles*, and fuel duty exemptions for pilot research projects into future road fuels as part of the Green Fuel Challenge;**
- modernising road haulage taxation: **consultation on options to introduce a lorry road-user charge so that lorry operators contribute to the costs that they impose irrespective of their nationality, while ensuring that overall costs to the UK haulage industry are not increased; and previously announced changes to vehicle excise duty to begin in December 2001; and**
- the aggregates levy: **by launching the aggregates levy in April 2002. The Government is proposing to phase in the levy for aggregates used in processed products in Northern Ireland.**

INTRODUCTION

7.1 Sustainable development means a better quality of life for everyone, today and for generations to come. It can be achieved by balancing social, economic and environmental progress. The Government is using tax and other economic instruments to put sustainable development at the centre of policy-making and is pursuing a comprehensive and proactive course of action to:

- **tackle climate change.** There is strong evidence that global temperatures are rising, affecting the world in unpredictable and potentially extreme ways. Temperature changes, drought, floods and rising sea levels all threaten and disrupt people's lives. Poor countries make the smallest contribution to climate change but are often the most severely affected when it happens. The Government has therefore set a long-term goal to tackle climate change, delivering its commitments under the Kyoto Protocol and – critically, given the international nature of this problem – encouraging others to meet theirs;

- **improve air quality.** Poor air quality damages health and can lead to debilitating illness and premature death. Often it is the most vulnerable people in society – the elderly and children – who are most at risk;

- **regenerate Britain's towns and cities.** A derelict and under-developed physical environment has a detrimental impact on the social and economic fabric of communities. Population movement out of urban areas makes it difficult to sustain good services and leads to pressure for new development in the countryside. If 45 per cent of new homes continue to be built on greenfield land, within 20 years an area the size of Exmoor would be built over and the quality of life in both urban and rural areas would suffer; and

- **protect Britain's countryside.** Unsustainable use and disposal of natural resources threatens biodiversity and the natural physical characteristics of the countryside, impacts on human health and has a negative impact on local communities' quality of life.

Indicators

7.2 Progress towards sustainable development is carefully measured through headline indicators covering environmental protection, economic growth and social progress. While global environmental problems, such as climate change, pose significant risks for society as a whole, local environmental issues also have an important effect on people's standard of living. Sustainability indicators therefore address people's everyday concerns, including health, jobs, crime, air quality, traffic, housing and educational achievement. Many indicators are referred to in this chapter to demonstrate the role of specific policy measures. Table 7.1 sets out the sustainability indicators that are relevant to the policies described in this chapter.

Instruments

7.3 The Government uses the full range of instruments to address environmental issues, including public spending, voluntary agreements, regulation, taxes, and other economic instruments, such as permit trading. The choice of economic instrument depends on the nature of the market failure to be addressed. Where the full social and environmental costs of an activity are not incorporated in prices, the Government can allow the market to adjust to efficient levels of production by levying appropriately set taxation.

Statement of Intent on Environmental Taxation

7.4 The use of taxation follows the Government's Statement of Intent on Environmental Taxation, set out in the July 1997 Budget. The Statement describes how the Government is using the tax system to promote sustainable growth, by shifting the tax burden away from goods, such as employment, towards bads, such as pollution. Environmental taxes must also meet universal tests of good taxation: they must be well designed, meet objectives without undesirable side-effects, keep deadweight compliance costs to a minimum, have an acceptable distributional impact, and take account of any implications for international competitiveness. The Government will continue to use and develop environmental taxes where these criteria are met.

7.5 Where there are other market failures it may be necessary to use other policy instruments to overcome them, either in conjunction with a tax or separately. For example, tax reliefs and public spending can encourage behaviour with environmental benefits, and trading schemes can enable the market to determine the least costly method of securing efficient reductions in pollution.

Box 7.1: Tax incentives

The tax system can be used to promote better environmental behaviour, both by taxing environmentally damaging activities and by offering tax relief for activities which benefit the environment. Circumstances where tax reliefs – such as capital allowances for investment in energy-saving technologies – can be appropriate include:

- **when taxes alone are not the most effective method of changing behaviour. Tax incentives, in the form of reliefs, may be used to complement and accelerate the desired behavioural effect of environmental taxes – for example, where there are specific targets to be met;**
- **when market or other circumstances make it difficult to attribute specific environmental damage to individual polluters or to identify the correct base for an environmental tax; and**
- **when social considerations mean that it is not considered equitable to tax the polluter or to tax the polluter at the full rate implied by the environmental damage caused.**

7.6 This chapter describes recent developments and new announcements in support of environmental sustainability. It covers three broad areas of environmental objectives:

- tackling climate change and improving air quality;
- regenerating Britain's towns and cities; and
- protecting Britain's countryside.

TACKLING CLIMATE CHANGE AND IMPROVING AIR QUALITY

The challenge of tackling climate change

7.7 There is strong evidence that global temperatures are rising. The 1990s are likely to have been the warmest decade for the past 1,000 years. The most recent estimate of the extent of global warming for the 21st century (of 5.8 degrees Celsius) is double that estimated in 1995.[1] Climate change will affect the world in unpredictable and potentially extreme ways. Emerging evidence suggests that severe weather events are becoming more frequent and that the situation is likely to get worse. The problems are felt across society – by businesses, households and governments – and cause harm to the natural environment. The Government is therefore taking important steps to address this challenge, controlling and reducing emissions of the gases responsible for global warming.

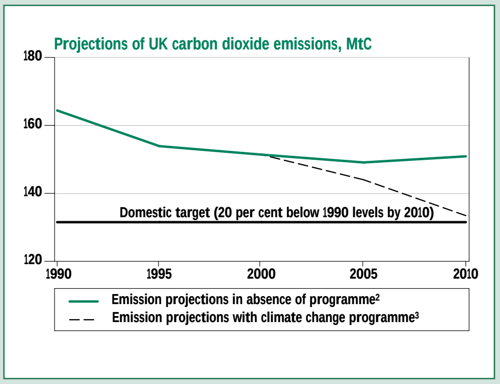
Climate change targets

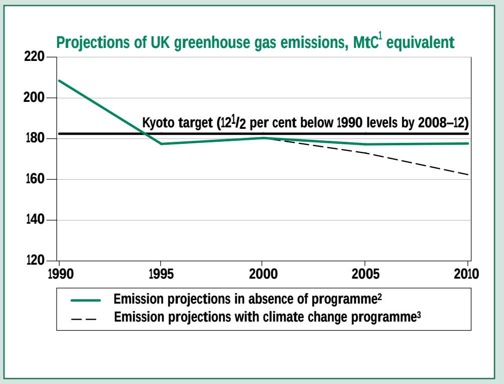
7.8 The Kyoto Protocol commits the UK to cut greenhouse gas emissions by 12.5 per cent below 1990 levels between 2008 and 2012. Significant progress has been made towards reaching this target: by 1999, emissions had already fallen 14.5 per cent below 1990 levels. This puts the UK well on course to deliver its international commitments under the Kyoto Protocol and marks a positive step towards fulfilling the Government's domestic goal to cut carbon dioxide emissions by 20 per cent below 1990 levels by 2010. Box 7.2 shows projections for UK emissions.

[1] *Climate Change 2001*, Third Assessment Report of the Intergovernmental Panel on Climate Change.

Box 7.2: Emission projections and targets

The charts below show the projected effect in 2010 of all the quantifiable measures set out in the UK climate change programme. Along with additional measures, such as public awareness campaigns, emissions should be reduced further so that the UK's carbon dioxide emissions reach 20 per cent below 1990 levels by 2010.





[1] The six greenhouse gases are carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulphur hexafluoride.

[2] Includes the effects of the renewables obligation, the climate change levy, (including the exemptions for CHP and renewable energy), and the fuel duty escalator.

[3] Includes the estimated effect in 2010 of all the quantifiable measures set out in the UK's climate change programme, and released in the UK's Third National Communication on Climate Change.

Source: The UK's Third National Communication to the United Nations Framework Convention on Climate Change, DEFRA, 30 October 2001.

7.9 The Government's programme for reducing emissions is challenging. Designed to take the UK well beyond its Kyoto target, it demonstrates a clear commitment by the Government and the devolved administrations to tackle the causes of global warming. The Government estimates that the policies and measures included in the programme could reduce the UK's emissions of the basket of greenhouse gases covered by the Kyoto Protocol to 23 per cent below 1990 levels by 2010. Alongside other measures, such as public awareness campaigns, it could also bring down carbon dioxide emissions by 20 per cent from their levels in 1990, in line with the Government's goal.

The challenge of improving air quality

7.10 Poor air quality poses risks to human health, quality of life and the natural environment. It affects everyone and particularly elderly people and children. Each year in the UK, short-term air pollution episodes are associated with 12,000 to 24,000 premature deaths and 14,000 to 24,000 hospital admissions and re-admissions for respiratory and cardio-vascular problems. Emerging evidence suggests that the health effects of exposure to long-term air pollution are even greater.

Air quality targets

7.11 The Government's Air Quality Strategy (AQS) for England, Wales, Scotland and Northern Ireland[2] aims to ensure that everyone can enjoy a level of ambient air quality in public places that poses no significant risk to health or quality of life. The strategy includes targets for carbon monoxide, lead, nitrogen dioxide, particles, sulphur dioxide, benzene and 1,3-butadiene. In September 2001, the Government launched a consultation on adopting new, tighter objectives for some AQS pollutants. These will cut air pollution further and deliver greater health benefits, while avoiding unreasonable costs. In addition, 95 per cent of local authorities have completed assessments of air quality and some 60 authorities have designated air quality management areas. Local authorities will be drawing up action plans to improve local air quality over the next 12 to 18 months.

[2] *The Air Quality Strategy for England, Wales, Scotland and Northern Ireland*, DETR, 2000.

7.12 In general, air quality in the UK is improving. The number of days of poor air quality in urban areas in the year 2000 was the lowest since the series began in 1993[3], consistent with the overall downward trend of air pollution over the last seven years.

Meeting the challenges

7.13 All sectors of the economy share in the responsibility of tackling climate change and air quality. To achieve its domestic and international goals, the Government has put in place a range of policies relating to business, households and transport.

Business

7.14 Business has a central role in helping to meet the challenging targets for climate change and air quality. The Government has therefore introduced:

- the climate change levy (CCL);
- additional energy-efficiency advice;
- support for investments in energy-saving technologies;
- support for renewable energy and the development of new low carbon technologies; and
- an emissions trading scheme.

Climate change levy

7.15 Introduced in April 2001, the CCL and its associated package of measures are designed to encourage the non-domestic sector to become more energy efficient, reducing carbon emissions by around 5 million tonnes a year by 2010. Broadly revenue-neutral for business, the CCL package of measures includes:

- the levy itself, and important exemptions for new sources of renewable energy and for fuel used by good quality combined heat and power (CHP) systems;
- a 0.3 percentage point reduction in employers' national insurance contributions;
- 80 per cent discounts for eligible energy-intensive users that have signed up to negotiated agreements and agreed challenging targets to increase energy-efficiency;
- support for business energy-efficiency and renewable energy technology through the Carbon Trust; and
- enhanced capital allowances for business investments in energy-saving technologies.

Negotiated agreements

7.16 Energy-intensive sectors of industry have already entered into 44 negotiated agreements with the Government to meet challenging energy-efficiency targets in return for 80 per cent levy discounts (see box 7.3). Progress will be reviewed every two years, with the first review in early 2003. Sites that fail to meet their targets will lose the benefit of their discount. The Department for Environment, Food and Rural Affairs (DEFRA) is administering the agreements and will review their operation with sector associations early next year. The targets will be subject to renegotiation during 2004-05.

[3] NETCEN, DETR.

Box 7.3: Industry sectors benefiting from negotiated agreements

Forty-four agreements are currently in place, covering 5,000 operators at 13,000 individual sites. The table below lists the ten sector agreements that cover the largest energy users and account for between 85 and 90 per cent of the total energy use of the industries with negotiated agreements. The agreements cover a range of other smaller sectors including intensive agriculture, leather production, brewing and distilling. Together, these agreements are expected to deliver a carbon reduction of at least 2.5 million tonnes (MtC) a year by 2010.

Negotiated Agreements

Sector association	Coverage of agreement
Aluminium Federation	**Production, melting, refining and treating of aluminium**
British Cement Association	**Manufacture of cement**
British Ceramics Association	**Manufacture of ceramics**
British Glass Manufacturers Confederation	**Manufacture of glass**
Chemical Industries Association	**Chemicals**
Food & Drink Federation	**Manufacture of food and drink products (not preparation of food)**
Non-Ferrous Alliance	**Non-ferrous metals**
Target 2010	**Foundries**
The Paper Federation	**Manufacture of paper**
UK Steel Association	**Steel**

The Carbon Trust and energy-efficiency

7.17 The Carbon Trust was established in April 2001 to take the lead on low-carbon technology and innovation in the UK. The Trust operates as an independent company and its funding of £50 million a year principally comes from recycled CCL revenues. The Trust will take over responsibility for the Energy Efficiency Best Practice programme, which provides businesses with independent information to help them save energy, cut waste and reduce carbon emissions. Companies can receive tailored advice and site energy surveys from the Environment and Energy Helpline. The Trust will also have responsibility for managing the lists of technologies and products that qualify for enhanced capital allowances (ECAs) and will be introducing programmes to support the development of new low-carbon technologies.

Investment in energy-saving technologies

7.18 ECAs for investments in approved energy-efficient technologies were introduced in April 2001 as part of the CCL package of measures. The present scheme covers eight groups of energy-efficient technologies and over 1,800 approved products and is estimated to be worth up to £70 million in 2001-02 and £130 million in 2002-03. Applications for new technologies, including ideas submitted through the Green Technology Challenge, are currently being considered and further additions to the scheme will be made in 2002-03.

Combined heat and power

7.19 The Government recognises the difficult market conditions now facing operators of combined heat and power (CHP) systems as a result of recent changes in energy prices. The DTI is consulting on the impact of the first few months of the New Electricity Trading Arrangements (NETA) on smaller generators and on the means by which the Government could address concerns. Subject to legal and other constraints, the Government will also consider the environmental case for providing more favourable treatment for CHP within the CCL, taking account of the role which CHP might play in meeting the UK's climate change targets.

Emissions trading

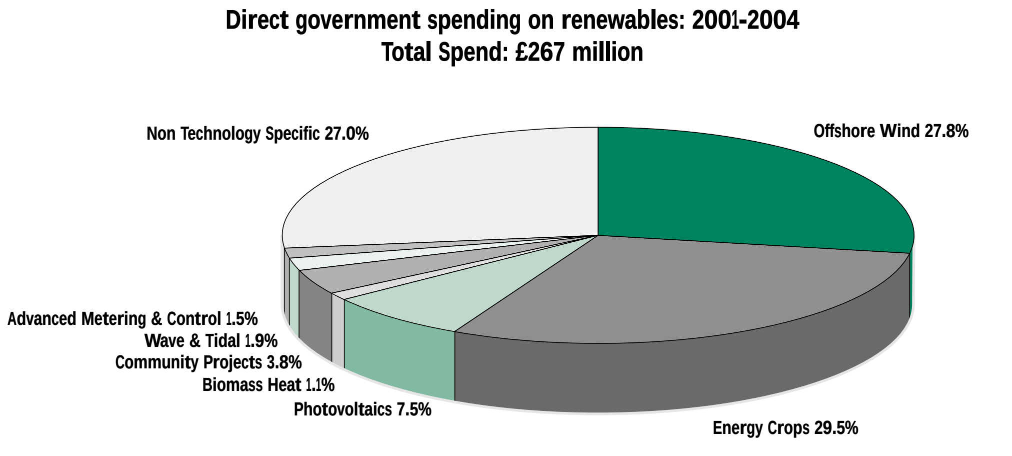
7.20 **As previously announced, the Government is launching the world's first economy-wide greenhouse gas emissions trading scheme in April 2002.** The emissions trading scheme is a major new initiative, putting the UK at the forefront of trading. Trading will allow participants to meet their targets at the lowest cost, either by reducing their own emissions or, if it is cheaper, by buying emissions allowances from other participants who have found it worthwhile to beat their targets. Consequently, the scheme will enable environmental targets to be met as cost-effectively as possible.

7.21 A framework document for the scheme was published in August 2001. Entry is open to any organisation responsible for emissions in the UK, including companies in CCL negotiated agreements which will be able to use trading as a way of reducing the costs of meeting their agreed targets. A pre-registration for potential participants is operating until 1 February, after which participants will bid into an auction to establish voluntary five-year emissions reduction targets and allocate incentive funds of up to £30 million after tax in the first year. A first trade of UK allowances has already been completed on a forward basis. The Government hopes that the first round of entrants to the scheme will deliver annual reductions of around 0.8 million tonnes of carbon (MtC).

Renewable energy

7.22 The Government is supporting renewable energy with a mixture of economic instruments. The Renewables Obligation will require all licensed electricity suppliers to acquire a specified proportion of electricity from renewable generators. Comparable mechanisms exist for Scotland and Northern Ireland. The climate change levy exemption applies to most renewable generation. Existing commitments made under the Non-Fossil Fuel Obligation – funded by a levy on electricity generators used to support otherwise non-competitive renewable electricity production – will continue to apply. As shown in chart 7.1, the Government is also spending £267 million directly supporting renewables over the next three years.

Chart 7.1: Renewable energy



Source: Renewables obligation statutory consultation document, August 2001, Cabinet Office press release, 5th November.

Green Technology Challenge

7.23 As announced in Budget 2001, the Government has consulted on setting up a Green Technology Challenge (GTC), with the intention of offering enhanced capital allowances (ECAs) to encourage investment in a broader range of environmental objectives[4]. Some 100 responses were received, a summary of which will be published shortly. Overwhelmingly,

[4] *Green Technology Challenge: Consultation Document,* HM Treasury, July 2001.

these responses showed strong support for using tax incentives to achieve environmental improvements, while recognising that ECAs are more suitable for dealing with some environmental issues than others. **The Government has evaluated the responses to the Green Technology Challenge consultation and, subject to EU state aids approval, proposes to introduce further ECAs to:**

- **tackle climate change and improve air quality;** and
- **reduce water use and improve water quality.**

7.24 In using the GTC to strengthen its approach to tackling climate change and improving air quality, the Government proposes to focus on two avenues:

- **energy-saving technologies** – this will be taken forward by the Carbon Trust with DEFRA and the Inland Revenue; and
- **cleaner road fuels and vehicles** – proposals for using ECAs will be considered in the context of the Government's consultation on "Powering Future Vehicles" to be launched shortly.

7.25 The Government's plans to take forward the second of these objectives under the GTC are discussed later in this chapter. The Government will consider extending the scope of the GTC over time and in particular to sustainable energy technologies.

Households

7.26 Encouraging greater energy-efficiency in the home is key to tackling fuel poverty and reducing carbon emissions. The Government has introduced a number of measures to ensure that households play their part in meeting the UK's emissions targets while protecting the most vulnerable groups of people.

VAT on energy-saving materials

7.27 The Home Energy Efficiency Scheme provides central heating systems for low-income, older and other vulnerable householders at risk of ill-health from cold homes. By August 2001, more than 175,000 households in England had benefited from improved heating and insulation. In Budget 2000, the Government reduced the rate of VAT on the grant-funded installation of new central heating systems and heating appliances. This has allowed the scheme to assist 19,000 more households than would otherwise have been possible.

Affordable Warmth Programme

7.28 The Government has introduced capital allowances to support the installation of energy-efficient heating systems and insulation in low income households under the Affordable Warmth Programme. By August 2001, more than 15,000 households had benefited from central heating installations carried out under the programme. Additional support for the programme, provided by the European Investment Bank, will enable significantly more households to benefit.

Energy efficiency commitment

7.29 The Energy Efficiency Commitment (EEC) will require gas and electricity suppliers to make significant energy savings between 2002 and 2005 by encouraging and assisting their domestic customers to reduce their household energy consumption. Half of these energy efficiency benefits will be received by low income consumers. The EEC is expected to cut greenhouse gas emissions by around 0.4 million tonnes of carbon a year by 2005.

Transport

7.30 A safe, clean, convenient and efficient transport system is crucial to sustaining economic growth, improving the quality of life and safeguarding the environment. Rising economic activity and increased incomes have generated a higher demand for personal travel and the transport of goods and services over recent decades. Over the last thirty years passenger and freight travel has almost doubled. Road traffic is projected to continue growing over the next decade. The Government's strategy to address these issues includes:

- in the long-term, to assist the switch to a low-carbon economy, including zero emissions transport;
- over the medium-term, to set incentives for greener transport; and
- in the short-term, to encourage use of the most environmentally-friendly widely available fuels and vehicles.

Box 7.4: Promoting cleaner transport

The Government is committed to working with industry and its international partners to improve the environmental performance of road transport using a wide range of policy tools:

- tax incentives for cleaner transport: **using duty incentives to promote more efficient use of fuel and cleaner forms of petrol and diesel and alternative fuels, reforming vehicle excise duty and company car tax systems to reward less polluting cars, and introducing incentives for greener forms of commuting;**
- targeted grants to promote cleaner technologies: **through PowerShift and CleanUp programmes, supporting the conversion of 8,000 vehicles to road fuel gases or electricity, and the retrofitting of another 2,000 diesel vehicles with advanced after-treatment technologies, such as particulate traps or oxidisation catalysts;**
- voluntary agreements: **playing a leading role in developing voluntary agreements between the European Community and car manufacturers to reduce carbon dioxide emissions from new cars sold across Europe; and**
- regulations: **working closely with European partners to set challenging improvements in vehicle emission and fuel quality standards.**

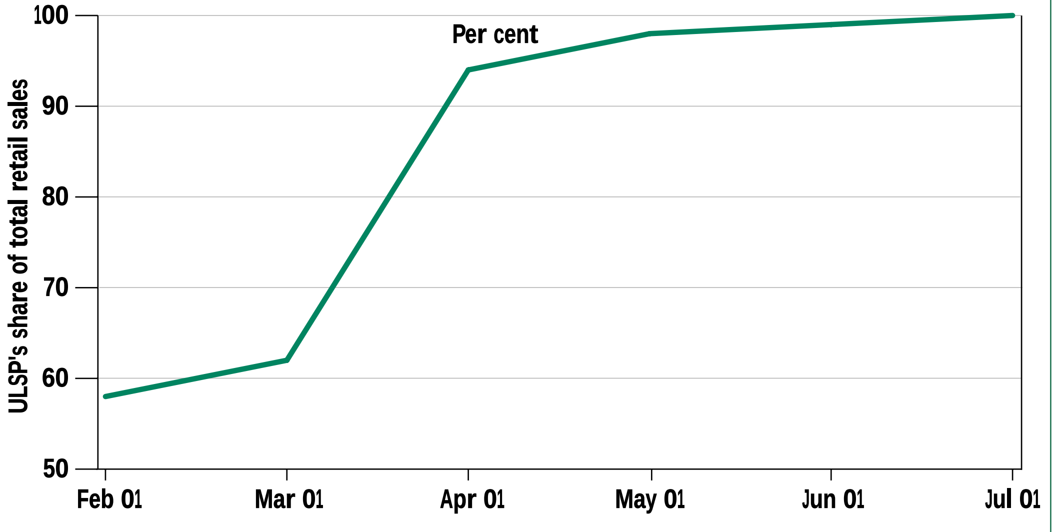
Fuel duties and cleaner fuels

7.31 Differential rates of fuel duty can help to encourage the rapid use of more environmentally-friendly fuels and have stimulated development of new technology to reduce greenhouse gas emissions and reduce the impact of motoring on local air quality. As a result of the Government's policies to encourage more efficient vehicles and cleaner fuels, average carbon dioxide emissions for new cars have fallen by 5 per cent from 1997 to 2000 and are expected to fall by a further 20 per cent by 2008-09.

Low sulphur fuels

7.32 The duty differential in favour of ultra-low sulphur petrol (ULSP) encouraged industry to convert unleaded petrol sales to ULSP by June 2001, making the UK one of the first EU countries to complete this transition. ULSP offers environmental benefits over ordinary unleaded petrol when used in modern cars fitted with three-way catalytic converters. Research suggests that it can reduce emissions of nitrogen oxides by up to 6 per cent, carbon monoxide by around 11 per cent and hydrocarbon emissions by up to 14 per cent.

Chart 7.2: Conversion to ULSP



Source: HM Customs & Excise and DTI

7.33 Following the successful introduction of a duty incentive from 1997, ultra-low sulphur diesel (ULSD) has accounted for all diesel used by road vehicles in the UK since 1999. ULSD reduces particulate emissions from existing diesel vehicles and allows the use of advanced emission abatement technology, such as particulate traps, which in turn reduce emissions by up to 90 per cent.

Lead replacement petrol

7.34 The higher duty rate for lead replacement petrol (LRP) was abolished in Budget 2001 as it does not create significant environmental impacts over and above ordinary unleaded petrol. Duty on LRP is now based on the fuel's sulphur and aromatics content, providing an incentive to reduce sulphur levels. Low sulphur LRP currently accounts for around 30 per cent of total LRP production and is set to rise during 2001 as further UK refiners switch production.

Green Fuel Challenge

7.35 The Government launched the Green Fuel Challenge (GFC) in November 2000 to promote the development of practical alternative transport fuels with environmental benefits. In response to proposals received under the GFC, a series of duty cuts for alternative fuels were introduced in Budget 2001.

7.36 To maintain the duty differential between road fuel gases associated with lower levels of local air pollution, and petrol and diesel, Budget 2001 cut duty on road fuel gases to 9 pence per kilogramme and froze this duty in real terms until 2004 at the earliest. This is already contributing to positive growth in the road fuel gas market. The number of liquefied petroleum gas (LPG) refuelling sites is expected to exceed 1,000 by the end of 2001, compared with 100 in early 1998. LPG-fuelled cars are expected to rise to nearly 100,000 by 2006 – a four-fold increase from today.

7.37 As announced in Budget 2001, to offset additional production costs of bio-diesel, and permit the UK to benefit from the reduced greenhouse gas emissions that this fuel can offer, the Government will, subject to EU agreement, introduce **a new duty rate for bio-diesel, set at 20 pence per litre below the ULSD rate in Budget 2002.**

7.38 Other proposals made under the GFC offered potential longer-term benefits but still require considerable research and development. The Government invited formal bids for pilot project status in July. **After considering the bids, the Government has now selected three projects which, subject to European agreement, will receive fuel duty reductions or exemptions. These relate to:**

- **hydrogen fuelling infrastructure for fuel cell buses;**
- **the capture, compression and use of landfill gas (biogas) and in a variety of vehicles;** and
- **the testing of methanol in various vehicles, and in the refuelling infrastructure.**

7.39 The Government is also considering promising proposals received in response to this first stage of the Challenge covering ethanol. **It will be inviting a second stage of bids for pilot projects under the Green Fuel Challenge in spring 2002.**

VED for cars

7.40 As announced in Budget 2000, the Government has this year introduced a new vehicle excise duty (VED) system for cars first registered after 1 March 2001. This four-banded graduated system encourages the purchase of cars with better fuel efficiency and lower carbon dioxide emissions and cars using fuels that are better for local air quality. This means that the least polluting vehicles pay up to £70 less VED a year.

7.41 Budget 2001 also extended the incentive to purchase smaller, and typically more efficient, second-hand cars. From 1 July 2001, all cars first registered before 1 March 2001 with an engine size below 1549cc now pay only £105 in VED. This was backdated to new licences purchased from November 2000 through rebates. The DVLA has paid out over £170 million to nearly 4.5 million motorists.

VED for motorcycles

7.42 In recognition of the important role that motorcycles play in the vehicle fleet, the Government is **launching a consultation on options for modernising motorcycle VED** to ensure, in particular, that the VED system reflects the benefits small motorcycles could bring if they substitute for car use.[5]

VED for vans

7.43 Vans make up 8 per cent of the vehicle fleet, but produce a disproportionate amount of local air pollutants. The Government wants to encourage van manufacturers and users to develop and adopt new technologies with environmental benefits, including vans that meet the challenging new Euro-IV emissions standards ahead of the 2007 mandatory date. **The Government will discuss with industry and other stakeholders how best to achieve this objective, for example through VED, in advance of Budget 2002.**

Encouraging new vehicle technology

7.44 As a step towards zero-emissions transport in the long-term, the Government is committed to promoting the development and take up of next-generation low-carbon vehicles. It recognises that early and clear fiscal incentives can have an important role in encouraging this development. **It will consider in Budget 2002 the possible role and scope of such incentives in the context of the Government's draft strategy document, *Powering Future Vehicles*, which will be published shortly.**

Companies

7.45 Companies purchase approximately 50 per cent of new cars in the UK and about 20 per cent of all vehicle miles are made in company cars. Company car taxation therefore plays a crucial role in encouraging the take up of cleaner, more fuel-efficient vehicles. The Government is introducing reforms in three vital areas:

- reforms to company car tax;
- reforms to the allowances employers can pay for business journeys carried out in private cars without incurring a tax liability; and
- incentives to encourage greener forms of commuting.

[5] *Reforming Motorcycle Vehicle Excise Duty*, HM Treasury, November 2001.

Company car tax

7.46 As announced in Budget 2000, a major, revenue neutral, reform of company car taxation will be implemented shortly to promote the use of more environmentally-friendly company cars. **From April 2002, the income tax charge on a company car will be based on a percentage of the car's list price graduated according to the level of the car's carbon dioxide emissions – measured in grams per kilometre (g/km).** The charge will build up from 15 per cent of the car's price to a maximum of 35 per cent – in 1 per cent steps for every 5g/km of carbon dioxide above a specified level. Diesel cars (except those meeting the Euro-IV emissions standard) will be subject to a supplement of 3 per cent of the car's price, up to a maximum of 35 per cent, due to their higher emissions of particulates and other local air pollutants. Discounts will be available for cars powered by electricity or gas and for hybrid petrol/electric cars. It is estimated that these changes will save around 0.5 to 1.0 MtC per year by 2011-12.

Fuel scale charge

7.47 This tax year is the fourth of a five-year programme of annual increases announced in Budget 1998 to discourage the giving or receiving of free fuel for private use in a company car. **The Government will shortly invite views on proposals to restructure the fuel scale charge for 2003 to relate it to carbon dioxide emissions.**

Authorised mileage rates

7.48 As announced in Budget 2001, building on the reforms to company car taxation, the Government is also **introducing a new statutory system of mileage rates from April 2002** to provide an incentive to drive more efficient vehicles for business trips. Employers will be able to offer compensation of up to 40 pence per mile, free of tax and NICs, for the first 10,000 business miles per year. The tax free rate will be set at 25 pence per mile above this threshold. Both rates apply to all sizes of car, increasing incentives for drivers to use smaller, more efficient cars. As announced in Budget 2001, the Government is also **introducing in April 2002 a new passenger rate of 5 pence per mile per passenger to encourage car-sharing on business trips and an increased income tax and NICs free mileage rate paid by employers for cycle use for business trips of 20 pence per mile.**

Green travel

7.49 The Government is committed to the cost-effective use of the tax system to encourage cleaner, greener forms of commuting. Budget 1999 introduced legislation to allow employers to provide free bus transport for the commute to work without beneficiaries incurring a tax liability. **The Government is currently consulting on proposals to extend the tax exemption for employer subsidised public bus services to give employees free or reduced cost travel to work.**[6]

Haulage industry

7.50 Haulage is important to a successful and sustainable economy. Recent Budgets have introduced a variety of measures to support action by the haulage industry to become more internationally competitive and less environmentally damaging. These include reforms to VED and the introduction of the Haulage Modernisation Fund. The Government's Ten Year Plan for Transport will also increase the efficiency of freight transport and reduce its environmental impact.

VED for lorries

7.51 Budget 2001 set out a **new system of VED for lorries that will come into force on 1 December 2001.** This will encourage hauliers to use lorries that cause less road and environmental damage. It will also give hauliers greater flexibility to vary the type of vehicle they use in their every day operations, by not requiring them to re-license each time they switch vehicle types. It will mean that 80 per cent of lorry VED re-licensing can be done at post offices.

[6] *Consultation on the tax and NICs treatment of employer subsidies of public bus services,* Inland Revenue, October 2001, http://www.inlandrevenue.gov.uk/drafts/busconsult.pdf

Lorry road-user charging

7.52 The Government is determined to ensure that lorry operators from overseas pay their fair share towards the cost of using UK roads. It believes that there are good economic, environmental and social reasons to introduce a lorry road-user charge to ensure that lorry operators using UK roads contribute towards the costs that they impose, irrespective of their nationality. **The Government is therefore publishing a consultation document, *Modernising the Taxation of the Haulage Industry*[7], setting out options for introducing a road-user charge for lorries operating in the UK and seeking the views of the haulage industry, business and other stakeholders. The two options outlined in the consultation are for charging either on the basis of time or on the basis of distance.** As the UK haulage industry already contributes towards the costs that it imposes, the Government will ensure that it does not pay more as a result of a new lorry road-user charge, through implementing offsetting reductions in other taxes on lorry operators.

Haulage Modernisation Fund

7.53 The Government announced the creation of a three-year £100 million ring-fenced Haulage Modernisation Fund in the November 2000 Pre-Budget Report. The fund offers support for modernising, improving efficiency and lessening the environmental impact of road freight. Schemes supported by the Fund with important environmental benefits include:

- retrofitting: £30 million is being spent in England to retrofit older lorries with modern technologies to reduce emissions of local air pollutants. Retrofitting will enable some hauliers to qualify for up to £500 lower VED rates; and
- a fuel economy adviser scheme: due to start in England by the end of 2001, the scheme aims to cut overall fuel consumption by at least 5 per cent by providing on-site advice to heavy goods vehicle operators.

VED for tractors

7.54 Budget 2001 abolished VED on tractors and other vehicles that previously qualified for the £40 special concessionary VED rate. This measure took effect from 1 April. As promised in Budget 2001, the Government has consulted with industry representatives and will extend **the exemption to vehicles designed for lifting and loading agricultural, horticultural and forestry materials from January 2002.**

REGENERATING BRITAIN'S TOWNS AND CITIES

Why regeneration matters

7.55 During the last decade many British towns and cities experienced significant changes in their economic base. While some have taken important steps to respond to these changes, physical and economic deprivation and social neglect continue to characterise far too many.

7.56 The Government has an important role to play in supporting sustainable development and regeneration in urban areas, rectifying market failures that deter physical investment in land and buildings and delay economic development. Chapters 3 and 5 describe the measures the Government is introducing to stimulate enterprise in disadvantaged areas and to build stronger and fairer local communities. This section describes how the Government is meeting the challenge of urban regeneration, through:

- fiscal measures, described in the Government's Urban White Paper, that address market failures damaging the urban environment; and
- a range of other measures to improve local quality of life, including work as part of the 2002 Spending Review on how Government policies can improve the safety and attractiveness of public space.

[7] *Modernising the Taxation of the Haulage Industry – A Consultation Document,* HM Treasury, November 2001.

Urban White Paper

7.57 The Urban White Paper responded to Lord Rogers' report, *Towards an Urban Renaissance*, and described how the Government would take action to ensure that:

- the wider benefits of regeneration are reflected in developers' decisions;
- property markets function effectively and derelict land can be sold for re-development; and
- informational asymmetries in the property market are corrected. Extra incentives for developers should encourage them to carry out more detailed assessment of the risks of developing derelict or vacant sites in depressed or unproven locations.

7.58 The Urban White Paper package of fiscal measures, worth £1 billion over five years, will help to make better use of existing housing stock, encourage re-use and re-development of brownfield land and provide assistance to disadvantaged communities. The measures include corporation tax rebates and changes to VAT and stamp duty. Most of these measures have been available since May 2001 and arrangements are being put in place to monitor their impact over time.

Tax relief for cleaning up contaminated land

7.59 A 150 per cent accelerated tax credit for the costs of cleaning up contaminated sites has been available to owners and investors since May 2001. Cleaning up sites will increase the supply of previously developed land available for development, reducing pressure to build on greenfield sites. It can also have significant local environmental, economic and social benefits.

Stamp duty

7.60 **To increase investment in deprived areas, an exemption from stamp duty for all property transfers up to £150,000 will be available in the UK's most disadvantaged areas from 30 November 2001**. Chapter 3 covers this measure and its impact in driving forward enterprise and economic regeneration in disadvantaged areas in more detail.

Tax relief for creating flats over shops

7.61 Since May 2001, 100 per cent capital allowances have been available for creating flats for letting above shops, encouraging the recycling of redundant space for housing, typically in urban areas, with social and other benefits.

VAT relief for residential conversions

7.62 To make better use of empty properties and the existing housing stock, and to encourage the conversion of houses into flats, the Government has introduced a range of further measures, including:

- a 5 per cent reduced rate of VAT on renovating dwellings that have been empty for three or more years;
- an adjustment to the VAT zero rate to provide relief for the sale of renovated houses that have been empty for 10 years or more;
- a 5 per cent reduced rate of VAT on residential conversions that result in a change in the number of dwellings in a property; and
- a 5 per cent reduced rate of VAT for the cost of converting residential property into residential communal homes, such as care homes and homes with multiple occupation.

Urban Regeneration Companies

7.63 Urban Regeneration Companies (URCs) are a new means of organising and delivering major regeneration projects in key urban locations. URCs are independent companies, established by the local authority, Regional Development Agency and other public and private sector partners. The first URCs, in Liverpool, east Manchester and Sheffield, are already succeeding in coordinating development strategies and increasing business confidence. The Government has recently consulted on the prospect of giving tax relief on company donations to URCs and similar bodies across the UK and will announce the results in Budget 2002.

Public space and the local environment

7.64 In April 2001, the Prime Minister set out a series of measures designed to improve local quality of life. The measures aim to tackle local environmental problems and ensure that all public spaces are safe, clean, well maintained and designed, and serve the needs of all groups, including those with disabilities and minority groups. Local government will have the freedom and control to prioritise and tackle issues of local importance, working within a framework set by central government.

7.65 As described in Chapter 6, the Government is also launching a cross-cutting review, as part of the 2002 Spending Review, to examine how Government policies, funding and targets can produce improvements in the safety and attractiveness of public space. The review, which is open and considering the views of the full range of stakeholders, will produce recommendations by the end of the year.

7.66 As part of the Towns and Cities Initiative, the Government has nominated 24 towns and cities to exchange ideas and experience over the next 12 months to develop strategies for dealing with quality of life problems. Successes and best practice will be showcased at the Urban Summit in autumn 2002.

Abandoned vehicles

7.67 The Government is committed to tackling the problem of abandoned vehicles. It has launched a consultation exercise on proposals to remove them more swiftly in the short-term and to prevent them from being abandoned in the longer-term.[8] **As part of these proposals, the Government is determined to challenge motorists who evade VED and is reviewing options for ensuring that there is a sufficient penalty to deter such evasion.**

PROTECTING BRITAIN'S COUNTRYSIDE

7.68 The Rural White Paper, published in November 2000, set out the Government's vision of a countryside that is sustainable economically, socially and environmentally. Chapter 5 describes how the Government allocated £1 billion in the 2000 Spending Review to help secure real improvements in health, education, housing and transport for rural communities, and has made available £600 million through the Rural Development Programme. Box 7.5 sets out the range of economic assistance the Government has also provided for rural areas affected by Foot and Mouth disease.

7.70 In addition to this economic support, the Government is taking action to deal with environmental threats that are important in the countryside or that relate to the protection of natural resources, such as biodiversity, visual amenity, water pollution and landfill. These methods include tax measures, like the aggregates levy, the landfill tax and their related spending programmes, plus the voluntary agreement on pesticides. This section describes the action the Government is now taking to:

- reduce the environmental impact of aggregate extraction;
- promote waste minimisation and more efficient waste management;
- minimise the environmental impact of pesticides use; and
- bring about reductions in water use and improvements in water quality.

[8] *Abandoned Cars – a consultation document,* DTLR and DEFRA, October 2001.

Box 7.5: Foot and Mouth disease

The impact of the Foot and Mouth outbreak has been severe in many rural areas. Over 2000 farms have been infected in the UK since the first case was confirmed at the end of February 2001, and many other businesses have been affected indirectly. The Government has put in place a range of measures to support badly affected communities and businesses:

- **direct payments to farmers who have lost their livestock;**
- **a scheme to prevent animal welfare problems due to livestock movement restrictions;**
- **establishing – and replenishing – the Business Recovery Fund operated by Regional Development Agencies;**
- **a scheme making it easier for rural local authorities to grant hardship rate relief to businesses affected by Foot and Mouth disease (FMD); and**
- **matched funding for personal charitable donations intended to relieve rural distress.**

Following the outbreak of Foot and Mouth disease, the Government also asked HM Customs and Excise and the Inland Revenue to make special arrangements for FMD-affected businesses. Since then the revenue departments have dealt with more than 65,000 calls from businesses and provided direct help to more than 22,000 businesses by allowing them to defer over £191 million in tax and NICs. In recognition of the special circumstances, the Government has also agreed to waive the interest that is normally due on deferred payments. The Government acted decisively to contain and eradicate FMD while assisting those affected, spending an additional £2.7 billion to tackle the disease and its implications for the rural economy.

An assessment of the overall macroeconomic impact of the Foot and Mouth outbreak is provided in Annex A.

Aggregates quarrying

The aggregates levy

7.71 The aggregates levy is set at £1.60 per tonne on virgin aggregate commercially exploited in the UK. **The levy will be implemented in April 2002 and will ensure that the environmental impacts of quarrying aggregate, such as damage to biodiversity and visual intrusion, are more fully reflected in aggregate prices.** It will encourage the use of alternative materials, such as wastes from construction, demolition and clay and coal extraction, that would otherwise be disposed of to landfill. It will also promote greater efficiency in the use of virgin aggregate and the development of new recycling processes, such as using waste tyres and glass.

7.72 The Government has considered in detail the impact of the aggregates levy on Northern Ireland and is minded to phase in the levy for aggregates used in processed products in Northern Ireland. This recognises the potential effects of the levy on this specific sector. Phasing in the levy, including an exemption in 2002-03, will be subject to EU state aids approval.

7.73 Revenues raised from the levy will be recycled to business and communities affected by aggregates extraction through a 0.1 percentage point cut in employers' national insurance contributions (NICs) and a new £35 million a year Sustainability Fund. The reduction in NICs helps to fulfil the Government's commitment to shift taxation away from goods, such as employment, and towards bads, like pollution.

7.74 The Government has considered the case for a differential rate of the levy for quarries with better environmental performance – so-called "green quarries". Following informal discussions with the industry and other stakeholders, the Government has decided not to develop a differential rate scheme at the current time because of the difficulties in assessing environmental performance accurately and the prospect of setting up perverse incentives.

7.75 In consultation with the aggregates industry, the Government is examining proposals to deliver additional environmental benefits through the aggregates levy by encouraging the positive use of aggregates waste.

Sustainability Fund

7.76 **The £35 million a year Sustainability Fund will be introduced in April 2002, alongside the aggregates levy, to reduce the need for virgin materials and limit the environmental effects of extraction where this takes place.** An initial consultation identified some key priorities for the Fund. The Government has consulted on how to give effect to these objectives in England through existing programmes and will publish the results early next year. Scotland, Wales and Northern Ireland will determine their own spending plans for their shares of the Fund. The National Assembly for Wales plans to issue a consultation document later this year.

Waste

7.77 The Government is committed to the challenging targets set out in Waste Strategy 2000 for recycling and composting, recovery of household and municipal waste and reducing the amount of industrial and commercial waste sent to landfill. A range of instruments are being used to encourage more sustainable waste management, including:

- economic instruments, such as the landfill tax and tradeable permits for biodegradable municipal waste;
- the landfill tax credit scheme;
- statutory recycling targets for local authorities;
- public spending programmes, such as the Waste and Resources Action Programme (WRAP) and the New Opportunities Fund; and
- initiatives to promote best practice.

Landfill tax

7.78 By making waste producers take account of the environmental costs they impose when they discard waste to landfill, the landfill tax encourages efforts to minimise the amount of waste generated and to develop more sustainable waste management techniques, such as recycling, composting and recovery. It makes an important contribution to the Government's waste disposal targets by encouraging diversion of waste away from landfill.

7.79 The tax applies to waste disposed of at licensed landfill sites and is levied at £2 per tonne for inactive waste and £12 per tonne for active waste. **The Government is committed to increasing the rate of tax for active waste by £1 each year until 2004, in line with the landfill tax escalator.**

Landfill tax credit scheme

7.80 To ensure that the funds in the landfill tax credit scheme (LTCS) are used to address its priorities, the Government has set an indicative target of 65 per cent of landfill tax credits to be allocated to sustainable waste management projects and for at least a third of these to be allocated to recycling projects. This significant shift in the use of LTCS funds will help meet the targets for recycling set out in Waste Strategy 2000.

7.81 The Government is attracted to replacing all or part of the LTCS with a public spending programme to direct resources towards Government priorities on sustainable waste management. The Government, together with the devolved administrations, is now developing options for a spending programme for consideration as part of the 2002 Spending Review. As part of this decision, the Government will consider keeping the present scheme in its present form or with minor modifications. **The Government will consult on the future of the scheme, including the transition arrangements.**

Tradeable permits

7.82 As part of its Waste Strategy 2000, the Government announced that it would introduce tradeable permits to ensure that the UK meets its obligations under the Landfill Directive to move away from landfilling biodegradable municipal waste. It has since consulted on how to implement such a system and will publish its conclusions shortly. Introducing such a system will give local authorities and the waste industry a powerful signal about the scale of change required under the Directive and encourage planning and investment in alternatives to landfill.

Statutory recycling targets

7.83 As established by the Waste Strategy, the Government has set local authorities statutory targets, designed to double by 2003-04, and almost triple by 2005-06, the recycling and composting of household waste from 1998-99 levels. The latest survey of performance, for 1999-2000, showed that recycling levels had risen by 1.5 percentage points in a year.

WRAP and the New Opportunities Fund

7.84 The Waste and Resources Action Programme (WRAP) was launched in November 2000 to remove market obstacles to waste minimisation, re-use and recycling and to create more stable and efficient markets for recycled materials and products. £40 million of Government funding is available over the next three years and the programme is expected to attract additional funds from business. WRAP has published its first business plan and is making significant progress in implementation. The New Opportunities Fund will support community recycling with almost £50 million in funding.

Encouraging best practice

7.85 The Government has taken a number of steps to spread examples of best practice. Since Waste Strategy 2000 was published in May last year, it has issued guidance on the management of the municipal waste function under best value and on municipal waste management strategies, identified waste beacon councils and encouraged the establishment of networks to spread best practice.

Pesticides

7.86 Pesticide use is associated with damage to biodiversity and water contamination. The Government is committed to minimising these impacts, consistent with adequate crop protection. The statutory product approval system and the Pesticides Forum make important contributions to achieving this objective. The Government also believes that a tax on pesticides could, in conjunction with other measures, be a useful tool in addressing the environmental impact of pesticides.

7.87 In Budget 2001 the Government welcomed the voluntary proposals from the agrochemical industry and the commitments made by various stakeholders to address these issues, and encouraged their early implementation. The voluntary package was implemented from 1 April 2001 and will run initially for five years, nationwide. It is overseen by a steering group comprising the signatories to the package and representatives of an equivalent number of environmental organisations, under an independent chairman. The Government will review progress on the package in the run up to Budget 2002, to assess whether it is delivering significant environmental benefits over and above those that would result from introducing a pesticides tax.

Water resources

7.88 There have been significant improvements in water quality in recent years, including in coastal and bathing water. The EU Water Framework Directive requires more attention to be paid to the ecological quality of water, taking account of a wider range of influences. The European Commission is expected to propose new or revised EU directives over the coming year on bathing water, groundwater, individual priority hazardous substances and sewage sludge. DEFRA is aiming to produce a strategy for the environmental quality of water by the end of 2002, putting more weight on interactions between water quality and other policies.

7.89 The Green Technology Challenge consultation revealed strong support for using tax incentives to encourage more sustainable water use and improvements in water quality. **As part of the Challenge, the Government is considering the case for introducing enhanced capital allowances for selected technologies that deliver environmental benefits in this area during 2002-03.**

ENVIRONMENTAL APPRAISAL OF POLICY MEASURES

7.90 The Government remains committed to environmental appraisal and evaluation of Budget measures and will continue to make available the methodology underpinning the figures presented in the appraisal table. In line with its sustainable development policy, the Government ensures that policy design, appraisal and evaluation takes account of costs and benefits, the precautionary principle, and the need to make the polluter pay by internalising costs.

Box 7.6: Evaluation in practice: company car tax reform

In Budget 2000 the Government announced a major reform of company cars taxation which will take effect from April 2002 and aims to reduce the level of emissions produced by company cars and unnecessary business mileage.

The Government has put in place a comprehensive evaluation programme to assess the impact of these reforms through the analysis of data from tax returns, information from commissioned surveys, detailed economic modelling, and by utilising a variety of external sources. Some of the policy impacts which will be examined include:

- **emissions from company cars;**
- **provision of alternatively fuelled company cars;**
- **business mileage;**
- **revenue from income tax and national insurance contributions; and**
- **compliance costs for employers.**

This extensive evaluation will be on-going over a number of years as the effects of the reform will accumulate over this time.

Table 7.1: The Government's policy objectives and Budget measures

Policy objective	Sustainable development indicator[1]	Data indicating recent trends	Recent Government measures
Tackling climate change and improving air quality	Emissions of greenhouse gases	Between 1998 and 1999 emissions of the basket of six greenhouse gases fell by approximately 6 per cent[1, 2]	*Other Government measures* • Climate Change Programme, DETR November 2000 • Emissions Trading Scheme, DEFRA August 2001 • Air Quality Strategy for England, Scotland, Wales and Northern Ireland, DETR January 2000 • Ten Year Plan for Transport, DETR July 2000 *Budget measures* • Climate change levy package • Reforms to company car tax and authorised mileage rates • Reforms to car and lorry VED • Green travel plans • Reduced rate of VAT on the installation of energy saving materials • Green Fuel Challenge • Road fuel duty differentials
	Days when air pollution is moderate or higher	Number of days with moderate or high air pollution has fallen from around 40 per year in both urban and rural sites in 1997, to about 16 in urban sites and 25 in rural sites by 2000[1]	
	Road traffic	Traffic levels in 2000 were 0.3 per cent higher than in 1999[1, 3]	
Regenerating Britain's cities	New homes built on previously developed land	In 2000, 57 per cent of new housing was on previously developed land. This has remained at about the same level since 1995[1]	*Other Government measures* • Urban White Paper, DETR November 2000 *Budget measures* • Capital allowances for flats over shops • Tax relief for cleaning up contaminated land • Stamp duty exemption for disadvantaged areas • Reforms to the VAT treatment of conversion and renovation activity
Protecting Britain's countryside	Waste arisings and management	Proportion of household waste being recycled was over 10 per cent in 2000, an increase of 2 per cent from two years ago[4]	*Other Government measures* • Waste Strategy 2000, DETR May 2000 • Rural White Paper, DETR November 2000 *Budget measures* • Aggregates levy and Sustainability Fund • Landfill tax and landfill tax credit scheme
	Populations of wild birds	From 1970 to 1998 the populations of woodland and farmland birds have declined by 20 per cent and 40 per cent respectively[5]	
	Chemical river quality	In 2000, 94 per cent of rivers in England, Wales and Northern Ireland were classified as being of good or fair chemical quality, compared with 91 per cent in 1995[1]. In Scotland 98 per cent of rivers were of good or fair chemical quality[6]	

[1] *Achieving a Better Quality of Life, DETR January 2001 – latest data from www.sustainable-development.gov.uk*

[2] *The main six greenhouse gases are: carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, sulphur hexafluoride*

[3] *After adjustment for the effect of the September 2000 fuel protest, growth is 0.7 per cent.*

[4] *Municipal Waste Management Survey, 1999–2000 DETR. The next update for the waste sustainable development indicator will be in 2002. Currently data is only available for 1997–98.*

[5] *Populations of both bird types have increased over the past year, possibly due to the warm winter of 1998–99*

[6] *A change in measurement process means previous data for Scotland is not directly comparable to 2000 figures*

Table 7.2: The environmental impacts of Budget measures

Budget measure	Environmental impact[1]
• Climate change levy package[2,3]	Levy and exemptions[4]: Savings of at least 2.0 MtC[5] per year by 2010 Negotiated agreements: Savings of at least 2.5 MtC per year by 2010 Energy efficiency measures: Savings of at least 0.5 MtC per year by 2010
• Reforms to company car tax	Savings of 0.05 to 0.1 MtC in 2002-03. In the long run savings are estimated at between 0.5 and 1 MtC per year[6]
• Green travel plans	Reductions in carbon dioxide and particulates
• Reforms to authorised mileage rates	Small savings of carbon dioxide in the long run[6]
• Reforms to car and lorry VED	Reductions in emissions of carbon dioxide, nitrogen oxides, and particulates
• Road fuel duty differentials[7, 8]	The ULSP differential is estimated to reduce nitrogen oxide emissions by 1 per cent, carbon monoxide emissions by 4 per cent and emissions of volatile organic compounds by 1 per cent per year between 2001 and 2004, compared to ordinary unleaded The ULSD differential is estimated to have resulted in a reduction of 8 per cent of particulates and up to 1 per cent of nitrogen oxides per year, compared to ordinary diesel The reductions in duty in Budget 2001 on ULSD and ULSP are estimated to increase emissions by between 0.1 and 0.2 MtC per year by 2010[9]
• Green Fuel Challenge	Identify fuels which could result in reductions in emissions of carbon dioxide, nitrogen oxides, and particulates. Potential waste policy benefits The road fuel gas differential will result in a reduction in emissions of particulates and nitrogen oxides The biodiesel differential could save up to 0.2 MtC per year by 2010[10]
• Haulage Modernisation Fund[10]	1 per cent reduction in particulate emissions per year by 2004, reductions in carbon emissions of around 0.1 MtC per year by 2004, and reductions in nitrogen oxides
• Reduced rate of VAT on the installation of energy saving materials	Reduction of 0.1 MtC per year by 2010[11]
• Reduced rate of VAT on domestic fuel and power	Estimated to increase emissions by 0.2 MtC per year by 2010[4]
• Capital allowances for flats over shops	Reduced pressure on the countryside due to an increase in the number of empty and derelict properties brought back into use
• Tax relief for cleaning up contaminated land	Increases in clean up of contaminated land
• Stamp duty exemption for disadvantaged areas	Regeneration and improved functioning of property markets in Britain's most disadvantaged areas
• Reforms to the VAT treatment of conversion and renovation activity	
• Aggregates levy and Sustainability Fund	Reductions in noise and vibration, dust and other emissions to air, visual intrusion, loss of amenity and damage to wildlife habitats
• Landfill tax and landfill tax credit scheme	Encourages waste producers and the waste management industry to switch away from landfill towards waste minimisation, re-use and recycling

[1] *These estimates are subject to a wide margin of error*
[2] *There are a number of difficulties involved in estimating the emissions savings from the individual components of the climate change levy, including the need to avoid double counting. The figures are calculated using cautious assumptions and are shown for illustrative purposes only*
[3] *A related measure, the emissions trading scheme, is forecast to save 0.8 MtC per year from 2002 to 2006, rising to 2 MtC per year by 2010*
[4] *Based on the DTI energy model*
[5] *Million tonnes of carbon*
[6] *Based on Inland Revenue modelling*
[7] *Using NETCEN emissions models – further detail on the methodology used is provided in UK Road Transport Emissions Projections, NETCEN, January 2000*
[8] *Between 1996 and 1999, the fuel duty escalator is forecast to have reduced emissions by 1 to 2.5 MtC per year by 2010*
[9] *DTI and DTLR modelling*
[10] *DTLR modelling*
[11] *HM Customs and Excise modelling*