The climate change levy package

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Introduction

1.1 Climate change is the most serious environmental challenge we face. Rising carbon emissions, linked to the wider issue of our increasing demand for energy and continued dependence on fossil fuels, have already started to raise global temperatures. The emissions that cause climate change need to be tackled if the benefits and progress already achieved in economic growth and investment are to be sustained. To address this, the UK has a Kyoto commitment to reduce greenhouse gas emissions by 12.5 per cent on 1990 levels over the years 2008 to 2012. In addition, the Government has set a domestic goal to reduce UK carbon emissions to 20 per cent below 1990 levels by 2010.

1.2 Climate change is a global issue with global consequences and action to meet this challenge needs to be taken at an international level. The Government continues to lead global efforts to tackle climate change, as seen under its presidencies of the G8 and EU in 2005. In addition, the Government has set up a review – led by Sir Nicholas Stern, Head of the Government Economic Service, and Adviser to the Government on the economics of climate change and development – to examine the global economics of climate change. The Review will be taken forward jointly by the Cabinet Office and the Treasury, and will report to the Prime Minister and Chancellor in autumn 2006.

1.3 Within this international framework, effort also needs to be made at the domestic level to reduce emissions. UK business is an essential driver of growth and source of employment and it is vital that it remains competitive, but it is also the sector that contributes most to total UK emissions. Climate change is already creating uncertainties and additional costs for business, and will increasingly do so if it is not addressed. More broadly, improving energy efficiency also helps businesses to reduce their energy costs and makes them less vulnerable to energy market volatility. Recent increases in energy prices, caused principally by volatility in the world oil market, have highlighted the need for business to consider how their energy demand and their use of energy needs to change. Becoming more energy efficient and developing new working practices will help to address both these challenges. If such action is taken, it can provide a double dividend for all – long-term environmental protection and lower costs.

1.4 Research by the Carbon Trust shows that cost-effective energy efficiency measures that pay back under normal rates of return are a viable option for almost all businesses. But where market failures prevent these alternatives being chosen, the Government recognises there may be a need to intervene. The framework for government intervention was set out in the *Statement of Intent on Environmental Taxation* in 1997 and detailed further in *Tax and the Environment: using economic instruments*, published at the 2002 Pre-Budget Report. This stated that the Government would look to use the tax system to achieve environmental goals, while taking account of wider economic and social objectives.

1.5 In 2001, the Government introduced the climate change levy (CCL) on the business use of energy to encourage business to find ways of reducing energy demand. To support business competitiveness, the introduction of CCL was accompanied by a 0.3 percentage point cut in employers' national insurance contributions (NICs). By recycling revenue, CCL and NICs cuts incentivise energy efficiency while not increasing taxation overall on the business sector. Indeed, to date, the value of the NICs reductions outweighs CCL receipts. It is therefore a clear example of shifting the burden of tax from 'goods' to 'bads'. Estimates set

out in analysis conducted for the Treasury by Cambridge Econometrics, published in 2005, showed that the CCL/NICs package will reduce overall unit costs for business by 0.13 per cent by 2010, compared with a situation where the package was not in place.

I.6 As part of the CCL package, the Government also introduced other measures to help business raise energy efficiency levels, including climate change agreements (CCAs); enhanced capital allowances (ECAs) for energy-saving technologies; and funding for the Carbon Trust.

I.7 Independent analysis by Cambridge Econometrics shows that the CCL has had a significant influence on the behaviour of business. By adding a small – but visible – amount to firms' energy costs, the levy has reduced business energy demand compared with what it would otherwise have been. This, in turn, has helped to reduce carbon emissions. The rest of the package has brought benefits for business too. CCAs have brought forward energy efficiency improvements while protecting the competitiveness of energy-intensive industries. Support from ECAs and the Carbon Trust has also helped business to take action to increase energy efficiency and hence reduce costs.

I.8 Five years after it was introduced, it is clear that the CCL package is helping the UK economy adapt to the conditions it is facing today and will face in the future. CCL has been the most effective instrument to date for reducing emissions in the business sector. This is making a major contribution - putting the UK on course to meet its Kyoto commitments, while continuing to experience strong economic growth.

I.9 In summary, the CCL package comprises and delivers the following:

- **CCL:** which is estimated to have reduced emissions by a cumulative 16.5 million tonnes of carbon (MtC) up to 2005. By 2010, it is estimated to deliver savings of over 3.5 MtC a year. CCL is estimated to reduce energy demand in the economy by 2.9 per cent by 2010 compared with a situation where the levy was not in place.
- **CCAs:** which have reduced emissions while supporting the competitiveness of energy-intensive businesses. By 2010, it is estimated that CCAs will deliver savings of 2.8 MtC per year.
- **Enhanced Capital Allowances (ECAs):** which provide support for investments on over 13,000 which products spanning 15 categories of energy-saving technologies.
- **The Carbon Trust:** which has helped to reduce market failures that prevent investment in energy efficiency. In 2004–05 alone, Carbon Trust worked with over 2,800 organisations, identifying estimated emissions reductions of 0.74MtC and annual cost savings of £200 million for business.
- **Cost savings:** The reduction in energy demand, together with reduction in employers' national insurance contributions, has led to a reduction in costs for business as a whole. Estimates set out in analysis by Cambridge Econometrics showed that the CCL/NICs package will reduce overall unit costs by 0.13 per cent by 2010, compared with a situation where the package was not in place.

1.10 The following sections outline in more detail the impact of the climate change levy package since its announcement in Budget 1999 and introduction in 2001. These sections look at the climate change levy (section 2); climate change agreements (section 3); enhanced capital allowances for energy-saving technologies (section 4); and the Carbon Trust (section 5).

2 CLIMATE CHANGE LEVY

Background

2.1 Climate change levy (CCL) is a tax on electricity, gas, coal and liquefied petroleum gas (LPG) used for energy, and is levied on the non-domestic sector. The levy is intended to encourage business to use energy more efficiently and is designed to help the UK meet its targets for cutting greenhouse gas emissions – in particular, to reduce carbon emissions. More broadly, improving energy efficiency also helps businesses to reduce their energy costs and makes them less vulnerable to energy market volatility.

2.2 The UK was one of the first countries to introduce an energy tax. Since then, others have followed suit and introduced similar schemes. Indeed, CCL is widely regarded as an effective way to reduce emissions and the EU has subsequently made it a requirement that Member States tackle carbon emissions by taxing energy in a similar way.

Design of the levy

2.3 CCL was developed following Lord Marshall's report *Economic Instruments and the Business Use of Energy* published in 1998. There was extensive consultation with business during its development. The levy was designed in a way intended to protect the competitiveness of UK firms and to ensure that domestic consumption of energy was excluded. In addition, to keep compliance costs to a minimum, the levy is imposed at the time of supply to industrial and commercial consumers rather than at the time of consumption.

Levy rates

2.4 The levy was pre-announced in Budget 1999 to give business time to adjust their practices in advance of its introduction on 1 April 2001. It was always intended that, over time, CCL rates would increase in line with inflation. The rates of the levy have been frozen since introduction to allow the tax to bed in and, as of March 2006, are:

Commodity	Legal rate	Rate on an equivalent energy basis (penny/kWh)
Electricity	0.43 pence per kilowatt hour (kWh)	0.43
Natural gas as supplied by a gas utility	0.15 pence per kWh	0.15
Liquefied petroleum gas (LPG) used for heating	0.96 pence per kilogram (kg)	0.07
Solid fuel e.g. coal and coke	1.17 pence per kg	0.15

2.5 Each commodity attracts a different rate based on its energy content. Electricity attracts the highest tax rate because a considerable proportion of the energy content of the fuels used to generate the electricity is lost in combustion, transmission and distribution. LPG is a special case and attracts a lower rate because it is in direct competition with kerosene used for heating, which is exempt from hydrocarbon oil duty. This rate structure fits with the requirements of the EU's Directive on the taxation of energy products, which sets minimum rates of duty on such products.

CCL exemptions

2.6 In addition to the incentive to reduce energy demand provided by the CCL, exemptions from CCL have been introduced to encourage the increased use of less-polluting alternative energy sources. These exemptions cover supplies of:

- electricity generated from new renewable sources;
- electricity generated from coal mine methane (announced in Budget 2002 and introduced, following state aids approval, in November 2003);
- energy for good quality combined heat and power (CHP) stations and CHP-generated electricity sold via the grid;
- natural gas in Northern Ireland;
- fuel used in certain processes using recycled materials which compete with non-fuel use or dual use processes (announced in Budget 2002 and introduced by extra-statutory concession in July 2002); and
- waste solid fuels.

2.7 Exemptions were also put in place to protect UK business competitiveness, including supplies of energy for:

- export (on competition grounds);
- use in manufacture of other energy products, for electricity generation (to avoid double taxation);
- non-fuel (for example, natural gas used as feedstock for certain chemicals) and dual use purposes (for example, coke as a chemical reductant for iron making), as these are not energy uses; and
- use by some forms of transport (rail; other passenger transport; maritime voyages beyond territorial waters).

Shifting burden of tax

2.8 To support UK competitiveness, the CCL was accompanied by a 0.3 percentage point cut in employers' national insurance contributions (NICs). This was in line with the Government's commitment, set out in its *Statement of Intent on Environmental Taxation* in 1997, to shift the burden of tax from 'goods' to 'bads'. At the time of CCL's introduction, the Federation of Small Businesses and the Confederation of British Industry suggested that the reduction in NICs contributions would not cover the increase in costs to business created by the introduction of CCL. In fact, the cut in NICs has led to a net reduction in tax liability for business. The lower NICs rate saves about £900 million a year for those businesses paying CCL while CCL costs these businesses about £600 million a year.

Evaluation of CCL impact

2.9 In 2003, the Government commissioned Cambridge Econometrics to undertake an independent review of the levy. Their report *Modelling the Initial Effects of the Climate Change Levy* was published at Budget 2005.

Methodology

2.10 The evaluation of CCL requires a comparison with a counterfactual scenario in which CCL was not announced or introduced. It is not sufficient just to compare energy use before and after the introduction of the levy, since energy use may well have changed as a result of improvements in efficiency or other factors that would have happened regardless of the CCL.

2.11 Cambridge Econometrics used a detailed sectoral model of the economy, energy and the environment incorporating energy demand equations that were estimated using time series data for each sector going back to the 1970s. The model was run, projecting energy use and emissions with the announcement and introduction of CCL, and was compared with a scenario that assumed CCL had not been announced or introduced. The difference between the two gave a measure of the effectiveness of CCL.

Reduced energy demand

2.12 Cambridge Econometrics estimated that CCL reduces overall energy demand in the economy by 0.2 per cent in 2000, 1 per cent in 2001, 1.8 per cent in 2002 and 2.9 per cent by 2010 compared with a situation where the CCL package had not been announced or implemented.

Carbon reductions

2.13 This reduced energy demand leads to reduced carbon emissions from a decline in the burning of fossil fuels for electricity generation as well as from the CCL-paying sectors directly. Emissions are reduced (against the 'no CCL' baseline) by an estimated 0.2 per cent in 2000, 1 per cent in 2001, 2 per cent in 2002 and 2.3 per cent in 2010. The impact of CCL on emissions by sector is shown in the table below. This shows that total carbon emissions savings from the levy are estimated to be 3.1 MtC in 2002 and 3.7 MtC a year by 2010 (assuming CCL rises in line with inflation from 2005), which makes a significant contribution to the UK's progress towards its Kyoto commitment.

CO2 emission savings from CCL by fuel user

	(thousand tonnes of carbon-equivalent)				
Sector	2002	2004	2006	2008	2010
Sectors that pay CCL					
Power generation	1,587	1,459	1,738	1,009	707
Industrial, iron and steel	79	61	69	72	74
Industrial, mineral products	24	46	59	69	74
Industrial, chemicals	80	105	100	92	86
Other industry	252	396	539	674	795
Other final use (commercial and public sectors)	1,030	1,622	1,707	1,756	1,798
Other Sectors					
Rail transport	0	0	-1	-1	-1
Road transport	0	2	2	14	29
Water transport	0	0	0	0	0
Air transport	0	0	0	0	0
Domestic final use	13	-6	3	2	6
TOTAL	3,090	3,740	4,306	3,792	3,675

Source: Cambridge Econometrics (Table 5.3)
Notes: Emissions savings from power generation arise due to the lower demand for electricity. The small effects in the transport and domestic sectors are due to small knock-on effects in the economy-wide model. Assumes CCL rises in line with inflation from 2005 to 2010.

Reduced costs

2.14 The reduction in energy demand, together with the NICs cut, has also led to a reduction in costs for business as a whole. Cambridge Econometrics estimated that the CCL/NICs package would reduce overall unit costs for business by 0.13 per cent by 2010, compared with a situation where the package was not in place.

Combined heat and power

2.15 The CCL exemptions have helped to develop alternative energy sources too. As explained above, good quality combined heat and power (CHP) is exempt from CCL. Following the levy's introduction, CHP became more competitive compared with conventional provision of heat and gas obtained from the national grid. Cambridge Econometrics estimated that good quality CHP will increase by 1.2 gigawatts of electricity (GWe) by 2010 as a direct result of the exemption from CCL, contributing towards the Government's 10 GWe target for that year.

Renewables

2.16 It was not possible to estimate the effects on renewables of the exemption from CCL. However, Cambridge Econometrics noted that this should have had an effect, as it is worth 0.43 pence per kilowatt-hour (around 8 to 10 per cent of the generation price), supplementing the price advantage given to it by the Renewables Obligation.

Trading schemes

2.17 As the EU Emissions Trading Scheme had not been introduced at the time of their study, Cambridge Econometrics' work did not model this further downward pressure on emissions. However, the analysis did take account of the voluntary UK Emissions Trading Scheme (now amalgamated into the EU ETS). In the first year of trading around 600,000 allowances were traded and overall participants reduced emissions by 4.6 MtC; and in the second year they achieved emission reductions of nearly 5.2 MtC over their baselines. This was against a commitment to reduce emissions by 1.1 MtC by 2006. A review by the National Audit Office suggested that around two thirds of this could be explained by the scheme.

Conclusion

2.18 The independent evaluation carried out by Cambridge Econometrics showed that CCL is achieving its objectives. It is an effective instrument to incentivise business to reduce energy consumption and has delivered cumulative savings of over 16 MtC so far and is forecast to deliver savings of over 3.5 MtC a year by 2010. CCL continues to encourage business to adapt to the conditions and challenges it faces through improvements in energy efficiency.

3 CLIMATE CHANGE AGREEMENTS

Background

3.1 In order to protect the competitiveness of the most energy-intensive sectors of industry, climate change agreements (CCAs) were introduced as part of the CCL package. CCAs provide an 80 per cent discount from the levy for energy-intensive sectors, provided they enter into agreements to meet energy efficiency targets.

3.2 HM Revenue and Customs, working with the Treasury, are responsible for the legal framework underpinning CCAs. This sets out the elegibility criteria for obtaining an agreement, the reduced rate available and how individual businesses claim their reduced rate from energy suppliers. CCAs are then negotiated between relevant trade associations and the Department of Environment, Food and Rural Affairs (Defra). The trade associations make the agreements on behalf of the companies within the sectors concerned. The agreements, known as umbrella agreements, detail the facilities covered by the agreement and the relevant processes. They also list targets for each sector's energy reductions, which can relate to greenhouse gas emissions or to energy usage, and conditions that apply to participating companies. These agreements are public documents and are placed on the Defra website as soon as they have been signed. The facilities covered by the agreements apply to their energy supplier for a reduced rate of levy, and the energy supplier can check whether that facility is eligible by reference to the Defra website. Current agreements are due to last until 31 March 2013.

3.3 Participants in the agreements can determine how best to achieve energy savings. They are able to achieve their targets by trading emissions allowances either with other companies in an agreement or companies in the voluntary UK Emissions Trading Scheme. Indeed, energy intensive firms that are covered by both CCL and the EU ETS can retain their 80 per cent discount while participating in the EU ETS.

3.4 Once CCAs are agreed, they are reviewed every two years by Defra. These reviews ensure that CCAs continue to realise their potential for cost-effective energy savings taking into account any changes in technical and market circumstances.

Eligibility

3.5 Eligibility to enter CCAs was dependent initially on criteria based on the Pollution and Prevention Control (PPC) Regulations 2000, which implement the Directive (EC/96/61) on integrated pollution prevention and control. There are currently 42 sectors with around 10,000 facilities covered by agreements under the PPC-based criteria.

3.6 Budget 2004 announced that the Government would extend eligibility to enter into CCAs (and hence access to the 80 per cent reduced rate of CCL). This is in line with the recommendation made by the Confederation of British Industry and the Engineering Employers' Federation that more sectors should be able to enter into CCAs. The existing PPC-based criteria remain in place, but following state aids approval for the extension of the scheme in October 2005, a number of additional sectors have become eligible where they fall above an energy-intensity threshold of 10 per cent or have an energy intensity of between 3 and 10 per cent but also pass an international competition test. The revised elegibility criteria are in line with the four tests which were set out when the levy was announced: they must have a clear rationale, be administratively simple, legally robust, and consistent with state aids rules.

3.7 Under the PPC-based and extended schemes together, around 50 sectoral agreements have so far been entered into covering around 10,500 individual facilities. These agreements require significant improvements in businesses' energy efficiency, resulting in reductions in

carbon emissions, but they also seek to lessen the impact on businesses' competitiveness compared with paying the full rate of levy. In order to continue to receive the 80 per cent discount in levy rates, facilities must achieve the energy efficiency or emissions reduction targets set out in their agreements.

Evaluation of CCAs

3.8 CCAs were originally forecast to save 2.5 MtC per year by 2010. In fact, evaluation of the scheme carried out by Defra has confirmed that sectors exceeded their interim targets by a significant amount – an extra 1 MtC in the first target period to 2002, and an extra 1.4 MtC in the second target period to 2004. CCAs were effective in encouraging energy efficiency improvements and continue to deliver reductions in emissions – despite recent increases in output from sectors covered by CCAs. Indeed, even though output in the steel sector had risen by 28 per cent between 2002 and 2004, energy use in the steel sector rose by only 10 per cent – indicating that the steel sector is continuing to improve its energy efficiency.

Review of CCAs

3.9 CCA targets for 2006 to 2010 were reviewed during 2004 and 2005, as part of Defra's monitoring of CCAs, to ensure that they continued to realise their potential for cost-effective energy savings taking into account any changes in technical and market circumstances. The reviews took into account the better than expected performance of the majority of sectors in the first target period. For the largest sectors that are also affected by the EU Emissions Trading Scheme, the revised targets were taken into account in setting the allocations under the UK National Allocation Plan.

3.10 The reviews have, overall, resulted in forecast additional savings by 2010 (over business as usual) of 0.27 MtC above the 2.5 MtC originally predicted. The additional savings from sectors excluding steel are 0.47 MtC. The forecast increase in production from the steel sector up to 2010 allows a net increase in emissions of 0.2 MtC for this sector but nevertheless shows increasing energy efficiency over the period.

3.11 On the whole, the 10 or so sectors entering agreements under the extended scheme are smaller sectors in terms of number of companies and energy use than those in the original scheme, even though they are energy intensive. Estimated savings from these 10 sectors could amount to 0.03 MtC by 2010.

Conclusion

3.12 It is estimated that the climate change agreements will, in aggregate, save around 2.8 MtC a year by 2010. They are an effective accompaniment to the CCL, and regular review by Defra ensures that they remain an effective way to incentivise energy efficiency improvements while taking account of business competitiveness.

4 Enhanced capital allowances for energy-saving technologies

Background

4.1 When the climate change levy (CCL) was introduced, the Government accepted Lord Marshall's recommendation that revenue from the tax should be recycled to business, alongside support for cuts in employers' national insurance contributions (NICs). Responses to consultation and other representations on the design of the levy indicated widespread support for increasing the resources directed to energy efficiency measures. The Government announced in the 1999 Pre-Budget Report that it would introduce a system of 100 per cent first-year capital allowances for energy-saving technologies. This would be in addition to the £50 million energy efficiency fund it had previously announced in Budget 1999.

4.2 Capital allowances allow the costs of capital assets to be written off against a business's taxable profits, and first-year allowances (FYAs) is the name given to specially increased rates of allowances. FYAs allow a greater proportion of the cost of an investment to qualify for tax relief against a business's profits of the period during which the investment is made. The enhanced capital allowance (ECA) scheme, which was introduced in April 2001 alongside the rest of the CCL package, provides 100 per cent FYAs for spending on designated energy-saving technologies and products. This enables a business to write-off the whole cost of the investment, which can provide a helpful cash flow boost. It is therefore an integral part of the CCL package.

4.3 The scheme aims to encourage businesses to invest in energy-saving equipment to help reduce their energy use – leading to lower carbon emissions. The designated technologies have a wide application across businesses, enabling a wide range of businesses to make energy-saving investments maximising the benefits to the environment.

Energy technology list

4.4 The energy technology list currently includes 15 qualifying classes of energy-saving technology[1] and over 13,000 energy-saving products. The ECA scheme is dynamic – the energy technology list is kept under review and technologies can be added or removed and the detailed energy-saving criteria amended to reflect technological progress and market changes. The Carbon Trust, which administers the scheme on behalf of the Government, is happy to consider new technologies for inclusion within the scheme.

Evaluation of ECAs

4.5 The Government is committed to the evaluation of measures that it introduces to provide environmental benefits. The Government is carrying out an evaluation of the ECA scheme for energy-saving technologies, which is due to be completed later in 2006.

[1] Air-to-air energy recovery, automatic monitoring and targeting equipment, boilers, Combined Heat and Power, compact heat exchangers, compressed air equipment, heat pumps, heating ventilation and air-conditioning zone controls, lighting, motors and drives, pipework insulation, refrigeration, solar thermal systems, thermal screens and warm air and radiant heaters.

5 The Carbon Trust

Background

5.1 The Carbon Trust was set up in April 2001 as a component of the climate change levy (CCL) package. It is directly funded by revenue from the levy and was established to provide an information and consultancy service on energy to all sectors of business and to be an effective mechanism for delivering investment in new and emerging technologies. To achieve this, there are three main elements to the Trust's involvement with UK businesses:

i) reducing emissions now;
ii) developing low-carbon technologies;
iii) increasing businesses' understanding of climate change.

Information and guidance

5.2 The Carbon Trust works with organisations and business to reduce their emissions by providing information and guidance on energy efficiency. In 2004–05, the Trust worked with 2,800 companies to identify savings of between 10–30 per cent from their energy bills. Energy efficiency services were provided to over 200 high-energy user organisations, identifying carbon savings of approximately 800,000 tonnes. This advice helps businesses both to reduce their emissions and make cost savings by becoming more energy efficient. For example:

- BAA owns and operates seven airports including the world's busiest, Heathrow. By working with the Carbon Trust, BAA identified CO2 emission reductions of 115,000 tonnes a year, which could potentially save £11m by 2010;
- J Sainsburys plc, one of the UK's largest supermarkets, worked with the Carbon Trust on a project which directly resulted in carbon emisson reductions. Over the past three years, Sainsbury's carbon emissions per square metre of sales area (CO2/m2) have consistently decreased. Energy efficiency projects alone have contributed to an 11 per cent decrease in carbon emissions. This reduction in energy use equates to a cost saving of in excess of £8 million a year from the start of the target period—1997–98;
- Oxford Plastics Systems, which employs 85 people and is located in North Oxfordshire, has been manufacturing plastic mouldings for over 20 years. The company benefited from an interest-free loan from the Carbon Trust which enabled them to introduce three new production lines that have the same output as their five previous products, generating energy-cost savings of about £27,000 a year; and
- At-Bristol is a major development designed to increase the public's awareness and appreciation of science and nature. Acting on advice from the Carbon Trust, they have managed to save £13,600 in this year alone.

5.3 For businesses with high-energy use, the Trust has developed the carbon management programme, which is a systematic approach to looking at every aspect of an organisation's performance in relation to climate change. This was successfully piloted in 50 large organisations, and since the launch in October 2004 a further 18 major companies have signed up to the first stage of the process.

Energy efficiency loan scheme

5.4 In February 2003, the Carbon Trust launched a pilot energy efficiency loan scheme for small and medium sized enterprises (SMEs). This scheme provides interest-free loans of between £5,000 and £100,000 for up to four years for qualifying energy efficiency projects. The purpose of the scheme is to overcome a common barrier to investment – where the project is financially viable but the capital budget is constrained by short-term cash flow requirements. In 2004–05, 168 loans were offered for energy-saving projects, totalling £5 million. To support future investment in energy efficiency in the SME and public sectors, the Government announced at 2005 Pre-Budget Report an additional £35 million for the Carbon Trust to expand its loan and grant schemes.

Supporting new technologies

5.5 The main ways that the Carbon Trust supports business to develop low-carbon technologies are through funding and investment in development and commercialisation. The main aim is to maximise greenhouse gas (GHG) emissions savings over the medium and long term through investment in low-GHG emissions technologies. In 2004–05, the Carbon Trust spent £11.5 million on the research, development and deployment of low carbon technologies and committed an additional £5.3 million for further work in this area.

5.6 The Carbon Trust also has a joint undertaking with the Engineering and Physical Sciences Research Council, Carbon Vision, which was developed to support university research. It backs UK low-carbon technology start-ups, and has invested in deals worth £25.8m since 2002. The Trust has also launched its own low-carbon incubator scheme, which offers advice to assist companies to develop their products commercially. Since the scheme started in 2004, the Trust has spent more than £900,000 on the provision of incubator services to early stage companies. In addition, as mentioned in the previous section, it promotes the ECA scheme to encourage investment by business in qualifying energy-saving technologies and products, and manages the list of qualifying equipment.

5.7 There are also a number of more specific Carbon Trust initiatives under way to accelerate low-carbon technologies, with a budget of over £13 million. These include:

- marine energy – examining the cost-effectiveness of marine energy and exploring its commercial possibilities;
- combined heat and power (CHP) – with a field trial launched in 2003 to explore if large-scale deployment could lead to carbon savings;
- advanced metering – the Trust introduced a trial to demonstrate the effectiveness of advanced meters in small and medium-sized businesses to help companies reduce their emissions and energy consumption; and
- low carbon buildings – the Trust is examining how to reduce a building's carbon footprint over its lifetime while also improving its economic performance.

5.8 The Carbon Trust also works to inform business and the public sector on the implications of climate change. An advertising campaign launched in January 2005 has increased awareness. This provided information on the number of ways the Carbon Trust can help business, and highlighted the savings that could be made as a result. The Trust has also held a number of events, including the Carbon Trust innovation awards, to reward and encourage innovation.

Conclusion 5.9 The Carbon Trust is providing an effective service that is helping business to reduce energy demand. In 2004–05, the Trust estimates that its work with over 2,800 organisations identified annual savings of 0.74 MtC and associated annual cost savings of £200 million.

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