7 Securing low-carbon growth

The Government is building a platform for strong, long-term, sustainable growth. Support for the low-carbon economy is central to this as it will provide new opportunities in key growth industries of the future. In the past year, the Government has announced £1.8 billion of extra support for low-carbon sectors. This will enable £15 billion of additional low-carbon investment, providing new opportunities for business growth, boosting innovation and creating new high skilled jobs.

The Government has an important role to play in enabling the investment needed for the transition to a low-carbon economy – particularly in the energy sector, where the scale of the investment challenge is unprecedented. To support the financing of low-carbon investment and new low-carbon jobs, **Budget 2010 announces:**

- **a commitment to reform the energy market to provide clean, secure and affordable energy in the long term. The Government will bring forward proposals this autumn, with a White Paper by spring 2011; and in the shorter term, a summer consultation on mechanisms to provide greater certainty for low-carbon investment;**
- **to address emerging equity finance gaps, the Government intends to create a Green Investment Bank, with a mandate to invest in low-carbon infrastructure. The Government will start by investing up to £1 billion from the sale of infrastructure-related assets and will seek to match this with at least £1 billion of private sector investment;**
- **the launch of UK Finance for Growth to streamline the Government's SME finance support – including to help businesses seeking to commercialise low-carbon technologies;**
- **up to £60 million for the development of port sites to support offshore wind turbine manufacturers looking to locate new facilities in the UK and secure low-carbon manufacturing jobs;**
- **a commitment to reduce government departments' carbon emissions by at least 30 per cent by 2020, and enabling energy efficiency finance to help millions of homes save money and energy by developing Pay As You Save arrangements; and**
- **a halving in company car tax for ultra-low carbon cars for five years from April 2010, to contribute to making the UK one of the best places in the world to design and build low-carbon vehicles.**

To drive the transition to a low-carbon and resource-efficient economy, while also contributing to the Government's plans for fiscal consolidation, Budget 2010 announces:

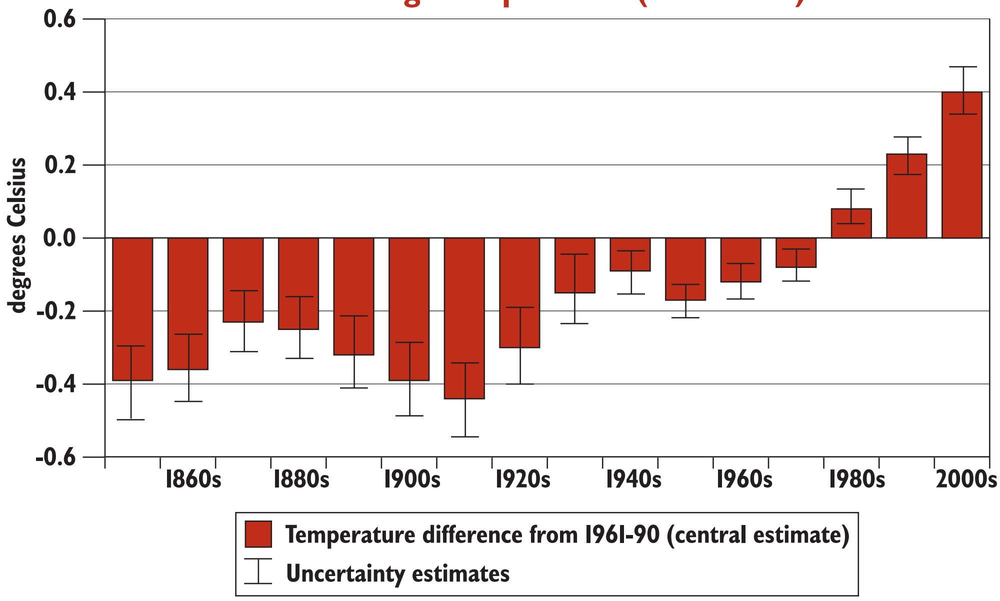
- **that, to ease pressure on business and household incomes at a time when other prices are rising, the main fuel duty increase for 2010 will be staged, with an increase of one penny per litre on 1 April and one penny per litre on 1 October 2010, then 0.76 pence per litre on 1 January 2011. Fuel duty will also rise by one penny per litre in real terms on 1 April each year from 2011 to 2014; and**
- **an £8 per tonne increase in the standard rate of landfill tax on 1 April 2014, to encourage alternatives to landfill.**

7.1 Climate change is the greatest long-term economic and environmental challenge facing the world today. Failure to tackle its causes will threaten economic development and have damaging impacts on human livelihoods (see Box 7.1). Taking action will generate new business opportunities and jobs in the low-carbon sectors of the future, helping to promote sustainable growth.

Box 7.1: The science and consequences of climate change

The evidence that human actions are changing the climate is compelling – the risks of future climate change are considerable. Global temperatures rose by 0.75 degrees Celsius during the last century, and are still rising (see Chart a). The concentration of carbon dioxide (CO_2) in the atmosphere is now 38 per cent higher than it was before the industrial revolution, and its levels and those of other greenhouse gases are rising steadily.

Chart a: Global average temperature (1850-2009)



Source: Met Office Hadley Centre.

Without action to reduce greenhouse gas emissions, climate change is likely to make extreme weather events – such as droughts, floods and heat waves – more common in the UK. Globally, the consequences may be even more severe. The risk of water shortages and drought could increase in some areas, while in others, rising sea levels and floods could affect already vulnerable populations. The Stern Review on the economics of climate change concluded that the costs of taking action – although not negligible – are significantly less than the costs of inaction.

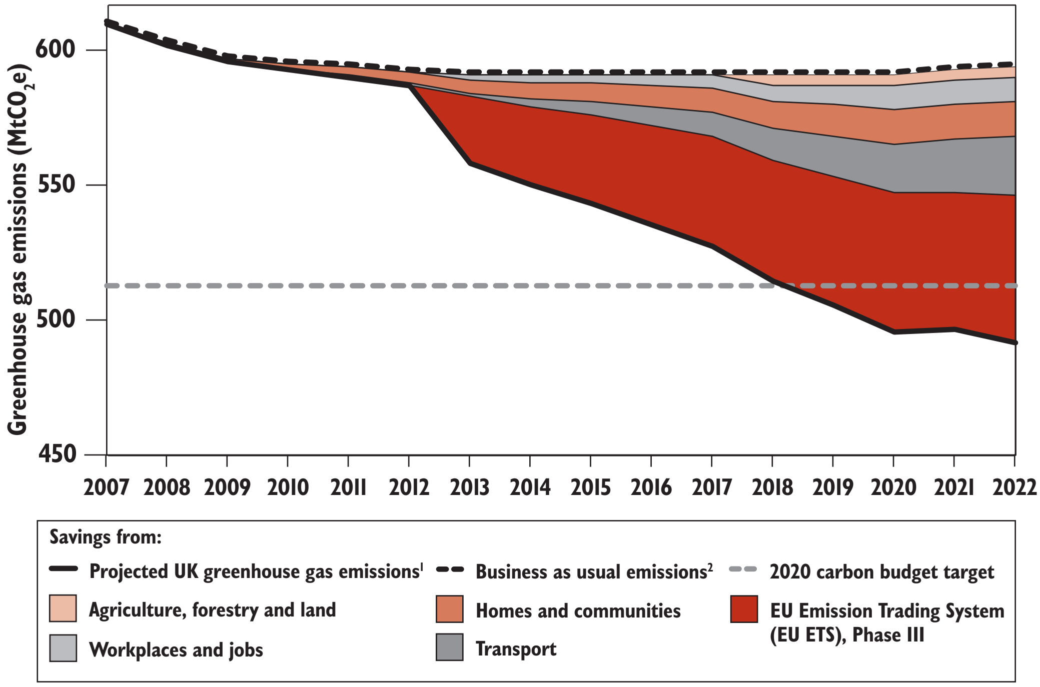
7.2 To avoid the most dangerous impacts of climate change, the world needs to cut emissions by at least half by 2050.[1] This will require prompt and strong action at both the international and domestic levels. The Government is committed to securing a comprehensive global deal on climate change that safely limits greenhouse gas emissions, while demonstrating leadership by delivering ambitious reductions at home. The UK's carbon budgets require a reduction in emissions by 34 per cent by 2020, and by at least 80 per cent by 2050. The UK has already made substantial progress, with emissions 22 per cent lower than 20 years ago – comfortably surpassing the UK's Kyoto target of a 12.5 per cent reduction.[2]

[1] *The UK Low Carbon Transition Plan*, HM Government, July 2009.

[2] Figure of 22 per cent takes account of emissions trading through the EU Emission Trading System, available at http://www.decc.gov.uk.

7.3 Meeting emissions targets will require a transformation in the UK's economy. By 2050, every unit of economic output will need to be produced using on average one-tenth of the carbon used today.[3] As Chart 7.1 shows, every sector of the economy – including power generation, transport and household and business energy use – will need to play a part. Investment in the right infrastructure will be central to meeting this challenge. The Government has already enabled billions of pounds of green infrastructure investment by addressing investment barriers. Budget 2010 builds on this by announcing further action to support low-carbon investment across the economy. This will secure economic benefits for the UK by creating new high skilled jobs in low-carbon growth industries, and reduce the costs of tackling climate change.

Chart 7.1: The UK's expected emissions reductions to 2020, and how different sectors contribute



Source: The UK Low Carbon Transition Plan, HM Government, July 2009.

[1] *Projected emissions from implementation of The UK Low Carbon Transition Plan, taking account of emissions trading through EU ETS.*
[2] *Projected emissions prior to implementation of The UK Low Carbon Transition Plan.*

ACHIEVING GLOBAL ACTION ON CLIMATE CHANGE

Copenhagen Accord

7.4 Climate change must be addressed through global action. In December 2009, world leaders met in Copenhagen under the United Nations Framework Convention on Climate Change. The Copenhagen Summit was an important and necessary step forward but it did not deliver an ambitious, legally binding deal. The Summit was successful in agreeing the Copenhagen Accord, which commits developed and developing countries to take action to keep rises in global temperatures below two degrees Celsius – the level consistent with avoiding dangerous climate change.[4] Countries accounting for around 80 per cent of the world's emissions have submitted emissions reduction targets under the Accord, which represent a significant step towards the necessary global action.

[3] *Low Carbon Industrial Strategy: A Vision*, HM Government, March 2009.
[4] *The UK Low Carbon Transition Plan*, HM Government, July 2009.

Climate finance **7.5** A fair global deal on climate change should provide support to help developing countries adapt to climate change and reduce emissions while continuing to grow. The Copenhagen Accord sets a goal for public and private flows of climate finance to developing countries to reach $100 billion per year by 2020. The Prime Minister will co-chair, with Prime Minister Meles of Ethiopia, a high-level advisory group to look at different ways of meeting this goal. Developed countries will begin by providing up to $30 billion of public finance between 2010-12, including £1.5 billion from the UK as part of an overall EU contribution of $10 billion. In the longer term, the UK wants a reformed EU budget to make a greater contribution to climate finance.

Carbon market **7.6** The EU has committed to reducing emissions by 20 per cent by 2020 and has undertaken to move to a 30 per cent target as part of an ambitious global deal on climate change. The carbon market created by the EU Emission Trading System (EU ETS) will make a significant contribution to these reductions. The UK has been at the forefront of the EU ETS and was the first Member State to hold regular carbon auctions during Phase II (2008-12) of the EU ETS. In Phase III (2013-20), the Government intends to continue to hold national auctions within a coordinated EU framework and welcomes the decision of Germany, Spain and Poland to support this position.

SETTING THE LOW-CARBON ENERGY FRAMEWORK

7.7 Modernising the UK's energy infrastructure will be key to laying the foundations for sustainable growth. Investment levels will need roughly to triple to deliver an estimated £110-120 billion of investment required for the sector to 2020.[5] Budget 2010 sets out how the Government is responding to the long-term challenge by developing a new framework for investment in low-carbon energy infrastructure.

Energy market assessment **7.8** In the Pre-Budget Report, the Government launched an assessment of the energy market to examine whether it can deliver the investment needed to meet energy targets while securing a fair deal for consumers. Today, the Government is publishing conclusions from the first phase of this assessment (see Box 7.2).[6] The UK's existing energy market is delivering the new infrastructure investment needed to provide clean, secure and affordable energy to 2020. However, new carbon reduction targets and other commitments mean the Government must ensure that the right choices for the long-term future of the energy market are taken now, to meet its objectives of security of supply, carbon reductions and fairness for consumers.

7.9 The Government believes that a global climate deal and subsequent tightening of the EU ETS cap provides the best long-term solution to secure a more robust carbon price. However, the Government also acknowledges the need for greater certainty. **Budget 2010 therefore announces that as part of its further energy market assessment work, the Government will consult in the summer on the most appropriate mechanism to deliver greater certainty for low-carbon investment, with the intention of bringing forward proposals in the 2010 Pre-Budget Report.**

7.10 The assessment has concluded that, over the long term, action on the carbon price alone will not be sufficient to meet the Government's energy policy objectives. **Budget 2010 therefore announces that the Government will bring forward proposals for changes to the electricity policy framework for consultation this autumn – with a White Paper setting out conclusions by spring 2011.** These changes will ensure that the UK has the right framework,

[5] The £110-120 billion figure refers to the Department of Energy and Climate Change's estimate of total investment requirements in the electricity sector to 2020, undiscounted and in 2009 prices. The Pre-Budget Report also referred to Ofgem's estimate of a requirement for £200 billion of investment in energy supplies as a whole by 2020.
[6] *Energy Market Assessment*, Department of Energy and Climate Change/HM Treasury, March 2010.

on the right timescale, to support the investment needed to meet the Government's energy goals. The assessment has also highlighted the challenge of financing a secure, low-carbon energy system (see paragraph 7.16).

Box 7.2: The energy market assessment

The initial findings of the energy market assessment have identified four key challenges in delivering the Government's objectives beyond 2020:

- **the economics of low-carbon generation** – including the higher upfront capital costs of low-carbon generation and exposure to uncertainty in future electricity prices;
- **the finance requirements of low-carbon generation** – in the context of unprecedented levels of capital expenditure and high construction risk;
- **security of supply** – while the Government is confident that the current arrangements will deliver secure supplies of electricity over the next decade, the system may not give investors the right signals to invest in sufficient extra capacity during the 2020s as the generation mix changes; and
- **fairness for consumers** – while the current market arrangements have delivered benefits for consumers since liberalisation, the Government is concerned that substantial barriers to entry across the industry are restricting levels of innovation and competition.

The Government has considered a range of options for reform. The Government will act on some of these in the short term, through the intention to establish a Green Investment Bank and to bring forward proposals to increase certainty for low-carbon investment at the 2010 Pre-Budget Report.

The Government has concluded on the basis of this initial work that carbon price certainty alone will not be sufficient for the longer term. It has identified a number of options for further work, including:

- **supporting low-carbon generation within the current market framework** – providing a premium payment for low-carbon generators, in addition to their revenues from the wholesale market;
- **regulating to limit high-carbon generation** – giving potential investors greater confidence to invest in low-carbon generation; and
- **changing the market structure for low-carbon generation** – giving a guaranteed revenue stream to low-carbon generators. This revenue could be established in a number of ways: by directly determining the price low-carbon generators receive (feed-in tariffs); by a competitive tender for low-carbon generation; or by a regulator agreeing an appropriate return (regulated asset base approach).

The evidence suggests that a single buyer agency would not meet the Government's objectives for energy policy and so this option will not be considered further.

The Government will consider these options against three principles: cost-effectiveness; affordability; and whether they provide stability and certainty to the market. The Government is committed to a smooth transition and to maintaining investor confidence in the electricity market. Under any set of reforms, the Government will need to ensure access to finance; promote customer switching; enhance consumer protection and rights; and facilitate energy efficiency.

Renewable energy

7.11 The UK renewable energy sector is worth over £30 billion and supports over 250,000 jobs.[7] Currently, the UK's key renewable technologies are onshore and offshore wind, landfill gas and hydropower. These technologies are supported through the Renewables Obligation – the Government's primary mechanism to subsidise renewable electricity generation. Biomass, such as energy crops or organic waste, also offers a potentially significant source for renewable energy, subject to sustainability standards. **Budget 2010 announces that the Government intends to grandfather a minimum level of Renewables Obligation support for biomass installations at the point of accreditation, subject to consultation.** The Government

[7] *Low Carbon and Environmental Goods and Services: An Industry Analysis – Update for 2008/09*, Innovas, March 2010.

will also consult later in the year on sustainability criteria for biomass used for heat and power.

Carbon capture and storage

7.12 Carbon capture and storage (CCS) will play an important role in global efforts to tackle climate change. The UK's share of the CCS market could be worth £6.5 billion a year up to 2030, and support up to 100,000 jobs.[8] The Government is making progress with the programme of four demonstration plants announced in the Pre-Budget Report. Earlier this month, the Government signed contracts for detailed preparatory studies for the two remaining bidders in the current competition.

INVESTING IN LOW-CARBON GROWTH AND JOBS

7.13 The Government wants the UK to become a world leader in low-carbon industries, providing an important source of future jobs. The Government's approach is structured around four core objectives:

- enabling investment in large-scale low-carbon infrastructure;
- supporting investment and growth in UK-based supply chain businesses;
- providing coordinated support for research and development and for businesses commercialising new low-carbon technologies; and
- facilitating finance for households investing in energy efficiency (see paragraph 7.24).

7.14 The Government has already provided substantial support for low-carbon growth. In 2009, the Government announced £1.8 billion of targeted funding, including £555 million for the development of low-carbon industries. To build on this, Budget 2010 announces new institutions and further public finance to support low-carbon investment and new low-carbon jobs.

Financing low-carbon infrastructure

7.15 The Government has established Infrastructure UK to identify the UK's long-term infrastructure needs. Alongside Budget 2010, Infrastructure UK is publishing a *Strategy for national infrastructure*, as set out in Chapter 4. This strategy identifies the overarching challenges and opportunities for infrastructure investment in the UK. It finds that there are particular financing challenges for low-carbon energy investment, given the rates of deployment and risk profiles involved.

Green Investment Bank

7.16 The Government is committed to ensuring that it continues to have the right regulatory and policy framework in place for infrastructure. Long-term reforms to this framework are being considered by the second phase of the energy market assessment. Infrastructure UK and other stakeholders have however identified a significant risk of a gap emerging in the provision of equity capital to large, complex low-carbon infrastructure projects in the next few years. To bridge this gap, **Budget 2010 announces that the Government intends to establish a Green Investment Bank operating on a commercial basis and involving both public and private sector capital. The Government will start by investing up to £1 billion from the sale of mature government-owned infrastructure-related assets and will seek to match this with at least £1 billion of private sector investment.**[9]

[8] *Future Value of Coal Carbon Abatement Technologies to UK Industry*, AEA, December 2008, and additional work to be published which considered gas-fired power generation.

[9] These asset sales were announced in the Pre-Budget Report.

Infrastructure UK will publish a consultation on the establishment of the Green Investment Bank in the summer.

7.17 The Green Investment Bank's mandate will be to invest in the low-carbon sector. It will consider new energy and transport projects in particular, where the equity gap is expected to be most critical. It is expected that this will catalyse further investment to accelerate the rate of deployment of further projects. The timing of projects coming forward means it is likely that the Green Investment Bank will focus initially on offshore wind electricity generation. The Green Investment Bank will also consider the case for investing in other infrastructure as appropriate and as the need for investment arises. At the same time, the Government is continuing to work to enable a €100 million investment in the 2020 European Fund for Climate Change, Energy and Infrastructure, as announced in the Pre-Budget Report.

Financing the growth of low-carbon industries

7.18 To secure maximum economic benefit for the UK from the transition to a low-carbon economy, the Government is committed to stimulating the growth of low-carbon industries in the UK. This will encourage further innovation and investment in low-carbon sectors, creating new employment opportunities and helping to reduce the costs of tackling climate change.

Low-carbon supply chain

7.19 The UK's low-carbon and environmental sectors were worth an estimated £112 billion in 2008-09 – comparable in size to the healthcare and construction sectors – providing employment for almost 910,000 people. By 2015-16, these sectors could support 1.2 million jobs.[10] The £1.8 billion of support announced last year is already supporting businesses and creating green jobs in the UK, as set out in Box 7.3.

Box 7.3: Support for low-carbon sectors

Budget 2009 and the 2009 Pre-Budget Report announced £1.8 billion in support for low-carbon sectors. The projects supported by this funding are helping UK firms take advantage of the opportunities provided by the transition to a low-carbon economy. They include:

- £30 million support for Mitsubishi to locate a new £100 million offshore wind R&D facility in the UK, and £18.5 million for developing offshore wind test sites in the North East;
- £50 million for marine energy, establishing the South West as a marine energy hub, including a new £22 million fund for the early stage trial of six promising technologies;
- £80 million for the UK's nuclear supply chain, through a conditional loan offer to Sheffield Forgemasters for construction of manufacturing facilities for ultra-heavy forgings for nuclear reactor pressure vessels;
- £45 million to date of loans to SMEs to install energy efficiency technologies, with 1,400 firms receiving assistance so far. In the public sector, a similar scheme worth up to £60 million has helped support a further 1,400 projects in a range of institutions such as hospitals, universities and local authorities;
- £20 million for the Central Government Low Carbon Technology Programme, to help reduce carbon emissions from the government estate; and
- £45 million for research and technology critical to the development of low-carbon aircraft engines, to deliver substantial reductions in carbon emissions from aircraft.

[10] *Low Carbon and Environmental Goods and Services: An Industry Analysis – Update for 2008/09*, Innovas, March 2010.

7.20 The UK is a world leader in the offshore wind energy sector, which could provide employment for more than 70,000 people in the UK by 2020.[11] The Government is acting to ensure the UK benefits from the rapid manufacturing and supply chain expansion needed to meet the increased deployment of offshore wind. A key issue in building this capacity is access to port sites suitable for the particular requirements of the offshore wind sector. **Budget 2010 announces up to £60 million for the development of port sites, to meet the needs of offshore wind turbine manufacturers looking to locate new facilities in the UK.** The Government will launch a competition to identify host locations for, and recipients of, this funding, subject to state aid approval. This will help secure investment for offshore wind in the UK, and support jobs in the wind energy sector and its supply chain.

Low-carbon innovation

7.21 The Government wants to place the UK at the forefront of green innovation. To give businesses a fully joined-up range of finance support to take low-carbon technologies from concept to commercialisation, **Budget 2010 announces the launch of UK Finance for Growth (UKFG)**, to streamline the Government's SME finance support (see Chapter 4 for more details). UKFG will work in partnership with the Department of Energy and Climate Change and Regional Development Agencies to coordinate all public low-carbon SME equity schemes – including the £170 million stock of low-carbon finance products under the Carbon Trust's venture capital activities and the UK Innovation Investment Fund's (UKIIF) low-carbon programmes.[12] Low-carbon businesses will also be able to access financial support from the wider £4 billion stock of SME finance products overseen by UKFG, where appropriate. UKFG will also join the Low Carbon Innovation Group, the body established to agree an overall strategy for the Government's low-carbon grant programmes.

SAVING ENERGY TO CUT CARBON AND BILLS

7.22 Households, businesses and the public sector can all save money on energy bills and cut carbon emissions cost-effectively by becoming more energy efficient. Government action has helped lower the upfront costs of energy efficiency measures. As a result of Government policies, loft and cavity wall insulation are available at discounts of 50 per cent or more. These policies have helped insulate over 2.8 million homes since April 2008.[13] Budget 2010 sets out further action to drive greater improvements in energy efficiency.

Helping households with energy costs

Boiler scrappage

7.23 Replacing an old, inefficient boiler cuts household energy bills and reduces carbon emissions. The Pre-Budget Report announced a boiler scrappage scheme, providing households with a £400 payment to help them upgrade from the least efficient, G-rated boilers to more efficient models or renewable heat units. The scheme was launched in January 2010 and 118,000 households have already made successful applications.[14] As well as encouraging a low-carbon shift in households, the scheme is helping to sustain jobs for boiler manufacturers and installers.

Household Energy Management

7.24 In order to meet the UK's 2020 objectives for reducing emissions, households will need support to install insulation and energy generation systems that may have higher upfront costs. The Government's Household Energy Management Strategy, published on 2 March 2010, proposes the development of Pay As You Save financing arrangements. This will enable millions of households to finance the cost of installations from the savings they

[11] *Offshore Wind Power: Big Challenge, Big Opportunity*, the Carbon Trust, October 2008.

[12] £45 million Carbon Trust venture capital activity and £125 million UKIIF Hermes Environmental Innovation Fund (£50 million of UKIIF funding alongside commitments of £75 million from private sector investors).

[13] *Warm Homes, Greener Homes: A Strategy for Household Energy Management*, HM Government, March 2010.

[14] Energy Saving Trust data, available at http://www.energysavingtrust.org.uk.

make on their energy bills. **Budget 2010 announces that the Government and the financial services industry will undertake detailed work through a joint Pay As You Save forum to develop such financing arrangements.**

Clean energy cashback

7.25 Financial incentives can help households and businesses generate renewable electricity and heat. The Government is:

- introducing feed-in tariffs, which will be available from 1 April 2010, subject to state aid and parliamentary approval. They are expected to support installation of low-carbon electricity generating equipment in over 750,000 homes, saving 7 $MtCO_2$ by 2020; and
- consulting on the renewable heat incentive. This could support around 1.7 million household installations and save up to 60 $MtCO_2$ in total by 2020. The Government continues to review the basis for the longer term funding of the renewable heat incentive. In line with existing tax law, households that generate renewable heat mainly for their own use will not be subject to income tax on renewable heat incentive payments, based on the proposals in the consultation.

Help for the vulnerable

7.26 The Government continues to ensure support is available to help the most vulnerable. Since April 2009, 198,000 households have received heating systems, insulation and other help from the Warm Front scheme, saving them around £300 per year on their energy bills.[15] In addition, the Government is taking powers through the Energy Bill to require energy companies to offer additional help with bills to the most vulnerable households. Help from energy companies will reach £300 million per year by 2013-14, potentially providing support for an additional one million households.

Encouraging energy efficiency in business

7.27 The transition to a low-carbon economy provides new opportunities for all businesses – not just those in low-carbon sectors. Becoming more energy efficient saves businesses money and improves their competitiveness. The Government is helping businesses to save energy by providing incentives through the tax system.

Climate change levy

7.28 The climate change levy helps drive energy efficiency in business and the public sector. **Budget 2010 announces that climate change levy rates will be raised in line with inflation from 1 April 2011**, to maintain the levy's environmental impact. Since its introduction in 2001, the levy is estimated to have reduced energy demand in the business and public sectors by approximately 3 per cent.

Enhanced Capital Allowances

7.29 Enhanced Capital Allowances for energy-saving and water-efficient products provide incentives to encourage businesses to invest in these technologies. **Budget 2010 announces an update to technologies included in the Enhanced Capital Allowances scheme, including two new sub-categories – for 'self-driving' magnetic motors and biomass air heaters.** The Carbon Trust will work with Business Link to improve the scheme's website, so that all businesses can easily find eligible products and understand when product eligibility will be reviewed.

EU Emission Trading System

7.30 The EU Emission Trading System (EU ETS) sets emissions limits for sectors responsible for around half of the UK's CO_2 emissions. Under the EU ETS Directive, Member States can voluntarily cap emissions of greenhouse gases that are currently excluded from the system. **Budget 2010 announces that the Government intends to opt nitrous oxide gases**

[15] Department of Energy and Climate Change data, available at http://www.decc.gov.uk.

from nitric acid production into the EU ETS from 2011. This is expected to lead to additional abatement of around 2 $MtCO_2$ equivalent during 2011 and 2012.

Leading the way through public sector energy saving

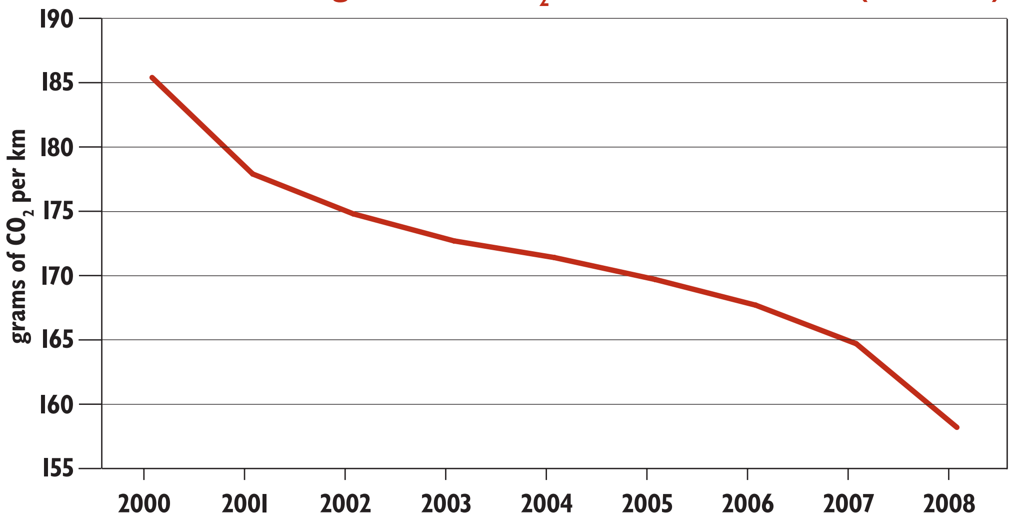
7.31 Reducing carbon emissions in the public sector releases resources for frontline services and contributes to the Government's commitment to fiscal consolidation. The public sector has already made substantial progress here, with emissions falling by a third between 1990 and 2007. The Pre-Budget Report set out the Government's plans for the public sector to deliver a further £300 million per year in savings by 2012-13, by reducing its energy use by around 10 per cent compared with 2008-09.

7.32 All government departments will shortly be publishing individual carbon reduction plans for further emissions reductions through to 2020. **Budget 2010 announces that these plans will require a minimum ambition of a 30 per cent reduction in departments' own estates and operations emissions between 1999 and 2020.** The Treasury will support the delivery of these carbon reductions by requiring departments to demonstrate how they will deliver their carbon budgets in the next Spending Review; and extending the remit of the Government's Chief Sustainability Officer and the Office of Government Commerce to provide additional support to the wider public sector.

SUPPORTING LOW-CARBON TRANSPORT

7.33 Transport plays an important role in the economy but can also have adverse environmental impacts. For this reason, the Government is committed to moving towards a low-carbon transport system. Chart 7.2 shows how average new car CO_2 emissions in the UK have fallen since 2000, supported by Government measures such as reforms to vehicle excise duty and company car tax. Budget 2010 announces further measures to support the development and uptake of green transport technologies while also supporting the public finances.

Chart 7.2: Average new car CO_2 emissions in the UK (2000-08)



Source: Monitoring the CO_2 emissions from new passenger cars in the EU: data for the year 2008, European Commission, January 2010.

7.34 The Government has been a strong advocate of a binding long-term European emissions target for cars. In December 2008, the EU set such a target as part of an overall Directive on reducing CO_2 emissions from cars. This regulation is forecast to save the UK 7.6 $MtCO_2$ in 2020. The Government supports the principle of similar regulation to reduce emissions from vans.

Low-carbon vehicles

7.35 Ultra-low carbon vehicles offer the potential for significant further savings. The Government has committed over £450 million to support the manufacture and uptake of ultra-low carbon vehicles. The Plug-In Car Grant will provide up to £5,000 off the price of eligible cars from January 2011. Up to £30 million has been provided for the Plugged-In Places scheme to support the installation of charging infrastructure in streets, car parks, supermarkets and leisure and retail centres. The first Plugged-In Places – London, Milton Keynes and the North East – will install over 11,000 recharging points over the next three years.

7.36 The Government is providing £20.7 million under the Grant for Business Investment scheme to support Nissan's investment in electric battery and car production. This investment will support 550 high skilled engineering jobs at Nissan's plant in Sunderland. In addition, the Government's Automotive Assistance Programme offered a loan guarantee to support Ford's £1.55 billion investment programme to develop greener engine and vehicle technology (as mentioned in Chapter 4).

7.37 The Government has also allocated a further £30 million from the Strategic Investment Fund in December 2009 to fund low-carbon transport schemes. Some of the first schemes to benefit include:

- the Technology Strategy Board's competition to develop supply chains for low and ultra-low carbon vehicles;
- a new test centre in Nuneaton for future intelligent transport technologies, which could increase fuel efficiency and reduce congestion; and
- a second Green Bus competition to increase the number of low-carbon buses on the UK's roads, subject to state aid clearance.

Transport tax

7.38 The principal role of transport taxes is to fund public services, but they can also play an important role in encouraging fuel-efficient behaviour and the development of low-carbon technologies. As part of the Government's commitment to fiscal consolidation, transport taxes will be used to ensure that the burden of taxation falls in such a way as to support the transition to a low-carbon economy.

Fuel duty

7.39 Budget 2009 announced that fuel duty would increase by one penny per litre in real terms on 1 April each year from 2010 to 2013, equivalent to 2.76 pence per litre this year. **Budget 2010 announces that the 2010-11 fuel duty increase will be staged, so that main fuel duty will increase by one penny per litre on 1 April and one penny per litre on 1 October 2010, then by 0.76 pence per litre on 1 January 2011.** This will ease pressure on business and household incomes at a time when other prices are rising. Rebated oils duty will rise in proportion to main road fuel duty and details of other duty rates are set out in Chapter A. **Budget 2010 also announces that fuel duty will increase by a further penny per litre in real terms in April 2014.** In addition to supporting the public finances in the medium term, fuel duty increases from 2010 onwards are expected to save 1.7 $MtCO_2$ per year by 2014-15.

Vehicle excise duty

7.40 From 1 April 2010, the Government will introduce new first-year rates of vehicle excise duty (VED), as announced at Budget 2008. Under this system, all cars emitting up to 130 grams of carbon dioxide per kilometre (g CO_2 per km) will pay no VED in the first year. Cars emitting over 165 g CO_2 per km will pay additional VED in the first year – up to £950 for cars emitting over 255 g CO_2 per km. First-year rates will encourage the purchase of more fuel-efficient cars by providing a strong signal to the consumer at the point of purchase.

Ultra-low and zero-carbon vehicles

7.41 The Pre-Budget Report announced a package of support for zero-carbon vehicles, including a five-year exemption from company car tax, to help make the UK one of the best places in the world to design and build low-carbon vehicles. **Budget 2010 announces that this support will be extended to ultra-low carbon cars, so that the percentage of list price subject to company car tax will be halved for cars emitting between 1 and 75 g CO_2 per km, for five years from April 2010.** The Government plans to legislate these measures in Finance Bill 2010.

7.42 The Pre-Budget Report also announced the provision of a 100 per cent first year capital allowance for zero-carbon goods vehicles. This incentive will apply to new vehicles purchased from April 2010, and will be in place for five years. The Government intends to legislate this measure as soon as possible in the next Parliament. Further details are set out in Chapter A.

Heavy Goods Vehicles and road freight

7.43 The Government continues to support the road haulage industry in improving environmental performance and safety. The Department for Transport published a consultation on increasing the uptake of eco-driving training on 8 March 2010, to help drivers increase fuel efficiency.[16] Part of the new Strategic Investment Fund allocation will be used to provide funding for two demonstration projects – one on low-carbon Heavy Goods Vehicles (HGVs), and one on upgrading raw biogas into biomethane of the quality that can be used as a transport fuel – both subject to feasibility studies.

7.44 Reduced Pollution Certificates provide HGVs with annual VED discounts of up to £500. **Budget 2010 announces that a Reduced Pollution Certificate will be available for vehicles that achieve early compliance with the Euro VI air quality standard.** This will be awarded for five years only, to support the environmental integrity of the scheme – with further details to follow at a later date.

7.45 HGV VED has been frozen since 2001, equating to a real terms cut of over 20 per cent. **Budget 2010 announces that HGV VED will continue to be frozen in 2010-11. To ensure consistency with EU regulations, while minimising the impact on hauliers, exceptional rates for some vehicles will be introduced from April 2011.** Further details are set out in Chapter A.

PROTECTING NATURAL RESOURCES

7.46 The Government is committed to protecting the UK's wider natural resources. Sustainable use of resources will ensure the economy is able to continue to grow in the long term. Budget 2010 announces further measures to drive the transition to a resource-efficient economy.

Landfill tax

7.47 Over half of household and business waste ends up in landfill, resulting in methane emissions.[17] Landfill tax remains the key policy driver to encourage greater diversion of waste from landfill. By increasing the costs of sending waste to landfill, the tax encourages

[16] *Increasing the Uptake of Eco-driving Training for Drivers of Large Goods Vehicles and Passenger Carrying Vehicles*, Department for Transport, March 2010.

[17] Department for Environment, Food and Rural Affairs data, available at http://www.defra.gov.uk.

investment in sustainable waste management options, such as sorting machinery, recycling and anaerobic digestion. **Budget 2010 announces an increase of £8 per tonne in the standard rate of landfill tax on 1 April 2014, and a freeze in the lower rate in 2011-12.** The Government confirms that the standard rate will not fall below £80 per tonne in future, to provide certainty for business investment. The increase in the standard rate will divert an additional 600,000 tonnes of waste, and result in carbon savings.

Landfill tax consultation

7.48 Budget 2009 launched a consultation on reforms to landfill tax legislation, to ensure that the tax remains robust in the long term. A summary of responses was published on 4 December 2009. **Budget 2010 announces that the list of wastes that qualify for the lower rate of landfill tax will remain broadly the same as at present.** The Government will publish a new set of qualifying criteria later this year to provide a clearer environmental rationale for the lower rating of wastes. The Government does not plan to proceed with changes to the way that waste disposal is defined in the legislation for tax purposes, as originally set out in the consultation.

Landfill communities fund

7.49 The landfill communities fund invests in projects that aim to improve communities around a landfill site. The fund has benefited 25,000 projects in the past 14 years.[18] To ensure the fund continues to benefit local communities, **Budget 2010 announces that the fund will increase in line with inflation to £74 million in 2010-11.**

Aggregates levy

7.50 The aggregates levy was established to make the price of aggregates better reflect the environmental costs of quarrying, encouraging the use of recycled aggregates and alternative materials. As announced at Budget 2009, the levy will be frozen at £2 per tonne in 2010-11, to ease pressure on sectors facing difficulties due to the downturn of the construction market. **Budget 2010 announces that the levy will increase just above inflation to £2.10 per tonne on 1 April 2011**, to maintain the levy's environmental effectiveness. The Government is also preparing to seek state aid approval to extend the length of the Aggregates Levy Credit Scheme operating in Northern Ireland.

Agriculture

7.51 The agricultural sector currently emits around 8 per cent of UK greenhouse gas emissions.[19] It also remains vulnerable to outbreaks of animal disease. The farming sector needs to protect the environment, while ensuring its economic viability, so that agricultural production is sustainable. The Government is taking action to support the sector in achieving these aims:

- the Government will review the farming sector's plan on reducing greenhouse gas emissions by 2012, to determine whether a voluntary approach can deliver the necessary reductions or whether further policies are required; and
- the Government's draft Animal Health Bill published in January 2010 proposes steps to share responsibility for animal health within the farming sector, helping to reduce the impact and cost of future outbreaks. The Government will explore the use of financial incentives and cost-sharing to help bring about changes in farm management, and will introduce such measures through appropriate future legislation.

Adaptation

7.52 Cutting carbon emissions will prevent the most dangerous impacts of climate change, but individuals, businesses and public authorities will also need to adapt to a changing climate. Over recent years, the Government has increased investment in managing flooding and coastal erosion, including the provision of defences. In his review of the 2007 floods, Sir Michael Pitt noted the private as well as public benefits of defence, and argued

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[18] ENTRUST data.

[19] Department of Energy and Climate Change data, available at http://www.decc.gov.uk.

that long-term investment plans should not assume all costs would be met by central government. In the context of the next Spending Review, the Government will give further consideration to new ways of funding flood and coastal erosion risk management.

Table 7.1: The environmental impacts of measures in Budget 2010

Total sector savings in 2020 and measures by sector[1]	Environmental impact[2]
Power and heavy industry[3] – 51 $MtCO_2$	
Publication of initial findings of energy market assessment, and launch of second phase of work to develop detailed proposals for reform	This will encourage additional investment in low-carbon generation, contributing to achieving the UK's long-term target of reducing emissions by 80 per cent by 2050.
Intention to create a Green Investment Bank, with a mandate to invest in the low-carbon sector	This will support the attainment of the EU ETS cap and the UK's renewable energy target. It could also generate additional carbon savings, for example through increased investment in low-carbon transport.
Reforms to the treatment of biomass under the Renewables Obligation	This will facilitate investment in biomass-generated electricity, which needs roughly to double in order to meet the 2020 renewable energy target.[4] The use of biomass will also support the attainment of the EU ETS cap.
Early opt-in of nitrous oxide gases from nitric acid production into EU ETS from 2011	The resulting investment in low-carbon technologies is expected to save an additional 2 $MtCO_2$ equivalent during 2011 and 2012.
Businesses and public sector[5] – 9 $MtCO_2$	
Launch of UK Finance for Growth, to streamline the Government's SME finance support	This will encourage investment in supply chains and new low-carbon technologies.
£60 million funding for development of port sites	This will help to attract wind turbine manufacturers to the UK, to establish an offshore wind manufacturing hub. These manufacturers will serve the UK offshore wind market.
Increase in climate change levy (CCL) rates in line with inflation for 2011-12	Since its introduction in 2001, CCL is estimated to have reduced energy demand in business and the public sector by approximately 3 per cent.
Update to technologies within Enhanced Capital Allowances scheme, including new sub-categories for magnetic motors and biomass heaters	Expected to have a moderate, positive impact on business energy efficiency.
Increased ambition to reduce government departments' emissions	Carbon reduction delivery plans will require at least a 30 per cent reduction in departments' own estates and operations emissions between 1999 and 2020.
Transport[5] – 18 $MtCO_2$	
Fuel duty increases in 2010 to 2014	These are estimated to reduce emissions by 1.7 $MtCO_2$ annually by 2014-15, compared to inflation-only increases.
Package of measures to support low-emission vehicles for five years, including: company car tax (CCT) exemption for zero-carbon cars; halving of CCT for ultra-low carbon cars; exemption from van benefit charge and 100 per cent first year allowance for zero-carbon vans	Encouraging businesses to choose ultra-low and zero-carbon cars and vans will help reduce emissions from business fleets, and reward manufacturers of the cleanest vehicles, helping them to meet EU car emissions standards.
Reduced Pollution Certificates available for vehicles that achieve early compliance with the forthcoming Euro VI air quality standard, time-limited for 5 years	The Euro VI standard will reduce the limit values of oxides of nitrogen (NO_x) by 80 per cent and particulate matter by 67 per cent compared to the current Euro V standard.
Natural resources[5] – 4 $MtCO_2$	
Standard rate of landfill tax to increase by a further £8 per tonne on 1 April 2014	This will ensure an additional 600,000 tonnes of waste is diverted from landfill, and result in carbon savings.
Increase in landfill communities fund to £74 million	Approximately 25,000 projects have benefited from funding aimed to improve communities around a landfill site over the past 14 years.
Increase in aggregates levy to £2.10 per tonne on 1 April 2011	In England, the estimated production of recycled and secondary aggregates increased by 11 million tonnes between 2001 and 2007. In addition, slate waste used as aggregate increased by 67 per cent over 2000-05 while china clay waste used as aggregate increased by 38 per cent.

[1] *Savings in 2020 are estimated emissions savings from policies presented in The UK Low Carbon Transition Plan, published in July 2009. For further detail, see Tables A2, A3, A4, A5 and A6 of The UK Low Carbon Transition Plan.*

[2] *All savings come from government modelling.*

[3] *Based on savings from the EU Emission Trading System (EU ETS), Phase III. Savings from these measures contribute to achievement of the EU ETS cap.*

[4] *Analysis from the lead scenario from the Renewable Energy Strategy, 2009.*

[5] *Savings from the non-traded sector, outside the EU ETS cap.*