

# Climate Change Programme Review

the submission of the  
Sustainable Development  
Commission

May 2005



## FOREWARD

The Sustainable Development Commission strongly supports the UK Government's renewed commitment to reduce 1990 CO<sub>2</sub> levels by 20% by 2010.

In essence, that means policies will need to be brought forward through the review of the Climate Change Programme to fill a gap of at least 10 million tonnes of carbon each year.

Nothing less will suffice as an outcome from this review, because this review provides the only realistic prospect of getting back on track in time to make a difference before 2010.

This is therefore the first and by far the most important test of the Government's renewed commitment to combating climate change. It is also a critical test of the Prime Minister's own leadership in this area, enabling him to match his highly significant international record with a much more determined engagement here in the UK.

Our full report to Government on how to get back on track will be published shortly on our website. The key points we are stressing in the Summary are:

1. To reinforce the overall target of 20% reductions by 2010, three new sectoral targets need to be set to provide the impetus for focussed policy initiatives:
  - A goal of achieving a 50% cut in carbon emissions from buildings (over 1990 levels) by 2050
  - A goal of achieving a 50% cut in carbon emissions from road transport by 2025 (over 1990 levels)
  - A goal of achieving a carbon neutral public sector by 2020.
2. Energy efficiency remains the cornerstone of the Climate Change Programme, and policies in this area must be substantially stepped up and implemented. The next phase of the Energy Efficiency Commitment for households, for instance, should be set at a level which will triple the savings achieved through earlier phases, and a vigorous effort to reduce energy use in commercial buildings is needed. Additional policies to support Combined Heat and Power must also be brought forward urgently.
3. We see Vehicle Excise Duty as the key mechanism for achieving short term savings from road transport, and have proposed radical new VED rates for each band to come into force in 2008.
4. The Commission supports the idea of road charging in principle, but any scheme that does not aim to dramatically reduce emissions as well as

reduce congestion (as is the case with the Government's current proposal) will be irrelevant to this agenda.

5. The Government's current aviation strategy is entirely unsustainable. Pending the inclusion of the aviation sector in the EU's Emissions Trading Scheme, the UK Government should impose an immediate emissions charge on all internal air travel, followed by a charge on all aircraft leaving the UK.
6. Revenue from the Non Fossil Fuel Obligation should be invested in a new Climate Change Challenge Fund to support local authorities and communities in pursuing ambitious carbon saving projects.
7. The Government should on no account seek to fill the 10 million tonnes carbon gap by buying up carbon savings from other countries.
8. The Government should give up its current action against the European Commission regarding the UK's National Allocation Plan under the EU's Emission Trading Scheme.

A handwritten signature in black ink that reads "Jonathan Powell". The signature is written in a cursive style with a long horizontal stroke at the end.

Chairman  
June 2005

## **Introduction**

The Sustainable Development Commission (SDC) strongly supports the UK Government's renewed commitment to the 20% reduction in carbon emissions by 2010, underlined in the Labour party manifesto:

*"We remain committed to achieving a twenty per cent reduction in carbon dioxide emissions on 1990 levels by 2010 and our review of progress this summer will show us how to get back on track. A sixty per cent reduction by 2050 remains necessary and achievable."*

This re-commitment comes soon after the publication of the UK's Sustainable Development Strategy *Securing the Future* in which five new guiding principles were agreed across all governments. These five principles are to form the basis for policy in the UK, and the new Climate Change Programme should apply these five principles:

*"We want to achieve our goals of living within environmental limits and a just society, and we will do it by means of a sustainable economy, good governance, and sound science."*

This will mean clearly identifying and working within our environmental limits in relation to carbon emissions and energy production and use. It will also mean tackling the climate change problem in such a way that we meet the economic and social needs of society both now and in the future.

### **The Scale of the Problem**

The Government's consultation document for the Climate Change

Programme Review revealed that the package of existing measures for reducing our carbon emissions are not on track to achieve the UK's 20% reduction target. The Review document implies that by 2010 there will be a shortfall of around 10 Million tons of Carbon (MtC) of savings each year, and that new policies will need to be introduced to fill this gap.

This document is a summary of the work the SDC has undertaken to review the range of options for how the UK can fill this shortfall.

### **SDC Recommendations for Action**

The Climate Change Programme (2000), and the policies outlined in the Government's Energy White Paper (2003) commit the UK to a range of carbon reduction policies within the four nations of the UK. The development of further policies for achieving the 20% target by 2010 must be within this same context, so the UK is improving its positioning for moving towards the low carbon economy that is needed for reaching our 60% target by 2050. The SDC would strongly oppose any "accountancy solutions" of buying in carbon savings from other countries to make up the shortfall, except where this is achieved under the EU Emissions Trading Scheme (EUETS), or through carbon offsetting schemes such as for public sector travel.

### **Targets**

While targets are only part of the story, and recognising that it is the policies that will achieve the CO<sub>2</sub> savings, we believe appropriate targets are a strong motivator for developing policies to deliver the required savings. It is because the UK has adopted targets to

cut carbon emissions by 2010 and 2050 that the carbon saving policies have been developed in the first place.

We therefore recommend that three new sectoral targets are developed to focus activity in the areas where radical carbon emission savings are needed, and are feasible. We recommend Government adopts:

- a goal of achieving a 50% cut in carbon emissions from buildings (over 1990 levels) by 2050
- a goal of achieving a 50% cut in carbon emissions from road transport by 2025 (over 1990 levels)
- a goal of achieving a carbon neutral public sector by 2020.

In order to meet these targets a renewed focus on policies and their delivery will be needed, and some of our proposals below are intended to contribute to this.

### **Policies**

The SDC has examined how all the major sectors could contribute to reaching the 2010 carbon target, leading to continued improvement in the decade 2010-2020. Our assessment is that the following measures will need to be brought into effect, and that this will cover the 10MtC shortfall:

### **Energy Generation and Industry**

The energy generation sector, and major energy-using industries are currently trading their carbon emission savings through the EUETS. However the level of savings to be achieved by the UK within this scheme is being disputed between the UK Government and the European Commission, as the UK is seeking to reduce the level of emissions to be saved. The SDC believes the UK should not pursue its current action against the

European Commission, as, in our judgement, this would achieve additional savings of around 1MtC/yr.

Evidence from the energy generators is that they want more scope to trade more savings, and we therefore believe this positive attitude should be a motivator for the Government to proceed actively with setting an ambitious commitment for Phase II of the EUETS from 2008. Phase II of the EUETS should therefore be set at a level commensurate with the percentage contribution of this sector to the achievement of the target (i.e. 46%). We would recommend that Government takes a top-down approach at this stage and sets the allocations in line with an aim to achieve the shortfall, which could perhaps achieve an additional 3MtC/yr.

Coal continues to be the cheapest fuel for energy generation, and so it continues to be used, despite the EUETS, and is likely to remain in the electricity mix until the full implementation of the Large Combustion Plants Directive in 2015. This is regrettable, as its carbon intensity means coal continues to contribute to UK carbon emissions despite the objective to move towards a low carbon economy. However if there is successful development of carbon capture and storage, and the environmental impact of coal use is effectively limited, then coal could remain in the electricity mix. Some assessments imply that carbon capture and storage could achieve savings as high as 2.5MtC/yr, but this would be part of the EUETS savings, and not additional. Management of methane emissions from coal mines and other sources is also crucial for reducing overall UK greenhouse gas emissions.

In addition to energy efficiency, continued support for renewables through the Renewables Obligation is essential and we welcome the longer term commitment from Government to this policy. The previous policy support – the Non Fossil Fuel Obligation – has continued to bank revenue estimated by the National Audit Office to reach around £880M by 2010. The SDC believes this revenue should be invested in a fund (perhaps a Climate Change Challenge Fund) to support carbon saving projects across all sectors that are not already supported with existing policies (such as under the Energy Efficiency Commitment or through the Carbon Trust). Likewise we believe 10% of the EUETS allowances should be auctioned and the funds raised be invested in the same fund.

Combined Heat and Power (CHP) is a highly energy efficient system for providing heating, cooling and electricity to both industry and households. The SDC believes a range of policy opportunities have not so far been taken to give maximum encouragement for CHP to achieve its potential in the UK. We believe every effort should be made to achieve the existing 10GW CHP target, which will save an additional 1.4MtC/yr. This could be achieved through a Renewable Heat Obligation, and/or CHP exemption from the Renewables Obligation, plus continued support under the Community Energy Programme for district CHP schemes. Continued effort to demonstrate the feasibility of micro CHP should be maintained.

Business pays the Climate Change Levy (CCL) and the proceeds of this are partly used to support Carbon Trust work to improve energy efficiency in business. However the CCL rate has not been raised for a number of years and the SDC believes it should be raised initially in line with inflation, but rising

progressively for the sectors not covered by the EUETS. Our assessment is that this could save an additional 1MtC/yr.

Major energy using industries have Climate Change Agreements whereby they receive an 80% discount on the CCL in return for a programme of energy saving or carbon emission reduction over 10 years. Their emission saving programmes are supported by the Carbon Trust, and the evidence is that the CCAs are the most effective mechanism for gaining company board level attention on energy use, and commitment to carrying out the energy saving measures needed. The SDC believes this success should be further exploited so the CCAs could be widened to cover other businesses not in the EUETS, perhaps achieving a further 0.5MtC.

### **Households**

Much of the success of the policies in the Climate Change Programme depend on UK citizens acknowledging that they have an active part to play in reducing their own carbon emissions from their homes, businesses, and their transport choices. Without full engagement by citizens the policies will continue to have limited success. We therefore believe a significantly enhanced programme of engagement with citizens is needed to motivate action. Such engagement needs to be developed closely with the policy agenda, and we welcome the development of the Climate Change Communications Campaign, but believe further engagement work will be needed over the next few years.

The SDC has examined a number of existing policies and recommends further enhancement of these. We believe the combination of measures listed here will achieve savings of an additional 0.8MtC/yr:

- The Energy Efficiency Commitment (EEC) phase 3 (from 2008-11) should be set at a level roughly triple the level of EEC1 savings. This will save around 0.3MtC/yr. However energy suppliers have considerable difficulty in encouraging householders to take up their energy efficiency offers, and it is likely that additional incentives from other sources, such as through Council Tax rebate schemes with energy suppliers, will be needed to help generate enthusiasm for carbon saving. Such additional incentives will also overcome the ignorance of many householders who are simply not aware that the energy saving offers with their fuel bills are part of a government emission reduction programme. It is also counter-intuitive for most householders to trust energy saving offers from their energy supply company
- As mentioned above enhanced advice services to householders and engagement on carbon reduction activity will be needed to help reduce energy use
- In addition to these active projects we believe there needs to be considerable effort to avoid the large growth in emissions expected from the housing growth areas outlined in the Sustainable Communities Plan. The SDC recommends that the growth areas such as Thames Gateway, and the Cambridge and Milton Keynes developments should be carbon neutral, so any expected growth in emissions is matched by energy savings in existing homes in the South East,

- East of England and East Midlands regions.

The SDC is this year evaluating the proposals in the Sustainable Communities Plan, and will be making recommendations for alternative approaches for achieving its objectives. We are, however concerned that there remain perverse fiscal barriers for large-scale refurbishment projects in regeneration programmes. Refurbishments pay 17.5% VAT, whereas new build is VAT free. This is distorting the economics of developments in favour of demolition and replacement rather than refurbishment. This is causing unnecessary destruction of communities, and destruction of older buildings which could be refurbished to immensely higher standards of efficiency.

Over the long term the SDC believes that personal carbon credits (known as Domestic Tradable Quotas - DTQs) are likely to offer the most equitable, market based mechanism for giving citizens individual control over their energy use. We explain the concept, and how it could work in our fuller submission to Government. We believe more research into the practicalities of such a system, should be carried out over the next couple of years, along with pilot projects funded by Government.

### **Transport**

Carbon emissions from road transport account for 24% of the total emissions, and it is expected to rise by a further 9% by 2010. The SDC believes this sector needs radical solutions, and must be tackled urgently.



We have identified carbon savings that could be achieved from a range of measures (see below), but care should be taken that there may be some double counting of the savings identified individually, as some of the measures will lead to other emissions cuts. It is a point worth noting that economic growth is widely expected to mean continued increase in road transport, but we challenge this expectation and believe policies must be developed with the intention of decoupling economic growth from increased road transport.

To achieve significant emission reductions we believe the following will be needed:

A clear national strategy on traffic reduction must be developed. This should concentrate on facilitating take up of demand management and behavioural change measures, and should lock in the savings that could be achieved, which we estimated could be around 0.5MtC/yr if a programme starts in 2007. Demand management measures include:

- stronger guidance in Local Transport Plans to prioritise behavioural change measures, so local authorities actively promote alternative forms of transport
- good public transport facilities, and improved cycling and walking infrastructure;
- services at points close to this infrastructure, so communities are not dependent on cars for reaching essential facilities (shops, schools, hospitals etc);
- removal of financial barriers in organisations: such as benefits in kind (vehicle allowances), and higher mileage rates for larger, more polluting vehicles

- all public sector bodies to have modal shift targets and to put in place policies for achieving these.

Any carbon savings made through these measures will need to be “locked in” with complementary measures such as:

- co-ordinated parking restraints between local councils to ensure there is consistency of approach to vehicle use
- congestion charging to discourage driving in towns
- space provision through planning policies for infrastructure improvements.

The SDC has modelled the carbon savings that could be achieved through new Vehicle Excise Duty rates. All vehicles (except those exempted for very low emission benefits) pay annual VED charges, which are currently banded with minimal differences between the most and least polluting vehicles. We believe that graduating VED in a much more radical way would influence vehicle purchase behaviour and would encourage the take-up of lower emission vehicles.

Our proposal is that a new top band of VED should be introduced, and that a £300 gap should be created between each band. So the top band of VED would rise dramatically to £1800/yr for vehicles emitting 221gCO<sub>2</sub>/km or greater, and below this the bands would be at £1500, £1200, £900, £600, £300, and £0 for vehicles with emissions below 100gCo<sub>2</sub>/km. We propose that this policy should be announced in 2005, but brought into effect in 2008. We estimate that this would achieve carbon savings of around 0.4-0.8MtC/yr. We believe this policy would dramatically improve the market demand for highly fuel efficient vehicles such as hybrid cars.

In addition to the VED proposal, increasing the contribution of biofuels to 5% of all road transport fuels would achieve savings of around 0.6-1MtC/yr, and a strategy for achieving this will be needed, perhaps through the proposed Road Transport Fuel Obligation. Adjusting road speed limits can also improve carbon emissions, and we recommend that a full assessment is made of this potential across all road types. Our estimate is that this could achieve around 1.5MtC savings.

We believe road user charging is necessary in the medium/long term, but that a combination of distance and congestion charging will be necessary to tackle both congestion and carbon emissions.

In addition to road transport the SDC remains concerned that the Aviation White Paper highlights a path of unsustainable air traffic growth, and we believe government should tackle this with urgency, to limit the damage anticipated over the next decade. We recommend that government leads among European countries by imposing an emissions charge initially on all internal air travel, followed by aircraft leaving the UK, to overcome the distorted price structures that leave rail travel as the least favoured option on some internal routes.

We also recommend that in anticipation of progress in designing an emissions trading scheme that will include aviation (EUETS or other), further work is undertaken on the efficiency savings that can be made through improved landing and take off patterns.

### **Public Sector**

The CCP review provides government with a real opportunity to lead by example. By adopting our target of a

carbon neutral public sector by 2020 government would drive improvement in the sustainable procurement of products, services and buildings. The SDC is this year working with the health sector to push NHS organisations to embrace sustainable development through their corporate activities. The SDC is helping to assess and promote sustainable public sector management behaviour, covering management of facilities, procurement of products, services and buildings, employment practices and sustainable transport options. This work will contribute to effort in the public sector to lead by example.

Leadership being demonstrated by the UK public sector is an important part of the Government's climate change agenda, and while we recognise the UK's international leadership on this issue, we believe citizens are not convinced by the Government's commitment to delivering the solutions. Delivering the practicalities of low carbon technology and behavioural change in the public sector will really show how the wider public sector can lead by example.

We believe that improving the sustainability of schools should be a high priority and recommend an acceleration of the Building Schools for the Future programme, to double the public investment in the refurbishment projects that will maximise efficiency improvements, particularly in existing buildings. We also believe public sector buildings should become demonstration centres for renewable energy technologies, with a focus on schools so that they are funded to install renewables such as a wind turbine, solar hot water heaters, ground source heat pumps, and solar photovoltaics. The renewable technologies should then become sources of learning and

engagement with both pupils and the wider community.

### **Agriculture**

The SDC believes further work needs to be undertaken to examine the contribution that agriculture could make to reducing UK carbon and other greenhouse gas emissions. There is evidence of the contribution of energy crops, and forests as carbon sinks, but less on the potential for emissions savings from shallow soil tilling methods, management of upland peat and composted materials, the importance of ruminant diet for minimising methane, stock density rates and the need to manage the application and type of nitrogen fertilisers.

We also recommend further work is undertaken to improve the supply chain for energy crops to enable this carbon neutral fuel to develop into a viable fuel alternative for communities across the UK. Development of technologies that make productive use of crop residues for biofuels, such as ligno cellulose will also be necessary to maximise the value of biofuel crops as alternative energy sources.

