



# Climate change action the UK: leader or laggard?

A special independent report for the All-Party Parliamentary Environment Group on UK climate change policy, providing a context to the Government's Climate Change Programme Review

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**the all-party  
parliamentary  
environment  
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# Foreword



**Norman Baker  
is the Liberal  
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Parliamentary  
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**C**limate change is the most serious threat we all face, and the scientific consensus is that radical action is needed quickly if we are to keep global temperature rise to within 2°C of pre-industrial levels, the maximum increase we can safely tolerate. Even that will have major consequences for many parts of the world, and the people, flora and fauna that live there. It will also have an increasingly devastating effect on the political and economic order of our world.

The government's Climate Change Review is therefore an important event, but how does the action taken so far, and that promised for the future, match up to the challenge we face?

I am pleased to present a detailed critique produced for the All-Party Environment Group by the Institute for European Environmental Policy. It spells out where the government is a leader, and where it is a laggard, across a wide range of policy areas that affect climate change, from energy to transport to agriculture. It makes it clear that, while climate change is certainly a threat, it can also be an opportunity.

I hope you find it useful in providing you with a high-definition snapshot of where we are, and identifies what more needs to be done. The answer to that, I am afraid, is a great deal.



**Norman Baker MP  
Chair, All-Party Environment Group**



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# Executive summary

High octane rhetoric is now a feature of the politics of climate change. Crucially there is debate as to whether the UK is a leader or laggard in terms of climate action, whether there are benefits from being at the forefront and how the growing need for decisive action can be addressed. This report sets out to address some leading questions such as: how do policy measures in the UK perform? Has the UK really shown leadership on this issue, if so how and when - or is it a laggard? How might policy be taken forward into the future?

In 2006 the government launched a renewed Climate Change Programme (CCP) for the UK, following considerable delays and a period of extensive consultation. This new CCP represented an opportunity to answer these questions and reinvigorate the UK's policy approach to climate change. It was an occasion on which the government could have set out a strategic way forward for climate policy into the Kyoto commitment period (2008 to 2012), and beyond towards the target of a of 60 per cent reduction in carbon dioxide emissions by 2050.

Analysis presented in this report suggests that the UK CCP does not achieve such promise. Although, the government has stated that *'this is not the last word on climate change policy'*, it is disappointing that the opportunity afforded by the relaunch of what should be a programme consolidating, coordinating and re-invigorating UK action in this area, misses the mark. Assessed against the terms of reference set for it, the UK CCP fails to meet two of the most important, both relating to planning for action into the future and towards the 2050 target. While it does set out a picture of where the UK is, it does not set out a path to where it should be, or the actions to move the UK economy in its entirety towards this – although a focus on future action is perhaps the essence of what a programme should be.

The new CCP accepts that the target set for a 20 per cent reduction (based on 1990 levels) in carbon dioxide emissions by 2010 will be missed - with a reduction of 15 to 18 per cent expected. Concern does not purely focus on the fact that the target will be missed, as significant reductions in emissions of greenhouse gases have been achieved more broadly. Importantly it is the manner in which this failure has occurred. Trend data, presented in the CCP, shows that reductions in emissions peaked in the early 1990's, since when reductions have slowed with emissions currently on the increase. The CCP fails to provide clear and proactive mechanisms to put the UK back on the path of significant reductions into the future. Projections in the programme show that the government does not expect to reach its 2010 target of 20 per cent reduction in carbon dioxide until 2016 or beyond.

Given the shortcomings of the new CCP there is a need to reinvent the UK's approach to policy making on climate, to enable real progress to be made in both the short and the long term. A new approach should promote a more proactive, coordinated, systematic and unified approach with buyin from both across government departments and across political divides. Presented below are key elements proposed for a new way of policy making in the UK. This should enable the development of appropriate policy measures into the future.

- Annual reviews, proposed in the CCP, should be used to ensure that priority climate issues are being dealt with. The annual reports should trigger a yearly discussion on the way forward for climate policy. They should help build on the emerging cross-party commitment on climate, and be used proactively to engender discussion on key issues, to highlight key problems and barriers that need to be addressed and develop solutions with cross party buy in.
- Given that a rolling programme of review is now proposed, a more systematic and pragmatic approach could be taken to climate policy making in future. This should focus on priority issues, problems and barriers and address these specifically using the best tools. It should be clear how these feed up into the broader approaches to climate policy, how they deliver on key goals and sit with other measures. In short, the overall programme should become more clearly structured and allow more effective assessment of problems and identification of solutions within this structure.

- There is now no clear framework establishing what the UK has to achieve, or has ambitions to achieve. A clear statement of purpose is needed, and within this all government departments should be set clear targets against which their performance will be transparently assessed. These should feed into other policy processes.
- There needs to be a proper assessment of the appropriateness and benefits of using particular policy instruments to bring about change. For example, the 2006 Programme mentions emissions trading in various sector contexts including agriculture, but seemingly with little real focus on what will work best and where.
- Solutions must be clear and timetables should be explicit in order to clarify how actions will be taken forward and to instill more confidence in the processes.
- Although new policy initiatives are welcome, it is equally important to ensure the effective implementation of existing measures. Without implementation and enforcement the policies proposed will not lead to change.

The approach proposed should set the UK on a course to act as a leader in addressing the challenge of climate change. Leadership on this issue is deemed imperative given: the growing consensus that climate change poses a major threat; that evidence is mounting regarding the scale of future problems; and that there are potential benefits associated with action ie in terms of reputation, legacy and potential first mover advantages for its industry. The Government has claimed the UK is already a leader on climate change issues but is often criticised for this, action does not always appear to match the rhetoric. In this report there has been an attempt to step back and analyse key sectors and issues identified in the UK CPP, assessing the current state of policy and lessons that might be learnt for future policy making, and to see if and how the UK leads on these issues.

These analyses highlight that the UK, while having undertaken some innovative action, needs to do more to deliver leadership across the economy - especially in relation to households and energy supply. Future actions need to be effectively followed through to avoid slipping further down the scales. In brief, the conclusions for each sector are presented below:

### Energy supply

The UK is considered to be a relative laggard in its actions on energy supply in relation to climate change policy. The link between energy and climate policy is too weak, not least in the CCP. Renewables have received less priority than in many other European countries despite the resources available. The government could alter this position by including proactive, well thought-out climate solutions in the energy review and setting out a plan for the long term which will make the most of the extensive renewable resources the UK has at its disposal.



### Agriculture

There is a downward trend in agricultural emissions at present, and this is coupled to some relatively proactive measures on the part of the government to take forward the use of biofuels. In addition the agricultural sector has been considered in the most recent CCP review to a greater extent than previously. However, there are still important decisions to be made about the way forward in rural development and other domestic policy. A more proactive domestic and European approach could make the UK a significant leader in this field.



### Transport

Although the UK has been a leader in terms of the development of some key policy instruments in the transport sector, these have arguably not been taken forward in an ambitious way. There is a need to consider existing instruments and how they have worked thus far. It is still unclear how the increase in emissions arising from transport will be cut both in the short and long term, despite some ideas put forward in the CPP.



## Emissions trading

The UK is a clear leader in terms of promoting the use of emissions trading as a tool, and in its experimental use. The country has benefited both in terms of reputation and economically from this proactive approach. It has also been a leader in attempting to ensure appropriate implementation and the sharing of practice and expertise between Member States. When it comes to the practice of trading and the substance of the scheme, ie the setting of demanding caps, it is lagging behind expectations both domestically and internationally. Hence, the UK is both a leader and a laggard in terms of emissions trading and the EU ETS.

**Leader**

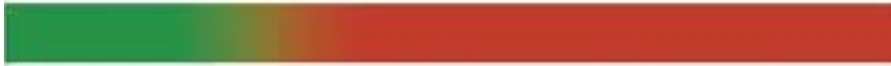


**Laggard**

## Business

The UK government has implemented some innovative instruments to help address emissions from business, especially energy-intensive users. Business emissions fell between 1990 and today, but the greatest reductions took place in the early 90s. Subsequently the rate of decrease has fallen and CO2 emissions have begun to increase once more. Policy measures fail to adequately address less energy-intensive users, who are becoming increasingly important emitters. There are also concerns about where measures to address business emissions are going in the long term, the effectiveness of their implementation and their level of ambition.

**Leader**



**Laggard**

## Households

Although the CCP does propose some measures in relation to households, it seems unlikely that these will meet the scale of the challenge, with key opportunities for change missed and longer term issues poorly considered. The UK has been slow off the mark in terms of addressing household energy use, which is surprising considering the additional social benefits of change. There has been some good work by local government in this area, but a clear and proactive steer from central government is lacking.

**Leader**



**Laggard**

## Public sector

The UK has been relatively slow in making the most of the opportunities presented by the public sector in tackling climate change. There is a need for a more transparent and consistent approach to this across the sector, particularly in terms of the steer coming from central government. Efforts are, however, being made by different elements of the public sector to innovate and take forward climate action especially at the local level. Recent initiatives on sustainable procurement may yet provide key tools for taking forward action into the future.

**Leader**



**Laggard**

## Domestic and international action

Overall UK leadership, can be split between domestic and international action. Given the UK's diminishing share of global emissions, international engagement is particularly vital in this arena. Thus far the UK has shown that it is committed to using its reputation and negotiating power to achieve change at this level. Domestic action however, is crucial too, both for its own value and to legitimatise a progressive international role. Given the performance in the sectors summarised above, domestic achievements lag behind the expectations generated by the UK in its international leadership role.

**Domestic**



**International**



# Climate Change Action

## The UK: Leader or Laggard?

### 1 Introduction

At the 2005 General Election, all three major parties supported long-term cuts in carbon dioxide emissions, all promising a 60 per cent reduction by 2050. Hence, in the UK at least, there is now a political consensus that climate change is a major potential problem and that action should be taken. Climate change is one of Tony Blair's 'big issues' besides health and education; while David Cameron has spoken of action on climate change in the same sentence as reducing crime and increasing home ownership. The Liberal Democrats have been pushing a range of measures highlighting climate change in their manifesto and leading efforts for a cross party consensus stating that '*climate change should be beyond party politics*'<sup>1</sup>.

*What is now plain is that the emission of greenhouse gases... is causing global warming at a rate that began as significant, has become alarming and is simply unsustainable in the long-term. And by long term I do not mean centuries ahead. I mean within the lifetime of my children certainly; and possibly within my own. And by unsustainable, I do not mean a phenomenon causing problems of adjustment. I mean a challenge so far reaching in its impact and irreversible in its destructive power, that it alters radically human existence.*

**Tony Blair**<sup>2</sup>

*Some experts are even saying we may have passed the point of no return when it comes to climate change, and it's an issue which the public now grasp in a way they didn't even a few years ago ... Climate change has practical consequences that's why people are alive to it in a way that they were not before.*

**Sir Menzies Campbell**<sup>3</sup>

*I want my children, your children, to grow up in a country where the streets are safe, the public space isn't filthy, where it isn't a hassle to get around, you can own your own home and where climate change and the environment aren't an afterthought. That means setting targets for reducing carbon but it also means taking tough decisions to make sure we meet them*

**David Cameron**<sup>4</sup>

#### 1.1 The 2006 Climate Change Programme

The Government has committed itself to going further than its Kyoto Protocol target (set at a 12.5 per cent reduction of greenhouse gas emissions from 1990 levels by 2012 under the EU's burden sharing agreement) by setting a domestic target of reducing carbon dioxide (CO<sub>2</sub>) emissions by 20 per cent below 1990 levels by 2010. In the longer-term, the 2003 Energy White Paper accepted the recommendation of the Royal Commission on Environmental Pollution, announcing that the government would set out on a path to reduce the UK's CO<sub>2</sub> emissions by 60 per cent by 2050, based on 1990 levels. The consultation document announcing the Climate Change Programme review argued that reducing emissions by this amount was realistic for the UK\*.

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\* The terms of reference for the UK CCP review state that it will assess 'whether the UK is on course to achieve its domestic goal to reduce carbon dioxide emissions by 20 per cent below 1990 levels by 2010' and also 'whether the UK is on course to make "real progress by 2020" towards the longer-term goal of reducing carbon dioxide emissions by some 60 per cent by about 2050, anticipated in the Energy White Paper'

The review of the Climate Change Programme offered an opportunity to set out actions to ensure that the UK meets its domestic target for 2010 and, those for the longer-term. The Climate Change Programme, published in 2000 <sup>6</sup>, was in need of rejuvenating and renewing in order to drive forward policy, to set a framework for action and provide the tools to implement it. One of the aims of this report is to assess whether the 2006 programme does provide this framework for action, towards both the 2010 target and in the longer term that for 2050.

*Strategies are worthless if they are not turned into action*  
**UK Sustainable Development Strategy <sup>7</sup>**

The 2006 Climate Change Programme (CCP), published on March 28, represents an important policy document not just in terms of its content but also its timing. The reasons for this are outlined below. Together these point to the 2006 Programme as an opportunity to make a tangible difference to policy in the UK.

- Evidence is mounting that climate change is taking place already. Recent studies have shown that not only are these changes occurring, but they are happening at a rate faster than originally anticipated.

*Scotland's climate is changing. Over the next century we can expect Scotland to become warmer with wetter winters and much less snowfall. This has implications for people across Scotland including businesses, transport operators, public sector organisations, house builders, farmers and insurers.*

**Environment Minister Ross Finnie <sup>8</sup>**

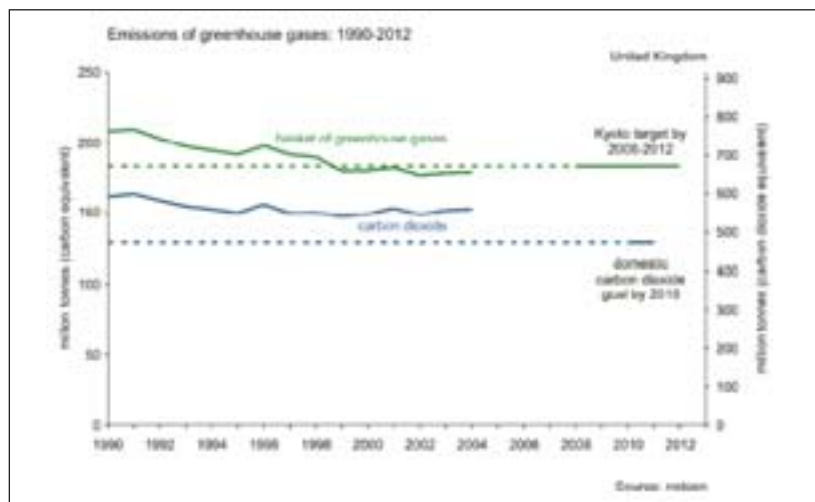
- The short term target dates – 2010 for the domestic target and 2008 to 2012 for Kyoto – are fast approaching. The new Programme will extend into the Kyoto commitment period, meaning that actions will come under greater scrutiny, and will need to ensure that emissions reductions are delivered. The fact that the UK's Kyoto target is likely to be met should not be a cause for complacency.
- It is important to identify and put in place a framework for action to put the UK on a path to the long-term reduction target of 60 per cent by 2050. It is well established that measures taken progressively, over the long term, result in lower costs and allow benefits, such as first mover advantage, to be capitalised upon. In addition, the cumulative and long term impacts of climate change means that policy must emphasise reducing emissions as early as possible.

*..we need to act now. Delay will only increase the seriousness of the problems we need to reverse, and the economic disruption required to move to more renewable forms of energy and sustainable manufacturing in the future.*

**Tony Blair <sup>9</sup>**

Other countries, such as Sweden which recently announced it wished to be the first 'oil free nation', are already setting highly ambitious, long-term targets and outlining policies to allow them to achieve these ends. The 2006 CCP was the chance for the UK to follow suit.

In fact the 2006 CCP confirmed that the UK is on course to meet its targets under the Kyoto burden sharing agreement (see figure 1) and sets out a list of existing policy measures and some ideas for the future. Unfortunately, it also confirms that the UK is expected to miss its own domestic target of reducing CO2 emissions by 20 per per cent by 2010 from 1990 levels. There is now a fierce debate as to whether these proposals are adequate, and if they are not, what alternative measures should be put in place.



**Figure 1 – Graph showing Greenhouse Gas Emissions from the UK between 1990 and 2004 <sup>5</sup>** source HM Government

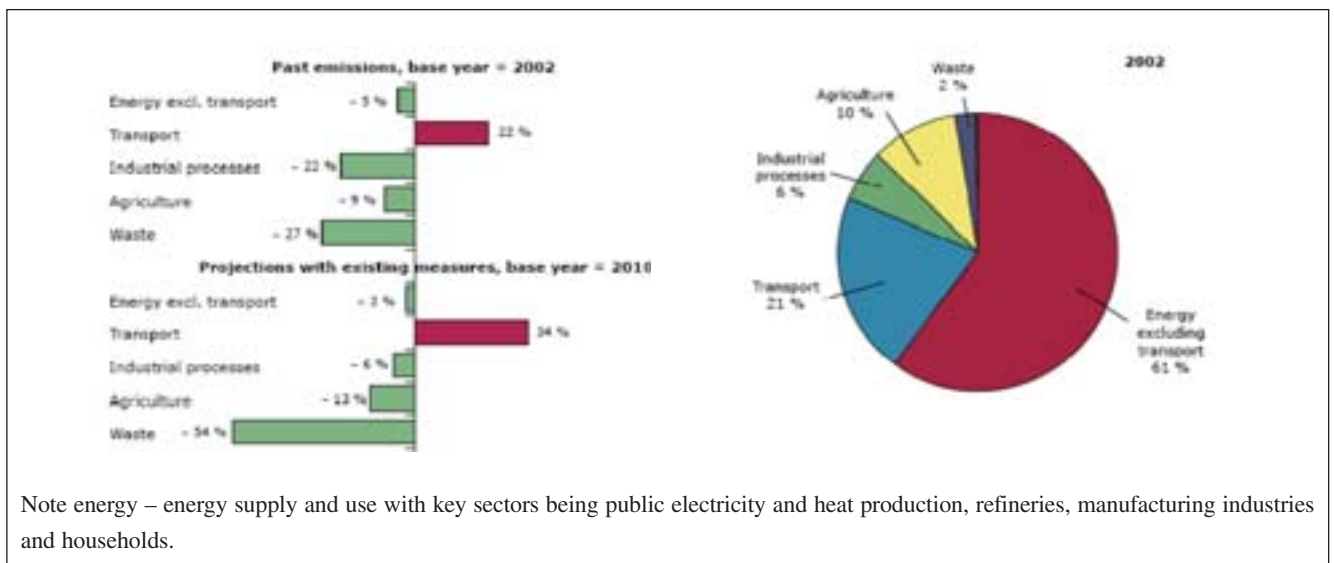


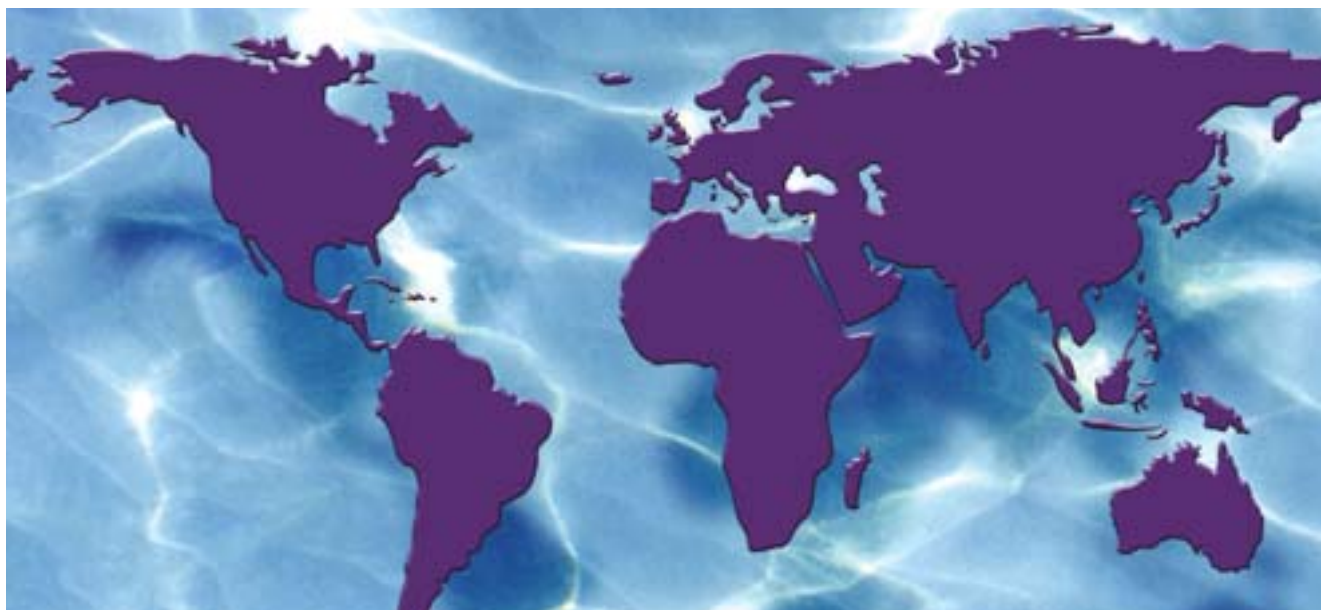
## 1.2 The role of this report

This report looks at the challenges facing UK climate change policy, examining what is needed to move forward and assessing the Government's 2006 CCP proposals. The entire report considers the question: Is the UK a leader or a laggard on climate issues? This analysis is designed to draw broader conclusions assessing whether real action and progress underpins the political rhetoric that surrounds climate issues in the UK.

The structure of the report broadly follows that of the 2006 CCP, looking at policy sector by sector (chapters 3 to 9). This structuring reflects the need to encourage action across the economy, involving the whole range of actors (figure 2 illustrates the importance of breaking the issue of climate policy down and considering future trends within different sectors). As a first step, however, the UK's record in the international and specifically European arena is considered in chapter 2.

**Figure 2 - Changes in EU-15 greenhouse gas emissions by sector between the base-year and 2002 and projected for 1990–2010 with existing measures (left) and contribution of sectors to the overall level of emissions in 2002 (right).** <sup>10</sup> source - European Environment Agency





## 2. Moving forward – the international agenda

Implicit in the UK's commitment to using its Presidencies of the G8 and EU in 2005 to further action on climate change, is the recognition that this represents a global problem needing to be addressed by engaging industrialised and industrialising countries alike. The UK's leadership on climate change was welcome given that all political parties in the UK, and most governments around the world, recognise that climate change is one of, if not the, most important challenge facing the world today. However, agreements at the international and EU levels are clearly only one aspect of leadership on climate change; another is ensuring that our own domestic policies deliver the necessary emissions reductions.

The UK can boast of being one of only a handful of Annex I (industrialised) countries on course to meet its Kyoto Protocol reduction target. However, a significant proportion of the UK's emissions reduction since 1990 resulted from a switch away from the use of coal and oil in the energy supply sector, and it is worth noting that the extent of annual emission reductions has been declining significantly since then. For example, according to the figures in the UK CCP 2006, total greenhouse gas emissions reduced by on average 3.4MtC per year between 1990 and 1995, but this rate has declined to 0.4MtC per year on average between 2000 and 2004 (see Table 2, p28). This suggests that the impact, in terms of emissions reductions, of climate change policy has declined significantly in recent years.

### 2.1 International leadership on climate change in 2005

In his special address to the World Economic Forum in Davos in January 2005, Prime Minister Tony Blair stated: 'I am committed to using the UK's G8 and EU Presidencies to try to make a breakthrough on Africa and climate change.' By making climate change one of the main priorities on the agenda of both Presidencies, the UK was seeking to advance multilateral cooperation on an issue of crucial importance to the international community, as well as to affirm its own position of European and international leadership on both these issues.

It would be an overstatement to claim that a real breakthrough was achieved on climate change in 2005, but some significant progress was made on a number of fronts in what has always been a slow-moving and incremental process. The UK's efforts certainly contributed to this progress.

The Scientific Conference on Climate Change hosted by the Met Office in Exeter in February 2005 provided an important forum for the international scientific community to review the latest scientific evidence on climate change. The impact of the Exeter conference was further enhanced by a Joint Statement of the Academies of Science of the G8 Countries, China, India and Brazil.

On the political front, the G8 Presidency's main achievements are probably to have forced G8 leaders to devote unprecedented attention to climate change at the highest level, and to acknowledge that this is a major political and economic challenge for the international community, as well as an environmental one. The speech delivered by the Chancellor of the Exchequer at the Energy and Environment Ministerial Roundtable in March 2005 brought home forcefully the point that climate stability is an issue that should be considered central to economic policy. He also stated that the reduction of greenhouse gas emissions can go hand in hand with strong economic performance, and probably never before had this point been made so clearly and prominently by a finance minister.

Politically, this seems more significant than the fact that President Bush eventually signed up to ambiguous language in the Gleneagles Communiqué admitting that "*we know enough to act now to put ourselves on a path to slow and, as the science justifies, stop and then reverse the growth of greenhouse gases.*" The Gleneagles Plan of Action on Climate Change, Clean Energy and Sustainable Development is certainly the most detailed G8 policy statement on the issue to date, but the Presidency was forced to water down its original draft considerably to secure consensus. Most of the action it provides for will have to be undertaken in fora other than the G8. Implementation will, therefore, depend on the willingness and ability of G8 members to consistently pursue this agenda and convince other partners to support it. In view of the G8's poor record in implementing its own policy recommendations, however, the practical importance of what was agreed upon in Gleneagles can be doubted, all the more so given the current Russian G8 Presidency's focus on a very traditional, demand-driven energy policy agenda.

The UK Presidency of the EU in the second half of 2005 was focused on preparations for the UN climate change meetings in Montreal at the end of the year (COP11 and MOP1 \*), building on the work already done by the previous, Luxembourg Presidency. Mainly as a result of the combined efforts of the EU and the Canadians (the hosts of the meeting), a decision was taken in Montreal to initiate talks on the future development of the climate regime. Two strands of effort will be taken forward during 2006; one under the Kyoto Protocol on future commitments and the other under the Framework Convention on 'long-term cooperative action'. This provides the EU with a forum to continue pursuing both tracks of its agenda at the global level. There is, however, no guarantee of result, especially since the COP decision states that the 'dialogue' that it mandates 'will not open any negotiations leading to new commitments' under the Convention.

While it would therefore be premature to speak of a breakthrough, this outcome can nevertheless be considered successful under the circumstances. The main achievement of EU/UK leadership was that it managed to avoid a stalemate in Montreal, which would have broken the momentum resulting from the entry into force of the Kyoto Protocol and created great uncertainty about the future direction of climate change policy. A failure to keep the process moving would have been perceived as a negative signal by investors and been very detrimental, in particular, to the further implementation of the Clean Development Mechanism (CDM). Instead, the Kyoto Protocol acquis was secured and the prospect of more ambitious global action beyond 2012 maintained.

More than any previous presidency, the UK Presidency integrated the climate change agenda into its approach to the EU's external relations policy. Climate change was put high on the agenda of bilateral summit meetings with major partners, in particular India and China. This resulted in the launching of an India-EU Initiative on Clean Development and Climate Change and the adoption of a Joint Declaration on Climate Change between China and the EU announcing the establishment of an EU-China partnership on climate change, both centred on energy technology cooperation and the promotion of joint CDM projects. These bilateral initiatives provide a useful match to similar US moves to develop bilateral cooperation with these key countries within the framework of the Asia-Pacific Partnership for Clean Development and Climate, which the US and Australia are championing as a technology-based alternative to the Kyoto system of binding emission reduction commitments. Critics, however, have pointed out that this new EU cooperation with China and India is heavily biased towards 'clean coal' and carbon capture and storage technologies, an option that is also strongly promoted by the G8's Gleneagles Plan of Action.

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\* COP stands for Conference of Parties and in this instance refers to those signed up to the UN Framework Convention on Climate Change, MOP stands for Meeting of Parties and in this instance applies to those signed up to the Kyoto Protocol.

The UK's climate change policy is sometimes perceived in the rest of the EU as wavering between loyalty to the EU position of strong support for the Kyoto Protocol and a continuous striving to bridge the gap with the US. This balancing act always carries the risk of harming the coherence and consistency of the EU position and UK leadership within the EU. An unfortunate incident in this respect was Tony Blair's comment in New York in September 2005 that he had 'changed his mind' on Kyoto, which contrasted with the unambiguous 'I support the Kyoto Protocol' statement he had made in Davos in January. The New York statement cast some unwelcome doubt on the firmness of the EU position at a time when Environment Secretary Margaret Beckett was preparing to lead the EU delegation in Montreal.

## **2.2 UK's leadership on emission reduction policies**

Besides the engagement of international partners on climate change, the UK can also boast a considerable success under its Presidency of the EU in that it succeeded in advancing the policy-making process on aviation emissions. This had been a major gap in EU policy ever since the Sixth Environmental Action Programme first called for measures in this area in 2002. In December 2005, the Environment Council adopted conclusions on 'Reducing the climate impact of aviation', which give the Commission a clear mandate to bring forward a legislative proposal for the inclusion of the aviation sector in the EU ETS by the end of 2006 (see section 6 for further discussion).

The second phase of the European Climate Change Programme (ECCP) also began in 2005. The first phase of the ECCP initiated discussion at the European level among Member States and other stakeholders, which led to the introduction of a number of Directives, now part of the UK policy portfolio and reflected in the 2006 UK CCP, eg those on the promotion of biofuels in transport and on fluorinated gases. Working effectively with other EU Member States in this way is important, as it has the potential to result in a more unified European approach, which, in turn, should reduce any potentially negative impacts, eg with respect to competitiveness between Member States. The current phase of the ECCP is focussing on a number of policy areas, such as the future of CO<sub>2</sub> storage.

However, the UK cannot, and would not want to, rely solely on measures originating from the EU to reduce its emissions, particularly as some areas, such as fiscal policy and areas of energy policy, are not within the competence of the EU. Reform of vehicle excise duty and the introduction of the climate change levy are two examples of national policy instruments that have delivered emissions reductions.

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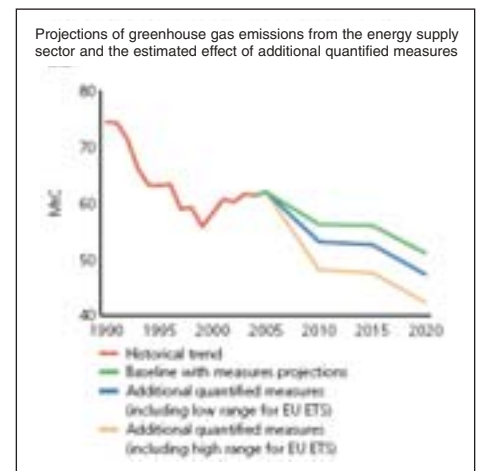


## 3. Energy supply

Emissions from electricity generation have fallen substantially since 1990 (see figure), largely due to the shift from coal to gas. The 2000 Climate Change Programme foresaw that reductions in emissions from the sector through 2010 were anticipated due to:

- continued fuel switch to gas from coal;
- reaching the 10 per cent renewable energy target; and
- doubling combined heat and power capacity.

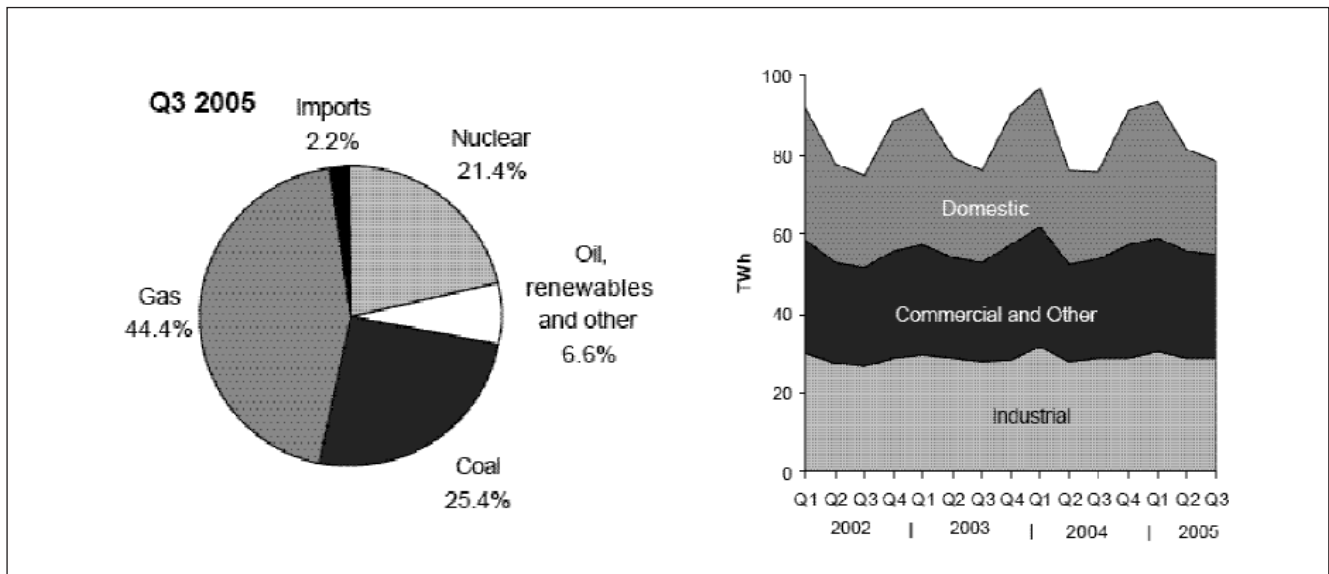
In the longer term, hard choices are needed, as switching from outdated coal-fired plants to gas has almost run its course, and nuclear plants will begin to be decommissioned by 2005, and two-thirds could be offline by 2012. The 2006 Programme underlined that energy supply emissions rose by 3.2 MtC between 2000 and 2004, reversing the downward trend from 1990. While future scenarios show reductions from this point forward, high gas costs relative to coal make for a challenging environment.



### 3.1 Introduction to energy supply and climate Issues

Energy supply refers primarily to electricity production, but also includes production of oil, gas and coal fuels. The UK's electricity mix is currently divided between gas, nuclear and coal, with renewable energy, oil and imports making up less than 10% of the electricity consumed (see Figure 5). Consumption is divided quite evenly among industrial, commercial and domestic consumers, with greater seasonal variation for domestic users and the peak use in winter.

The UK has strong renewable energy resources, but ranks only 14th of the EU-15 in terms of the amount of the potential that is being exploited. This is largely due to historical inattention, given the existence of plentiful domestic gas and coal resources, and heavy investment in nuclear energy. Policy has also been less effective than it might have been, particularly the Non-Fossil Fuel Obligation (NFFO). This encouraged low-bid contracts that frequently failed to be fulfilled; and in combination with planning difficulties for wind farms, progress was limited. NFFO was replaced by the Renewables Obligation (RO) in 2000 in England and Wales, and in 2002 a RO in Scotland replaced its previous obligation that was similar to the NFFO. Plans for a NFFO replacement are still ongoing in Northern Ireland.

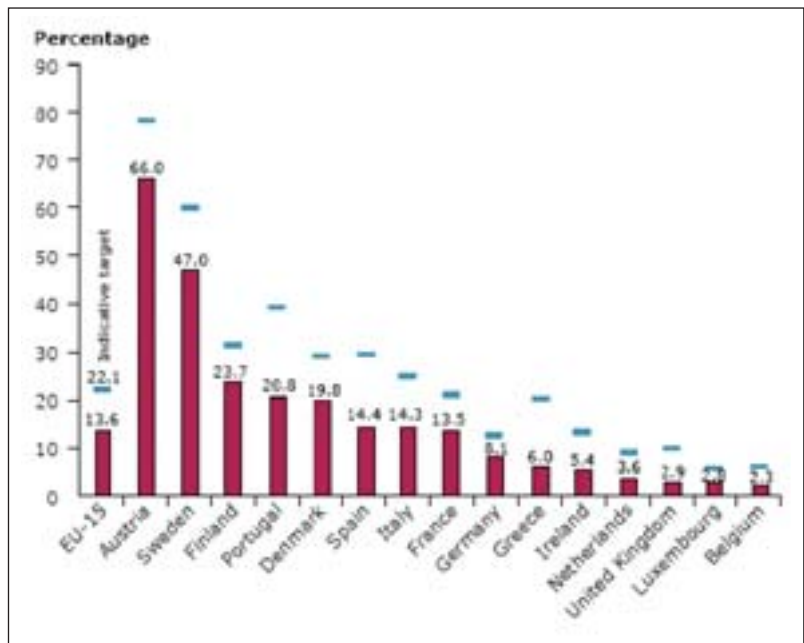


**Figure 3 – Diagrams outlining the mix of energy sources currently used in the UK for the generation of electricity**  
source - Department of Trade and Industry

The ambition of UK renewables policy is significantly less than that in other Member States. Figure 4 underlines that not only is the UK’s 2010 target for renewable energy lower than that of the majority of the EU-15, but also in 2002 the UK was comparatively a long way from hitting this target. It also illustrates how far the UK is behind leading Member States and the EU average in terms of the percentage of electricity generated from renewable energy sources. Box 1 details renewable energy support in the UK and examines why we are failing to utilise its potential and falling short of ambitions to do so.

The stakeholder review of CCP energy sector policies unsurprisingly revealed as many positions as there are energy sources on which technologies should be supported, with each industry pushing its own agenda (see Box 2). A combination of fiscal incentives (obligations, etc), capital support (grants), and revenue support for demonstration projects was suggested, with different groups supporting different focus technologies for these forms of support. The nuclear industry speaks of ‘keeping the nuclear option open’, which intentionally avoids provocative language, but implies life extension and new nuclear investment. A consortium of industry groups felt that CCS demonstration projects should be supported with £100m in the next five years; a Scottish group noted that Scotland has strength in carbon capture technology due to the presence of the oil industry, and should capitalise on this knowledge. NGOs are keen on new financial measures for offshore wind energy development, additional support for wave and tidal power, and extending renewables targets to heat.

In terms of energy supply, the CCP is overshadowed by the Energy Review, which is being conducted contemporaneously with it. The way forward in terms of energy policy for the future is therefore by no means clear at present. Importantly, it is also uncertain exactly how climate concerns will be integrated firstly into the review, and there on into future energy concerns.



**Figure 4 - Targets for 2010 and share of electricity production met by renewable energy sources in 2002**

source - European Environment Agency

## Box 1 – Renewable energy support schemes: falling short of potential

The most recent assessment of annual renewable energy data, from 2004, shows that renewables provided 3.6 per cent of the electricity generated: 14,171 GWh, an increase of 33.2 per cent on 2003. Using the definitions used in the renewable energy Directive, the amount was 4.4%. While growth is now high, it is building on a low base.

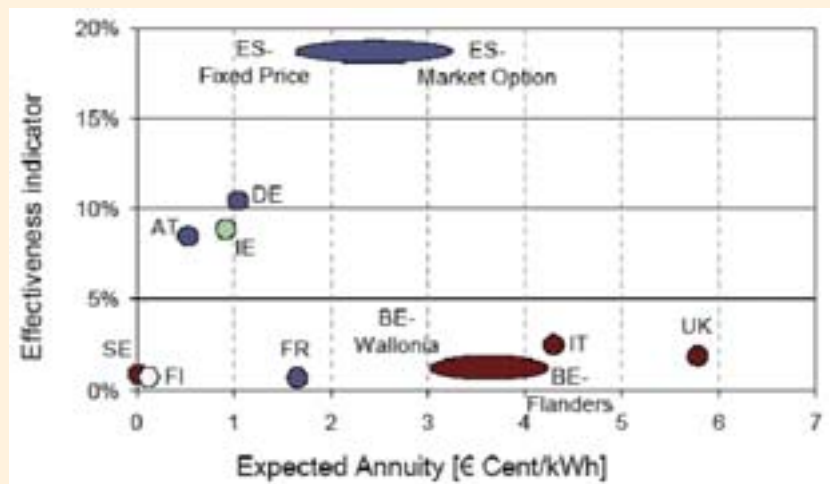
A review by the Commission of renewable energy support schemes around Europe, released in December of 2005, evaluated current renewable energy policy and support schemes in light of a country's potential by the year 2020. It found that UK policy generally had quite low effectiveness – for example, less than 1per cent of the amount of onshore wind that could feasibly be installed by 2020 is being added year on year – in other words, the potential total will be badly missed. For biomass electricity, the effectiveness is just over 1per cent and for photovoltaic energy it barely registers above zero.

What is particularly interesting is that England, Wales and Scotland have chosen renewables obligations and exemptions from the climate change levy that, when converted into monetary terms, are quite generous compared to the support in other countries where support is deemed more effective (figure below is for wind, indicative of similar results in other technologies).

These results highlight the importance of choosing a proper instrument to achieve the best results. The Commission's review finds that feed-in tariffs are very effective in driving take up of renewable energy by comparison with quotas.

It is further important to note that these figures are based on 2020 potential, not 2010 targets – while the latter may indeed be reached with current policy, it is the ability to achieve the full potential that is important in the longer term, when far deeper greenhouse gas emissions cuts are required and harder choices will have to be made about investment in energy sources.

source - European Commission



### 3.2 Lessons learnt

- The CCP review deferred decisions about energy policy to the Energy Review, currently ongoing. There remains a significant disconnect between these two processes.
- A key tool remains the use of renewable energy; however, the UK remains behind in terms of ambition and achievement in this. The UK continues to fail to capitalise on the huge potential offered by renewable resources.
- It is vital that the correct instruments are utilised to encourage renewables, as demonstrated in box 1.
- There is a need for long term vision for energy supply. This must put instruments in place now for the future, fully taking into account the importance of reducing emissions into the long term and preventing the continuance of the current upward trend in emissions from energy supply.

### 3.3 The way forward and the CCP

Although the UK will have to make serious efforts to reach its renewables and CHP goals, it is in a more comfortable position than many other countries in Europe with respect to meeting its Kyoto Protocol burden sharing target (-12.5per cent). In the period to 2010 the UK can envision meeting its obligation with largely current trends, and some extra effort on renewables. However, climate targets thereafter will have to focus far more on energy choices. While the CCP review primarily focuses on the short term, during the Kyoto Commitment period, the recently launched Energy Review will mostly address the longer term. The key question for UK policy is how the two can be reconciled.

The 2006 CCP presents graphics showing a significant upward trend in emissions from 2000 to 2004, but this negative trend is never mentioned in the text of the Programme; it resolutely only refers to the difference between current emissions and the 1990 baseline. Most of those emissions reductions date from the period 1990-1994. However, future emissions are predicted to fall again, with the extent of reduction significantly depending on the ambition of the second period EU ETS allocation – and this is as yet essentially unresolved (see chapter 6).

The document notes progress in current policies, particularly the implementation of the EU ETS and increasing success under the Renewables Obligation. 450MW of wind capacity was added in 2005, double the level of 2004. However, the text is typical of the report overall by failing to mention either the review noted in Box 1, or the very significant obstacles to siting projects (evidenced by the high profile rejection by Ministers in March of the Whinash wind power project in Cumbria, which would have been the largest onshore development of its kind in the UK).

There is very little in the way of new emissions reductions planned – 3.0 to 8.0 MtC from the next round of the EU ETS and 0.1 MtC from the subsidy for biomass heat are the only concrete figures. It is also cited that CHP will ‘be fully considered’ in the next National Allocation plan (NAP), while the low carbon buildings programme (oddly included in the ‘energy supply’ chapter) will be reformed and enhanced.

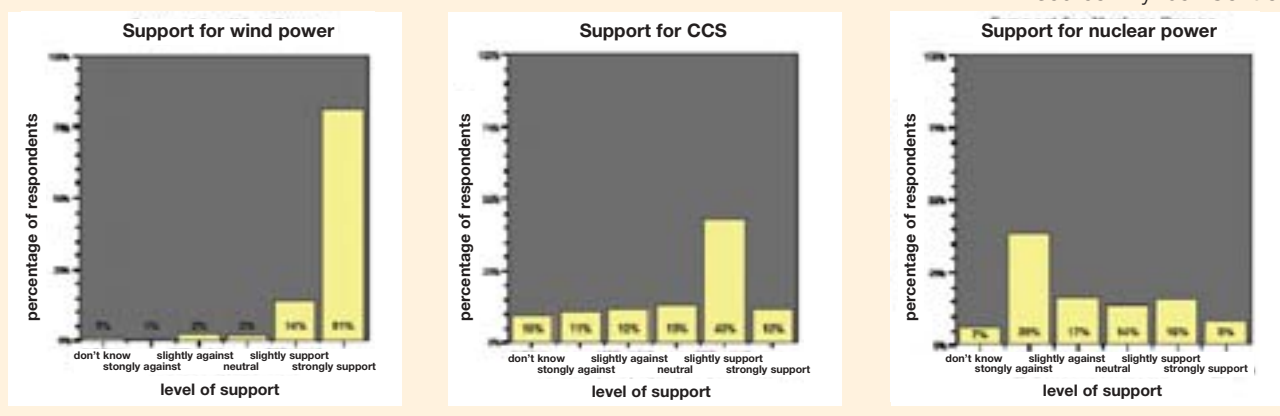
## Box 2 – What is ‘clean’ energy, and how should it be supported?

When discussing energy in the climate policy context, inevitably many other factors are collapsed into the discussion. Support for low-CO2 energy could be based on the amount of CO2 avoided, making nuclear appear attractive but sidestepping safety and waste issues; or it could be based on how far down the RD&D chain a technology is, making CO2 capture and storage as worthy of support as renewable energy, even though it relies on ever-scarcer fossil fuels and is backed by huge economic interests; or one could attempt to fashion support that responds to public preferences, yielding massive support for solar energy despite there being relatively little solar resource in the UK.

The UK is now facing a situation where it has supported very strong long-term climate change commitments, but where policy is bifurcated into market-oriented policies that will support current technologies, and quite limited R&D support for long-term development of clean energy on what amounts to an ad-hoc basis. One important aspect of the UKCCP will have to be to link up with the energy review in discussing what kinds of energy receive what support, and for what reasons, finding the arguments that recognise the importance both of climate and of other factors.

While nuclear power is already contributing significantly to baseload power, decommissioning is beginning now and will take much of it offline in the coming decade, just as concerns about both energy supply and climate change heat up. CCS, meanwhile, is emerging as a purely climate-driven mitigation option, but where questions remain about both the acceptability of a fossil-fuel driven climate mitigation option, and the sincerity of its corporate backers. The public is far more enthusiastic about wind, solar and efficiency than either CCS or nuclear (figures below – the results for wind are almost identical to those for solar and efficiency measures). Any future support policy will have to balance the need for new clean energy sources with factors related to safety, the effectiveness of support, the legitimacy of the need for support, and public acceptance.

source - Tyndall Centre





Aside from reductions to be realised through emissions trading, renewable energy and efficiency through 2010, the major issue with respect to energy supply is the broader discussion of how to yield the major emission reductions perceived necessary in the future – such as to meet the 60 per cent ambition by 2050 - while gas prices are high and nuclear plants are going offline. The programme essentially defers all of these important discussions to the ongoing energy policy debate. In addition, it fails to provide insights into the needed outcomes from that process from a climate change perspective, perpetuating the disconnect between climate and energy policy noted in the first CCP.

While considering issues concerning the supply of energy, it is also vital to address the need for the conservation of energy and its more efficient use. Supply side policy needs to be balanced with a strategic view of energy conservation and the extent to which this can be accelerated using the appropriate incentives. The 2006 CCP does look at energy efficiency within sectors but does not take an overview of these issues as a whole. It is essential that supply and conservation measures are integrated and that the latter is considered in relation to any review of the former.

**The UK is considered to be a relative laggard in its actions on energy supply in relation to climate change policy. This is based on the perceived disconnect between energy and climate policy making and the manner in which key issues have been dealt with (notably renewables) when compared to action elsewhere in Europe. The government could alter this position by including proactive, well thought-out climate solutions in the energy review and truly setting out a plan for the long term which will make the most of the extensive renewable resources the UK has at its disposal.**

Leader



Laggard



## 4 Agriculture

**Farming both produces and absorbs greenhouse gases; this complicates the issue of climate change in the agriculture sector. In 2003, it accounted for 9 per cent of total UK emissions, while land use and forestry also provided a sink for about 3 per cent of the total <sup>11</sup>. Emissions have been in decline since 1990, largely due to a change in the intensity of working practices and inputs. Now and in future, there are opportunities for agriculture to contribute more to meeting climate targets.**

### 4.1 Introduction to agriculture and climate issues

Agriculture is rather distinctive in that it both contributes to greenhouse gas emissions through, for example, methane from livestock and nitrous oxides from fertiliser inputs and it also offers the opportunity for mitigation through the absorption and storage of carbon in crops and soil. In addition, there is the potential to produce or increase utilisation of biomaterials from farmland. All three aspects are considered briefly in this chapter. Environmental priorities within the agricultural sector have tended to be framed in terms of impacts on biodiversity, water and soil.

Farming policy is guided by agreement at the European level, with the Common Agricultural Policy (CAP) forming the overarching framework. Two recent reforms of the CAP in 1999 and 2003 have seen a significant shift from production-linked incentives to a much greater focus on land management and broader rural development. Climate change policy has not been explicitly addressed, but has benefited from some reduction in intensity of agriculture and improved nutrient management.

The recent CAP reforms in 2003 reduced the link between subsidies and production, with the new Single Payment Scheme requiring the attainment of minimum environmental standards. While the impact of the reforms is likely to take a number of years to be fully realised, there are expected to be changes in resource use, with implications for greenhouse gas emissions. On the one hand there may be an intensification and concentration in some sectors, possibly leading to emissions growth, on the other, technical change and extensification of land management will reduce emissions.

Up to now, climate objectives have played little part in driving the CAP and the political benefits have been insufficiently considered. The indirect influence of agricultural policy in tackling climate change is acknowledged

more clearly in the 2006 Climate Change Programme than in the original Programme. However, very few of the proposed actions in the new Programme really seek to address this. Active engagement by the UK at the European level, as proposed in the Programme, to ensure future reform explicitly considers climate change.

More specifically the increased production of biomass and biofuels potentially may result from greater incentives for farmers and the restructuring of agriculture. Some incentives are provided through the Energy Crop Scheme and the Energy Aid Payment subsidy of €45 per hectare. To date, the development of biomass and biofuels production has been slow, however, with a number of barriers, including the previous lack of political commitment<sup>12</sup>. This is changing with a shift to a longer term perspective. At the EU level there are new drivers in the form of the recently released Biomass Action Plan and the accompanying Biofuels Strategy. In the UK, the report recently published by the Biomass Task Force set out clear recommendations for taking forward biomass use in heat and power. The initial progress in developing liquid biofuel capability in the UK has been slow relative to many other Member States. However, following the launch of the Renewable Transport Fuels Obligation (RTFO) in 2005 and the biomass heat support scheme announced in the 2006 Climate Change Programme, momentum appears to be gathering. Utilising the correct policy tool for market stimulation together with appropriate environmental safeguards is likely to be essential.

The development of the bio-energy crop sector over time is likely to represent a significant cultural shift for farmers, particularly in relation to the second generation crops such as short rotation coppice and miscanthus. These have the potential for greater life cycle greenhouse gas savings but are likely to be exclusively non-food crops with no alternative market. Gaining producer confidence in the development of the bio-energy market and the domestic market price for these crops will be key to the conversion of agricultural land for this use. Creating the right long term incentives through the design of schemes such as the RTFO will be essential to ensure that the transition between energy crop generations is made whilst at the same time taking full account of the environmental implications and limitations.

Although it is early days, the opportunity to innovate and capitalise on these policy developments is beginning to occur. Argent Energy in 2005 opened the UK's first biodiesel plant in Motherwell, Scotland for the refining of recycled cooking oil and tallow, a by-product of the meat processing industry. Environmental and sustainability certification (See Box 3) will need to be carefully designed to meet environmental needs whilst ensuring that the market continues to progress, with CO<sub>2</sub> savings likely to be significantly greater for second-generation fuels, whether these are from the UK or abroad.

Looking to the future, the opportunities for agriculture to contribute to climate change policy in the UK are considerable. The next generation of Rural Development Plans (RDPs) for England, Scotland, Wales and Northern

### **Box 3 – Biofuel certification**

**The origin of biofuels and their method of production have implications both for their total carbon reduction potential and for their overall environmental impact. For first generation fuels, issues such as the farming practices used to grow and harvest them, the method of transformation into fuel and the transportation of the raw material or fuel to the market all affect their environmental footprint and sustainability. It is therefore critical that the promotion of biofuel use is closely tied to a requirement to monitor the origin and character of the production chain to improve transparency and accountability.**

**The UK is taking a lead on the development of such a certification system. The Department for Transport (DfT) has commissioned a study into the carbon and sustainability certification of the RTFO . A certification system will form a significant part of the RTFO<sup>13</sup>; with the aim that carbon savings and the sustainability of biofuels are assured by suppliers. The Low Carbon Vehicle Partnership has carried out a 'well to wheels' assessment of ethanol from wheat, highlighting the wide variability in the emissions reductions possible depending on a range of variables<sup>14</sup>. In the UK, the promotion and application of good agricultural practice to minimise negative environmental impacts creates the potential for developing comparative advantage in the market for biofuels. A balance will also need to be struck between the pursuit of liquid biofuels and the development of biomass for heat and power, in relation to the efficiency of carbon savings and overall sustainability.**

## Box 4 – Energy security and a long-term strategy for agriculture

Current issues of energy security over both the short and longer term point to a greater role for the agricultural sector. Fossil fuels are increasingly being imported. This not only lengthens the supply chain, increasing the risk of disruptions, but also creates an import dependence on countries often in geopolitically unstable areas of the world. Through the diversification of agricultural production into domestically produced energy crops, the potential exists to create climate change benefits alongside some improvement in energy security.

Sweden provides a demonstration of the use of short and long term policy in order to develop the market for bio-ethanol. In the short term the creation and growth of the market is being pursued by the use of first generation fuel imports. A key market driver is the use of public procurement of bioethanol buses for the fleet in Stockholm. In parallel, research and investment in the use of residues from the forestry industry for second generation fuel production is being pursued for the eventual replacement of first generation as the technology matures. The eventual aim is for Sweden to become an oil-free economy. This approach clearly necessitates a long term perspective supported by immediate action.

Ireland runs from 2007 to 2013. Central themes will be the diversification of the rural economy and improving the environment. These provide a helpful backdrop for the greater development of biomass and biofuels both as a crop and for sequestration purposes, as proposed in the 2006 Climate Change Programme. Increasingly, the use of innovative measures at the regional and local scale is creating the momentum for greater commercial uptake. The Willow for Wales<sup>15</sup> scheme, for example, a short term demonstration project concerned with the development of short rotation willow coppice, engages farmers and their potential market whilst also considering the implications for biodiversity. Schemes like this will need support but the resources available within the RDP are relatively limited. In a wider perspective, both reductions in energy consumption and the substitution of fossil fuels by biofuels can make some contribution to energy security (see box 4). However, there are also opportunities for agricultural products to substitute for energy-intensive materials such as plastic and concrete. Appropriate innovation and planning can be supported through RDPs and other policies.

Finally, adaptation of the natural environment to climate change will also raise issues for agricultural practice. For example, it is desirable to enable wild species to adapt more effectively to the changing climate through migration and restocking of appropriate habitats. In places this will require an environmentally-permeable landscape and suitable corridors; a challenge for land use planning and agri-environment policies.

## 4.2 Lessons learnt

- Agriculture's relationship with the climate is complex: although agricultural activity generates greenhouse gas emissions, it can also potentially lead to sinks for carbon. Agricultural products also offer an alternative source of energy offering potential savings in terms of carbon emissions compared to the use of fossil fuels.
- Agricultural policy is not currently focused on climate change and at the next stage of CAP reform, possibly around 2010, climate issues need to be made more central.
- Biomass and biofuels have the potential to contribute but this will necessitate the removal of barriers to their wider development. In the UK market growth should occur only where there is a clear climate benefit and acceptable environmental outcome, with crop certification as one tool needed as quickly as possible.
- The next generation of Rural Development Plans provide a potential tool for progress in the short term but these account for limited resources; more will be needed to make a substantive impact.

## 4.3 The way forward and the UK CCP

The continuing downward trend in greenhouse gas emissions from the agricultural sector suggests that further progress might be made without explicit new policy interventions – but only for a time. The projections from the 2006 Climate Change Programme themselves indicate that this path cannot be sustained beyond 2010, with a 5 per cent growth in emissions predicted between 2010 and 2020. While likely to be subject to a great deal of uncertainty, this underlines the message that climate change needs to be more explicitly part of agricultural policy in the future.

It is clear from the 2006 Programme that some of the remedies can be introduced only at a European level through the CAP. Here the UK has a potential role to play as a leader, looking ahead to the climate challenge but avoiding an uncritical view of the role of biomass and biofuels in European agriculture. It is preferable to focus on promoting the demand for sustainable bioproducts and improving the carbon performance of agriculture than to introduce large scale subsidies for production of first generation biofuels, as some lobbies are proposing.

The 2006 Programme envisages the use of market-based mechanisms such as emissions trading to bring about future reductions in the sector. While this potentially provides some grounds for future cuts, it must be carefully designed to fit the special characteristics of agriculture, including the challenge of verification and to maintain the integrity and success of the existing scheme. In order to provide a useful long-term signal, the government needs to make practical issues of workability more prominent and more explicit than is currently the case.

**There is a downward trend in agricultural emissions at present, and this is coupled to some relatively proactive measures on the part of the government to take forward the use of biofuels. In addition the agricultural sector has been considered in the most recent CCP review to a greater extent than previously. However, there are still important decisions to be made about the way forward in domestic policy including the RDPs. A more proactive domestic and European approach could make the UK a significant leader in this field.**

Leader



Laggard



## 5 Transport

**Greenhouse gas emissions from transport are increasing faster than from any other sector. They are expected to increase by around 9 per cent over the period 2000 to 2010, which will represent almost a 20 per cent increase on 1990 levels. In 2002, total greenhouse gas emissions from the sector accounted for around a quarter of the total and this proportion is rising, due to the reductions achieved in other sectors. Aviation accounts for around 5.5 per cent of emissions, although if radiative forcing is taken into account the total rises to around 11 per cent; by 2030 under current projections this share could increase to 33 per cent.**

### 5.1 Introduction to transport and climate Issues

The rising emissions from the transport sector arguably represent the largest short-term challenge. While environmental issues now play a significantly greater role in decision making than was once the case, the shift away from ‘predict and provide’ – at least for road transport – to the use of more sophisticated policy tools has only been partially successful. In the face of falling real costs of motoring, rising public transport costs, the expansion of cheap flights and rising incomes, the increasing demand for mobility is driving the increase in transport’s climate change impact. Climate change policy in the transport sector can broadly be categorised under three headings: policy originating at EU level; the use of economic instruments; and the implementation of the broader transport policy agenda set out in, for example, the 1998 and 2004 White Papers and the Ten Year Plan of 2000.

In 1998, the European, Japanese and Korean car makers (ACEA, JAMA and KAMA) signed voluntary agreements with the European Commission to reduce average CO<sub>2</sub> emissions from new cars by 25 per cent from 1995 levels by 2008/9. Although some reduction has been achieved, progress in the UK has lagged behind other Member States and there is a growing consensus that the target for 2008/9 will not be met. This is acknowledged by the 2006 Climate Change Programme and while it reiterates its commitment to the development of further targets beyond 2008/9, the level of ambition is low (0.1 – 0.7 MtC) and requires the attainment of a further agreement at the EU level. The use of a voluntary agreement as an effective tool is increasingly being called into question, contrasting sharply with the success of regulation in limiting other air pollutants. In light of experience with the current voluntary agreement, the commitment of the UK to proactive engagement for future commitments at the EU level should consider the use of other tools.

A further strand of the EU strategy to reduce CO<sub>2</sub> emissions from passenger cars was the introduction of a fuel economy label. In 2005, the UK introduced a colour-coded label for new cars that went beyond EU requirements

on a voluntary basis, and which was further developed in the 2006 Budget. The Low Carbon Vehicle Partnership was instrumental in bringing together environmental groups and other stakeholders to develop a consensus on the form of the new label. However, the evidence to date regarding the effectiveness of fuel economy labels on influencing purchasing decisions is inconclusive <sup>16</sup>.

The UK was the first country in Europe to introduce vehicle tax reforms to take account of CO<sub>2</sub> emissions (see box 5). The proposals to develop national road pricing, if correctly designed, also offer the opportunity to internalise a number of the external costs that transport imposes on society, including greenhouse gas emissions. Fiscal incentives have also been used to encourage the development of a market for alternative technologies, for example the Energy Saving Trust's Powershift programme, but these have had a mixed success, largely owing to issues of levels of funding and competition policy. The loss of this grant along with the slippage of the manufacturers' voluntary agreements calls into question the attainment of the Powering Future Vehicles Strategy target of 10 per cent of all new car sales to be cars emitting 100gCO<sub>2</sub>/km or less by 2012.

The government has recently underlined its commitment to alternative fuels, repeated in the 2006 Climate Change Programme, through the proposal for a Renewable Transport Fuels Obligation (RTFO) due for introduction in 2008. This will require all UK road fuel suppliers to provide 5 per cent of their fuel from renewable sources by 2010 (see chapter 5 for further discussion of biofuels). The UK has also been active in pushing for the extension of the emissions trading scheme (see chapter 7) to include aviation (box 6).

Through the Ten Year Plan for transport and the Future of Transport White Paper, the use of broader transport policy to contribute to climate change has been quantified. The initial target from the 2000 Climate Change Programme was a reduction of 1.6 MtC; however, for the 2006 Programme, this has been revised down to just 0.8 MtC in 2010. Critical to the attainment of any reduction is sustained investment in the public transport network and 'soft' measures combined with a package of demand management measures. Demand management is crucial to the success of transport policies as part of a package, with the original targets envisaging twenty local authorities introducing road pricing or workplace parking charges and a cut in congestion of 6 per cent by 2010. Instead road traffic is continuing to grow with an increase of 5.6 per cent in private car use between 2000 and 2004. To date only London and Durham have introduced road-pricing policies and, while there has been interest from other cities,

### **Box 5 – Fiscal instruments: the use of taxation**

**In 2001, the UK introduced a system of graduated charges based on CO<sub>2</sub> emission bands for the annual vehicle excise duty (VED) for cars. Following the recent budget changes intended to contribute to the 2006 Programme, there are now seven bands with a price differential of between £200 and £215 (depending on the fuel) intended to create an incentive to purchase lower-emitting vehicles. In 2002 the company car tax scheme was also restructured to reflect CO<sub>2</sub> emissions, at the same time removing the perverse incentive of the old system to drive unnecessary business miles. Evidence for the success of these schemes suggests that while the company car tax has achieved a significant alteration of the market and reduction in average new car CO<sub>2</sub> emissions <sup>17</sup>, the impact of graduated VED has been less substantial, largely outweighed in the vehicle purchasing decision by factors such as size and comfort <sup>18</sup>.**

**A proposed 'feebate' scheme in the Netherlands provides an example of the use of taxation to more directly influence the vehicle purchasing decision by affecting the upfront cost. It involves the restructuring of vehicle purchase tax to reflect a vehicle's CO<sub>2</sub> emissions. The new system will be linked to the seven energy efficiency label categories displayed on vehicles in car showrooms. Cars in bands A and B will receive a rebate on the tax of €1000 and €500 respectively, while cars in bands D to G will face an increase in fee of €500. Previous evidence, from an earlier system that operated only in 2002, suggests that the scheme should increase the proportion of cars purchased from bands A and B.**

**The success of fiscal policies in the form of taxation to influence new car CO<sub>2</sub> emissions is largely based on the design of the scheme and the way that the cost savings from lower emitting vehicles are presented to the consumer. Achieving greater reductions in CO<sub>2</sub> from the private car market in the UK is likely to necessitate the further evolution of the current instruments in use, with the need for greater ambition in the use of the price signals creating both the sticks and carrots, such as a feebate system, to influence consumer decisions.**

## Box 6 – Aviation and the EU Emissions Trading Scheme (ETS)

During the 2005 UK Presidency of the EU, a clear commitment was made to introduce a proposal to include aviation in the next round of emissions trading. Originally it was hoped that aviation might be included in phase II of the scheme beginning in 2008, but in practical terms this is increasingly unlikely to be possible. The political tide, however, is such that aviation emissions will now very likely be included in the EU ETS, but probably not before the start of phase III from 2013.

Greenhouse gas emissions from aviation are expected to increase significantly between now and 2013, although they fall largely outside the national inventory. As a consequence, even if aviation is included into emissions trading there is a need for action in the intervening years to mitigate the level of emissions growth. 'No regrets' policies should be implemented. These could be used to prepare the industry for likely emissions trading; prior to the incorporation of other industries into the EU ETS a wide range of measures was in place helping to develop understanding and reduce emissions. These intermediary tools should also be utilised with aviation in order to begin the process of making the costs of aviation representative of its broader impacts.

Emissions trading is a valuable tool, but should be part of broader policy mix utilised to help reduce emissions from aviation. Trading works most effectively when coupled with other measures, driving change via alternative routes – on its own, emissions trading will not necessarily address underlying drivers of demand. It should also be noted that the practical problems of implementation a emissions trading scheme encompassing aviation are likely to prove significant<sup>19</sup>. In conclusion, if emissions trading is pursued for aviation this should be coupled with other measures both prior to the commencement of trading and to support the trading system.

none has implemented a scheme to date. Much of the reticence has been blamed on the previous lack of commitment from the government and fears over the economic consequences of tackling demand. The revision to the ambition of the savings perhaps reflects a more realistic goal for the often-competing demands of wider transport policy. However, this also serves to highlight that the longer term commitment to climate change is being overridden by other pressures and that a more strategic approach is needed. In the words of Professor David Begg of the Commission for Integrated Transport speaking on the Ten Year Plan in 2002:

*Delivery means a balanced package including both investment and traffic management strategies.  
We can't build our way out of the congestion problem and good public transport,  
while an essential prerequisite, is not enough.*

**David Begg**

## 5.2 Lessons learnt

- The transport sector has experienced the application of a number of new and innovative policy instruments to attempt to tackle the emissions of greenhouse gases, although these have so far not delivered a significant amount.
- The release of the 2006 Climate Change Programme, while providing some additional policy initiatives such as the RTFO, lacks long term ambition in tackling transport emissions, as it anticipates that the sector's emissions will continue to increase.
- The differentiation of vehicle and company car taxes by CO<sub>2</sub> emissions has clearly been a step in the right direction, but arguably the VED differentials are still not sufficient to provide the necessary price signals. In the meantime, other countries, eg the Netherlands, are developing more innovative economic instruments for reducing transport's emissions.
- The potential inclusion of aviation in emissions trading – in all likelihood from 2013 – is a step in the right direction, but there are no policies to reduce aviation's increasing impact on the climate during the significant period prior to trading. These are needed to combat fast-increasing emissions, and to help prepare the sector and regulators for regulation and to support the EU ETS. Trading as a tool is less effective in isolation and should be supported by appropriate measures and instruments.



- The likely failure of the EU-level voluntary agreements to meet the CO2 emissions target for cars, and the downward revision for reductions for a range of transport measures set out in the various UK strategic documents, clearly illustrate that the policy instruments to reduce transport's emissions are still lacking.

### 5.3 The way forward and the CCP

The mixed success in tackling transport emissions, particularly the apparent acceptance that they will continue to rise, calls for a re-evaluation of the current measures. A strengthening of policies to ensure that they give the correct messages, eg price signals, and an intensification of actions is necessary, particularly in relation to the management of demand and the pursuit of long-term technological gains both from the car industry and other subsectors.

The 2006 Climate Change Programme does not take a sufficiently ambitious or long-term approach to these issues and, to some extent, represents a reduction in ambition from the original programme. The CCP focuses on the use of certain key policies in the transport sector including the Renewable Transport Fuel Obligation, fiscal instruments such as Vehicle Excise Duty and Company Car taxation and the inclusion of aviation as a sector into emissions trading. However single policies are unlikely to succeed in isolation and the adoption of an integrated package approach should be used to ensure the attainment of targets. Giving clear signals to individuals, industry and regional and local government is essential in order to address the underlying cause of the growth in emissions from transport and create a more sustainable path for the future.

It is noteworthy that the CCP does not mention that transport is now included under the Public Service Agreement to reduce CO2 emissions and this has clearly not galvanised a reversal of the upward trend in emissions. There is now a case for separate sectoral targets to help to concentrate minds.

**Although the UK has been a leader in terms of the development of some key policy instruments in the transport sector, these have arguably not been taken forward in an ambitious way. There is a need to consider existing instruments and how they have worked thus far. It is still unclear how the UK will cut the increase in emissions arising from transport both in the short and long term, despite some ideas put forward in the CPP.**

Leader



Laggard



## 6 Emissions Trading

**In its EU Emissions Trading Scheme (EU ETS) National Allocation Plan the UK has allocated a ceiling or cap of 736 Mt of CO<sub>2</sub> emissions, with a revised plan for 756 Mt rejected by the European Commission. The separate UK ETS has 22 direct participants which together have pledged reduction of 1.08 Mt of carbon equivalent, and received incentive payments of £215 million.**

**The EU ETS had not yet been established when the first CCP was proposed. At that point, the UK system was also not yet operational. Since agreement of the CCP, ET has become a dominant theme in climate policy, with the UK a strong exponent of the approach, including for new sectors such as aviation. ET was one of the specific issues for review in preparation for the CCP review. The 2006 Climate Change Programme estimates that future emissions reductions under the second period allocation plan will show a reduction of 3.0 to 8.0 MtC - reflecting a significant range of continuing uncertainty.**

**Actual reductions to date have been 1.6 MtC. In 2004, UK ETS participants pledged a further 2.4 MtC emission reduction by 2006. Options for the future of the UK ETS, including extension to smaller businesses and the public sector, are being considered.**

### 6.1 Introduction to emissions trading and the EU ETS

Emissions trading is central to UK climate policy and is a key element of the CCP. The situation is complex, however, because there is more than one scheme in operation – the major EU scheme (EU ETS), an existing domestic trading system, the Climate Change Levy and Climate Change Agreements. Nevertheless, or perhaps because of this experience, both government and industry have supported the EU ETS. Early experience in the UK, both as a result of the UK ETS and the progressive approach to the EU ETS, has meant UK businesses such as carbon traders and consultants are international leaders in this emerging field, and therefore influential when it comes to the further development of the scheme. The UK scheme has continued in parallel to the EU scheme, which began in 2005, and has delivered some emissions reductions, although it has been subject to some criticism (see box 7). This experience allows key lessons regarding the application of emissions trading to be drawn.

Despite its enthusiasm, the UK has run into serious problems with its national allocation plans (NAP) under the EU ETS. In July 2004 the UK's NAP for phase I of trading was one of the first to be approved, although the UK

missed the deadline to finalise allocations to individual installations by 1 October 2004. This delay was largely a result of revised energy forecasts from the Department of Trade and Industry (DTI) being months behind schedule. The forecasts showed an upward revision of future emissions estimates, as many industry sectors had been hoping. Pressure on DEFRA, in response to these revisions, resulted in it announcing an increased allowance of 20Mt CO<sub>2</sub> in the allocation plan. The Commission regarded the revision as a breach of rules, as it revised the total allocation, and also a dangerous precedent, in increasing the allocation after an original NAP had been proposed. Although the Government eventually reverted to its original NAP to allow trading to commence, legal proceedings ensued. The European Court of First Instance sided with the UK and forced the Commission to review the revised NAP as proposed. The ruling, however, did not prejudice the Commission's eventual decision, as long as it was 'on the merits' of the revision. In February 2006 the Commission finally rejected the revised NAP.

As a pioneer of emissions trading, the UK has shown considerable leadership. However, the argument over the phase I NAP, and emerging conflicts over the cap for phase II, are helping to undermine this. This sits alongside other controversies that have had the effect of sullyng the UK's reputation in this area, as highlighted in box 7.

Emissions trading is often viewed as the politically acceptable way to tackle emissions from various sectors. Faced with the prospect of regulating rapidly-increasing aviation emissions, for example, the UK Government and the European Commission have promoted emissions trading as being not only more economically attractive than taxation or direct regulation, but also more acceptable to industry.

That market-based regulatory approaches are favoured in the UK is self-evident: among other things it was the first to liberalise energy markets and the first to put an emissions trading system in place. In the stakeholder review of the CCP, there were repeated calls from all sides to focus on using 'market instruments' in the revised programme.

### **Box 7 – The devil in the details of ET design: the case of the UK ETS**

**The UK emissions trading scheme was launched in March 2002. Worldwide it is the only emissions trading scheme that includes all six greenhouse gases and covers sectors that account for a large part of the national economy. Organisations can participate on a voluntary basis, being committed to reduce their emissions against 1998-2000 levels in the five-year period 2002-2006 <sup>20</sup>.**

**31 direct participants (DPs) participate in the scheme and together they have to reduce their emissions by 3.96 million tonnes of CO<sub>2</sub> equivalent by 2006. One fifth of this amount has to be reached each year. The so-called agreement participants (AP) - 6,000 other companies that have agreements under the Climate Change Agreement – have the possibility to join the ETS.**

**Allowances were distributed through an incentive auction. In order to attract DPs to join the scheme, the Government provided incentive payments of £215 million from 2003/04 to 2007/8, equivalent to up to £30 million a year after corporation tax. The incentive payments are meant to help companies to pay for emission reduction. In addition, those DPs that achieved the biggest reduction in 2002 will receive incentive payments totalling £111 million, if they manage to achieve all their annual targets over the duration of the scheme <sup>21</sup>. In principle, the incentive payments were necessary to cover offsetting costs and risks that could have put the companies at a competitive disadvantage.**

**Nevertheless, critics have stated that the incentive payments led to 'hot air' allowances because in the voluntary scheme, only companies who were likely to decrease their emissions seemed likely to participate – those with non-CO<sub>2</sub> emissions chief among them. Some facilities even received incentive payments for reduction that were not done within the ETS but would have been done anyway. Three chemical companies (Ineos Fluor, Rhodia and Dupont) are among the four companies that had the highest reductions in 2002 and will thus receive £111 million in incentive payments. However, they appeared to have met their targets as a result of complying with pollution control permits and not due to the ETS. They received incentive payments totalling £93m, while also making millions through the sale of emissions credits. Regulators argue that the baseline had been adjusted to ensure only additional reductions would be counted through the ETS; nevertheless many observers feel that whether through non-additional activity or simply very low-cost abatement, chemical manufacturers tilted the system significantly in their favour.**

## Box 8 – IMPEL support group: sharing regulatory expertise

The Environment Agency for England and Wales provides an example of the UK taking a useful initiative to advance emissions trading. It has been instrumental in bringing together the regulatory authorities of different EU Member States to share experience and views on the regulatory aspects of the EU emissions trading scheme. IMPEL, or to give it its full name the European Union Network for the Implementation and Enforcement of Environmental Law, is an informal network of the environmental authorities of EU Member States, acceding and candidate countries, and Norway, and also includes the European Commission.

In the course of the setting up of first phase of the EU ETS, the Environment Agency started developing links with competent authorities in other Member States, initially with the Netherlands and then Germany. These links developed into the IMPEL Support Group (ISG) on emissions trading, which now regularly brings together officials from more than 15 countries. The ISG now works closely with the Commission and has been closely engaged with the amendment of the Monitoring and Reporting Guidelines, for example. Additionally, the group is currently undertaking its second project on Member State regulatory practice, which aims for further understanding of different regulatory approaches and to harmonise these where possible and appropriate. The Agency's active engagement in the ISG is supported by DEFRA, and helps to give the message that the UK is taking the lead with respect to the implementation of the EU ETS.

What often fails to be said about market instruments, however, is that far from being a laissez faire market solution, they often depend on a strong element of political decision-making to operate – in the case of emissions trading this is all too evident in the decisions regarding how to allocate allowances. Much like a computer programme, the system relies fundamentally on very human decisions about design. Emissions trading does not allow society to get out from under hard decisions – quite the opposite. The allocation of rights simply makes decisions explicit, but not necessarily any easier.

Within a trading scheme political commitment is not just required at the emission allocation stage but also in the implementation phase. There is concern at present among regulators that too much focus is being placed on national allocation rounds with the EU ETS, while not enough attention is being paid to ensuring effective implementation and enforcement amongst all participants. Enforcement of such a scheme, and all its different complexities, is essential if it is to function as an effective market, achieve liquidity and deliver its ultimate goal of decreasing emissions. Crucially this need for enforcement can be difficult to balance with a market based instrument that currently requires high levels of support and engagement between those trading, those supplying services within the scheme (such as verifiers) and those regulating it. Regulators are making considerable efforts, of their own volition, to attempt to address some of the key challenges (see box 8). The importance of implementation and enforcement must be recognised to a greater extent in the future, as the EU ETS is potentially expanded and as emission reduction requirements increase.

## 6.2 Lessons learnt

- The UK was in the past, and continues to be, a leading proponent of emissions trading as a tool to aid emissions reductions. This high level of support has led to the UK being a leader internationally and in Europe on this approach, with expertise and associated competitiveness gains stemming from being an early mover.
- Considerable problems have been experienced with the practical implementation of emissions trading. This is a new instrument and it is important to learn from mistakes, such as the inadvertent introduction of 'hot air', and to prevent these from being replicated.
- It is vital to recognise the levels of political commitment required to effectively implement a complex scheme such as emissions trading, with the risk of undermining the mechanism if, for example, allowed allocations are too high.
- The UK's reputation as a leader on emissions trading, and climate more generally, has been undermined by the disputes over the level of the cap set in the phase I NAP. It is vital that the allocations under the NAP phase II are appropriately set and that the correct message about future ambition is given.

- Effective implementation and enforcement in emissions trading is vital in order to ensure that any scheme is a success. The UK has been a leader in attempting to ensure the appropriate implementation of the EU ETS, and ensuring that Member States share good practice and expertise.

### 6.3 The way forward and the CCP

The UK and other EU countries have had a relatively easy time of it in the first period of the EU ETS (2005-6). Given that Phase I does not correspond with the Kyoto commitment period the contribution of the system to a Member States' ultimate reduction target has been harder to determine; in addition many Member States have allocations that seem to advance them little towards their targets with most, like the UK, claiming to be starting slower and building to a more demanding commitment in the 2008-12 period. The second period is concurrent with the Kyoto commitment period, and so the contribution of ETS to reduction commitments will be much easier to see and also far more critical. The Commission has already signalled its intention to be much tougher about approving allocations for phase II, through publication in February of a Communication demanding deeper cuts in national allocations.

With energy prices at near record highs and incomplete market liberalisation causing price distortions in much of Europe, emissions trading faces as challenging an environment as could be imagined. The UK will be among a handful of countries the Union will rely upon for leadership – including through publication of a NAP with robust reduction commitments – to see that the ETS meets its full potential.

The new CCP highlights the working of the ETS and several of the ways in which the UK is making the most advantage of it, not just in terms of emissions reductions. Registry software developed in the UK, for example, has been licensed to 16 other Member States, while London has emerged as a leading centre of carbon finance.

While the second period National Allocation Plan had been expected at the same time as the Programme review, it has been delayed, meaning that the real substance of the discussion on emissions trading is missing – the system is only a framework, where the allocation, or emissions cap, is the single most important factor. The text does note that reductions of between 3.0 and 8.0 MtC are expected, which will come from the electricity supply industry alone, given that other industries are more vulnerable to competition\*. The broad span in anticipated reduction has however caused grave concerns not only regarding the UK's level of commitment under phase II, but has also posed broader questions about dedication to long term change across the government departments. It has been well publicised that the range of reductions has been caused by disputes between different departments, with a failure to come to an agreement regarding the appropriate level of ambition for the scheme. Unambiguous government commitment is fundamental, and without it continued internal debate will erode the coherence of the strategy, not to mention the perception of the UK as a country dedicated to see the EU ETS functioning effectively.

A very important point of detail, apparently hidden in the CCP text (in the explanation of the EU emissions trading system paragraph 39 of chapter 4) the document notes that credit procured by ETS project participants through the Clean Development Mechanism (CDM) and Joint Implementation (JI)\*\* would be counted toward the 'domestic' CO2 emission reduction target. It refers to paragraph four of chapter three for an explanation, which is in fact in a footnote to a discussion of land use and land use change, where it simply repeats the same policy, without explanation.

Currently 9 per cent of all projects in or preparing for the CDM and JI\*\*\* have UK-based entities as recognised buyers, while a further 60 per cent have no buyer country indicated, meaning that they will come free on the carbon market. The CDM projects currently in the pipeline are expected to generate some 133 Mt CO2 per year, or 908

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\* It is ironic that this statement is made while the review elsewhere trumpets the importance of competition in liberalised energy markets. The European Commission views this competition as international, not national, in scale. Few interconnections with other countries are the obvious explanation., but nevertheless, that there is little international competition in electricity supply is an admission and evidence of the lack of the type of competition envisioned by the EU.

\*\* The Clean Development Mechanism (CDM) and the Joint Implementation (JI) are two of the so-called Flexible Mechanisms of the Kyoto Protocol.

\*\*\* Data from 1 April 2006 version of the 'CDM pipeline,' UNEP Riso Centre, <http://www.cd4cdm.org/>

Mt of CO2 credit total by 2012. The emissions trading scheme is anticipated to cut 11 – 29 Mt CO2 (3-8 MtC), according to the new UK CCP document. CDM projects with UK entities as recognised credit buyers are anticipated to produce 5.7 Mt CO2 annually; were UK companies to buy a similar proportion (9 per cent) of the credits not dedicated to buyers already, it would be a further 11.97 MtCO2 per year. Thus purchases on the carbon market of definitely 5.7 MtCO2, plausibly 17.67 Mt CO2 and potentially much more could be counted towards the ‘domestic’ UK carbon reduction, and are indeed large enough to fully meet the anticipated reduction needs in the second round of the ETS. It is also worth noting that a healthy proportion of CDM and JI projects concern non-CO2 gases, while the domestic reduction target is a CO2 reduction commitment. There is no indication that only Kyoto credits from CO2 reductions would be accepted.

In short, the implies that even the higher end of the target range indicated could be met entirely through the use of CDM and JI, ie with absolutely no additional effort to reduce CO2 emissions within the UK. While reductions from the mechanisms for ETS compliance are fully legitimate under both UN and EU ETS rules, this begs the question of what was meant by ‘domestic’ reductions, and one cannot but wonder if the casual mention and reference to a footnote in another chapter on another issue entirely, which supplies no more explanation, was not a clear attempt to obfuscate.

The programme alludes to future development of the EU ETS that may be useful, for example its extension to other sectors, and creation of more long term certainty for business, and more harmonisation of approaches to allocation, such as auctioning. However, it defers the entire discussion to the review process being led by the European Commission, with results expected in June 2006. Given UK leadership on such issues as inclusion of aviation in the ETS, it might be expected that this subject would have been addressed more proactively.

The UK emissions trading scheme is referred to as a success, but one where lessons can be learned. In particular, the text notes that reductions from non-CO2 gases were greater than expected, hence there was oversupply of credits on the market. While this meant there was greater reduction at lower cost than originally anticipated, there was also little liquidity and a poor simulation of a system facing scarcity and needing to generate reductions. The Carbon Trust has proposed that the UK scheme be extended to cover non-energy intensive businesses and public sector organisations in a required auctioning scheme. The Government has merely undertaken that it will consider this option ‘in due course.’

**The UK is a clear leader in terms of promoting the use of emissions trading as a tool, and its experimental use. The UK has benefited both in terms of reputation and economically from this proactive approach. It has also been a leader in attempting to ensure appropriate implementation and the sharing of practice and expertise between Member States. When it comes to the practice of trading and the substance of the scheme, however, ie the setting of caps and using the scheme to ensure emission reductions it is lagging behind expectations both domestically and internationally. Hence, the UK is both a leader and a laggard in terms of emissions trading and the EU ETS.**

Leader



Laggard



## 7 Business

According to government figures (published in the UK CCP6) in 2004 industry was the source of approximately 40 per cent of carbon dioxide emissions in the UK, ie 60.5 MtC. This compares to 42 per cent of total carbon dioxide emissions, or 68.8 MtC in 1990. This illustrates that, although the actual amount of carbon dioxide being emitted by industry has dropped by 8.3MtC, the proportional contribution to the UK's overall emissions has remained relatively static. 91 per cent of the drop in carbon dioxide emissions from industry, or 7.6MtC, took place between 1990 and 1995. Between 1995 and 2000 the rate of decrease dropped dramatically, and emissions have actually begun to increase again, rising 0.2MtC between 2000 and 2004. It should be noted, however, that emissions of methane and nitrous oxide from business dropped dramatically between 1990 and 2004, falling from 14.8 MtC to 5.7 MtC, and 9.0 MtC to 2.0MtC over the period, respectively.

### 7.1 Introduction to business and climate issues

Business interests obviously make a significant contribution to greenhouse gas emissions in the UK, this is despite existing measures in place designed to reduce such emissions. These existing measures predominantly focus on encouraging the reduction of greenhouse gas emissions from heavy, energy-intensive industry with little emphasis on the problematic commercial, small and medium sized enterprises. In addition to such reservations over the coverage of existing measures there are also concerns about their implementation, ie how effectively they have been enforced.

*The current Climate Change Programme (CCP) for the business and public sectors has a number of powerful building blocks in place... However, across all of these instruments there are significant implementation issues that could limit their ultimate carbon delivery. Moreover, the current package is not providing sufficient incentive for change across the less energy intensive segments, where energy costs are less material, and where in particular the current CCL does little to drive change and structural failures persist*

**Carbon Trust** <sup>22</sup>

The Climate Change Levy (CCL) is a key, and currently controversial, domestic climate tool designed to encourage businesses to better consider their climate impact. The CCL is a tax on business and public sector energy use,

introduced in 2001. The charge made appears separately on energy bills and revenue raised from the Levy is recycled through a 0.3% reduction in employers' National Insurance Contributions, and additional Government support for energy efficiency measures through the Carbon Trust.

Also established in 2001, the Carbon Trust is an independent company funded by the Government. It was set up to help the transition to a low carbon economy assisting business and the public sector to save energy, reduce carbon dioxide emissions and make the most of business opportunities arising from low carbon technologies. Business stakeholders generally appear to support the work of the Trust, although there are concerns that many businesses are not aware of its schemes and not making full use of the opportunities offered <sup>23</sup>.

The Climate Change Agreements (CCAs) sit alongside the CCL, offering energy intensive industries the possibility of an 80 per cent reduction in the CCL, if they meet agreed carbon reduction targets. These targets are negotiated between industry and the government. There are currently approximately 10,000 facilities covered by the scheme under 42 different sectors. The CCAs, where applied, combined with the recycling of funds through the Carbon Trust, make the CCL a sophisticated instrument, encouraging proactive action on the part of companies. It should be noted, however, that problems have been experienced in setting targets under these negotiated agreements. Companies with a CCA currently have the option to opt out of the EU Emissions Trading Scheme (EU ETS), although this flexibility will end when Phase II of the EU ETS commences in 2008.

The UK emissions trading scheme (UK ETS – see above) is also in operation, representing the first economy-wide greenhouse gas emissions trading scheme. The UK ETS allows voluntary direct participants (of which there are currently 31) to trade emissions certificates. In addition those who have over-achieved in terms of emission reductions under their CCA can also trade excess allowances. The success of the UK ETS from an emissions reduction perspective is debatable (see box 7). However, the ancillary benefits of its existence, in terms of bolstering the UK's reputation in relation the trading and climate action, providing a 'learning by doing' opportunity for business and the government, etc, have been significant (see section 6).

Other climate measures impacting on business include the EU ETS – explored in detail in section 6 – and, importantly, broader efficiency measures. The EU's Directive on energy performance in buildings means that minimum energy performance requirements, set by the UK government, will be required of new buildings and those undergoing major renovation <sup>24</sup>. In addition, other voluntary mechanisms, such as the use of environmental management systems, encourage a reduction in energy use and a consideration of the mode of transport used in business.

The relationship between the business community and climate action is dynamic and complex, due to the diversity of interests within the sector itself; differing world views, hence approaches to environmental regulation and change; and the variety of instruments impacting on different organisations. There are strong, vocal and divergent opinions about the impact that addressing climate change will have on UK business interests. Climate action and a new way of approaching, in particular, the production and use of energy, offers potential savings to most businesses, in terms of efficiency measures, along with completely new opportunities and markets. Such new business opportunities relate to both the development and supply of technological solutions, but in addition there are significant opportunities generated by new instruments such as emissions trading, which has seen considerable new work streams especially within financial services. Despite such obvious opportunities, there is an ongoing debate about how the need to reduce emissions, and protect the environment more generally, can be balanced with competitiveness. Change is often met with resistance and concern in many sectors, as it represents a departure and complication to the business-as-usual approach.

*The blunt truth about the politics of climate change is that no country will want to sacrifice its economy in order to meet this challenge...But all economies know that the only sensible, long-term way to develop is to do it on a sustainable basis.*

**Tony Blair, commenting in the G8 <sup>25</sup>**



*As a result of the implementation of the proposed climate policies there would be a 'net gain of about 52,000 jobs in the Canadian economy by 2012. These benefits are spread widely across all sectors of the economy'. As a consequence it is estimated this 'would produce an average wage/salary gain of \$135 per household in Canada, a net increase in the GDP of \$2 billion'. These benefits would result both from investment in energy-efficient technology and from energy savings that would be achieved by firms and households and then re-spent in every sector of the economy. It should be noted that all the gains are 'over and above the economic growth that would occur in the absence of the policies under review' <sup>26</sup>*

Acceptance appears to be growing, however, that further action is still needed by the business sector to ensure emission reductions into the future. Efforts to curb emissions from the energy intensive emitters need to be coupled with those to reduce emissions from the commercial sector in particular – which represents a growing source – and action in the wider community to reduce greenhouse gas emissions. Business is beginning to call on government to take action, with initiatives such as that of the Corporate Leaders outlined in box 9. A key message has been the need for a clear plan as to where policy is going and what requirements there will be upon business in the long term. This is needed to inform business decisions concerning investment in technology and in R&D. A recent report <sup>27</sup> surveying companies in 18 sectors and 11 countries by the Climate Group \* drew the conclusion that there

### **Box 9 – Corporate leaders call for UK leadership on climate change**

In his speech commemorating the Tenth Anniversary of HRH The Prince of Wales' 'Business and the Environment Programme' (Sept 2004), Tony Blair issued a challenge to the business community, asking them to take an active role in promoting further action on climate change. In response to this, business leaders from thirteen major UK and international companies wrote to the Prime Minister on 27 May 2005 offering their support to the government in developing new and longer term policies and outlining the measures they felt to be necessary to enable substantial action to reduce greenhouse gas emissions. This Corporate Leaders Group hopes to help and support the government in tackling the 'Catch 22' situation by which 'governments are limited in their ability to introduce new policies because they fear business resistance' but 'companies are unable to take their investments in low carbon solutions to scale because of lack of long term policy framework'.

The business leaders, including the chairs or chief executives from HSBC, BAA, BP, John Lewis, Cisco Systems, Scottish Power, AWG and Shell, support the government's commitment to the longer term target of reducing UK CO<sub>2</sub> emissions by 60 per cent in 2050. However, they highlight that 'shifting to a low carbon future will require the adoption of a very broad range of technologies, many of which are at a very early stage of development' and that if we want to achieve anything like the 2050 goal 'serious investments need to be made today in the rapid development of low carbon transport and energy technologies'. It is highlighted that there are both real challenges and opportunities for the business sector, and that solutions 'can only be achieved through close partnership between business and government'.

The letter then goes on to highlight what business feels it needs from the government. Key amongst these requests is, that in order to scale up investment and production of low carbon goods and services, a 'strong policy framework that creates a long term value for carbon emissions reductions and consistently supports and incentivises the development of new technologies' is needed. The corporate leaders are keen to see:

- A longer term commitment to emissions trading, setting targets up to 2025 in order to ensure long term investment;
- Provision of incentives and support over and above that provided by the emissions trading market for investment in the development and application of a very broad range of new low carbon technologies;
- Elimination of policy inconsistencies and perverse incentives that undermine the effectiveness of climate policy; and
- Use of government procurement policies to simulate markets for new and existing low carbon technologies, eg developing emissions standards that could be used by government and adopted on a voluntary basis by business.

## Box 10 - Strategic planning and reputational pressure combine to bring innovation and market leadership – Coca Cola and HFCs

The 2000 Olympic Games in Sydney set out to be a ‘Green Games’ (one of the reasons it won the right to host the games <sup>28</sup>), recognising that along with sport and culture, the environment has been formally adopted as the third pillar of the Olympic Movement. Coca Cola, as one of the ‘worldwide top sponsors of the Olympic Games’ came under fire from environmental groups, specifically Greenpeace <sup>29</sup>, for its failure to use environmentally-sound alternatives to CFCs, HFCs and HCFCs in their refrigeration systems. The use of these gases was prohibited in the games’ environmental guidelines due to their significant contribution to the twin threats of ozone layer depletion and global warming. In terms of advertising the Olympics represented a notable opportunity for Coca Cola. In response to pressure around the Sydney Games <sup>30</sup>, the company therefore created a road map of policies and objectives, along with a special company task force, to identify energy savings opportunities and to integrate the use of alternative refrigerants and refrigeration systems.

Policies outlined in relation to refrigeration equipment purchased by Coca Cola included <sup>31</sup>:

- By the time of the Athens Olympic Games in 2004, the Company will no longer purchase new cold drink equipment using hydrofluorocarbons (HFCs) where cost-efficient alternatives are commercially available. This initiative applied both to refrigerant gases and insulation.
- The company would expand its innovative research and development programme to identify and field-test a variety of promising alternative refrigeration technologies.
- Suppliers will be required to announce specific time schedules to use only HFC-free foam insulation and refrigeration in all new cold drink equipment by 2004.
- Suppliers will be required to develop, by 2010, new equipment that is 40-50 per cent more energy efficient than today's equipment.

Since the policies were set out in 2000, Coca Cola has developed as a leader on the issue of HFC removal from refrigeration systems. In 2004 a conference entitled ‘Refrigeration, Naturally’ was held, supported by Greenpeace, at which Coca Cola outlined how far it had come. Coca Cola had heavily invested in research and development, estimating to have spent some US \$10 million (with their suppliers spending more than double that amount) and creating partnerships with technology providers and equipment suppliers, they analysed the technology gaps and, together, worked to find solution. Field tests of new technological solutions have taken place, and in 2004 more than 650 HFC-free refrigeration units were utilised at the Athens Olympics – full commercialisation of these units is still underway. In 2004, 50 per cent of Coca Cola’s suppliers had switched to HFC-free foam. Coca Cola estimates that the combined effect of these measures will ensure that new sales and marketing equipment purchased by the Coca Cola system in 2010 will emit (directly and indirectly) 700,000 tonnes less of CO<sub>2</sub>-equivalent greenhouse gases than would otherwise have been emitted by sticking to the models of 2000. This is the equivalent of 150,000 fewer cars on the road or 200,000 more trees sequestering carbon <sup>32</sup>.

Coca Cola is not a company traditionally associated with taking ground-breaking environmental action. The approach they adopted, however, after coming under initial pressure to change, shows how it is possible to move towards being a market leader and the opportunities provided. For example Coca Cola is now a leader in HFC-free refrigeration technology offering a significant potential future market. It also shows how the actions of one company can draw others with it, leading by example but also the whole chain of suppliers that it required to take action.

are ‘synergies between cutting greenhouse gas emissions and increased productivity’ and that successful economies of the future will be the first movers in addressing climate change. Four of the companies surveyed for the report – Bayer, BT, DuPont, and Norske Canada – have achieved absolute greenhouse gas emission reductions of 60 per cent or more with total gross savings of US\$4 billion. Another 21 companies have achieved greenhouse gas reductions of over 25 per cent and saved a further US\$10.9 billion.

\* Founded in 2004, the Climate Group is an independent, nonprofit organisation dedicated to advancing business and government leadership on climate change. The Climate Group operates internationally and promotes the development and sharing of expertise on how business and government can lead the way towards a low carbon economy whilst boosting profitability and competitiveness – see [www.theclimategroup.org](http://www.theclimategroup.org)

As the profile of climate change grows, it also has the potential to impact upon the reputation of businesses, hence the opportunities available to them. Being seen to act on climate can have a positive impact on public opinion and support for a brand, whilst not acting can have a dramatic negative effect. For example, both BP and Esso are oil companies dealing in one of the key sources of carbon emissions. While BP, with its high profile research into future technologies, and rebranding to 'Beyond Petroleum' has received a favourable press as a leader on climate issues, Esso's image has been tainted by its failure to recognise and be seen to act on the issue early enough. Box 10 illustrates how Coca Cola has moved between these two categories in relation to HFCs for refrigeration. Initially vilified by NGOs for failure to act, Coca Cola is a now leader in HFC-free technology and working with the same NGOs to achieve results.

## 7.2 Key messages and lessons

- There is a package of policy instruments currently in place to encourage change in the business community.
- There is a need to have a variety of different policies working together in order to capture the diversity of business needs, the variety in the sector and to assist at the different points in the technological development cycle.
- Many have felt that the establishment of the Carbon Trust has been a useful and helpful innovation.
- Innovations contained within existing policy measures should not be lost as they are adapted in future. For example, the recycling of funds raised by the CCL to the Carbon Trust to encourage business action on climate change has been positive and needs to be recognised if the CCL is to be amended in the future.
- If businesses are to take action on climate in the most cost effective way they need a clear, long term understanding as to how policy will develop and what requirements they will be asked to work towards. Without this it is impossible to plan and invest over realistic time horizons.
- Some parts of the business community are prepared to be proactive and there are considerable benefits of this approach.
- As the profile of climate change continues to rise and concerns grow, the reputational incentive to take action, and conversely the negative impact of not being seen to act, will increase.

## 7.3 The way forward and the UK CCP

In future, there is clearly a need for continued emission reductions from industry, as this still represents one of the main sources of greenhouse gas emissions in the UK. The current trend of slowly rising emissions needs to be reversed. In order to do this there is a need for continued engagement with industry and to acknowledge the messages coming from business, particularly those who are attempting to be proactive and forward thinking. Key amongst these messages is the need for certainty over what is expected from businesses, ie the long-term levels of emissions reduction required and how the regulatory environment will look in the future, ie what mechanisms business will have to be ready to deal with. The current CCP, with its focus on the short-term, does not provide this certainty. In fact it increases uncertainty by explicitly keeping 'the current policy mix under review' and also fails to pinpoint the level of reductions expected in the future under the EU ETS.

A further message emerging from business is the importance of reputation and the critical dynamic emerging between being seen to act on climate change and the public's perception of a company's business. It is important that the government makes use of this, rewarding business that has taken action and ensuring that the opportunities posed by high profile events in the UK, including the 2012 Olympics, are fully embraced. Action should not just be in terms of going carbon neutral by offsetting, which is a relatively passive activity, but should encourage proactive innovation, the development of new technologies, and allow a showcase for progressive business and raise awareness amongst the broader business community.

There is a need to address emissions from business across its whole breadth, not just from the small number of large emitters, but from the huge number of small emitters especially within the commercial sector, ie those businesses based in office blocks, retail outlets etc. This does not mean, however, that big emitters do not have to continue to increase efforts to reduce their emissions, but that this should be balanced with action elsewhere. In the 2006 CCP the government announced an increase in funding for the Carbon Trust for the roll-out of the Energy

Efficiency Loans scheme for SMEs and that it will introduce further measures to encourage and assist SMEs. This is a welcome development.

New measures for business should consider exactly how emissions arise and then develop a package of complementary and targeted measures that encourage action in the most efficient way. This approach should also consider the practical implications of using a particular mechanism. Market based mechanisms, which are often favoured in the UK, are potentially very useful, but the appropriateness and practicability of using such tools must be properly considered. As outlined in section 6, making use of emissions trading has not proved as simple as some might have expected and also generates uncertainty due to its being based on a trading market, which by its very nature is always in flux.

Political commitment across government is vital, and this must be coupled with the ramping up of requirements under existing schemes. Tools such as the CCA, CCL and emissions trading are designed to incentivise progressively increasing levels of emissions reduction. They will fail to result in envisaged benefits if political will is lacking when it comes to either setting of emission caps or ensuring the adequate implementation of measures. In the 2006 Budget it was announced that the CCL will increase in line with current inflation as of 1 April 2007. This increase is welcomed although arguably overdue.

**The UK government has implemented some innovative instruments to help address emissions from business, especially energy-intensive users. Business has reduced the level of emissions between 1990 and today, but the greatest reductions took place in the early 90s and subsequently the rate of decrease has fallen, and in the case of CO2 begun to increase once more. In addition the UK's instruments fail to adequately address less energy-intensive users, who are becoming increasingly important emitters. There are also concerns about where measures to address business emissions are going in the long term, the effectiveness of their implementation and their level of ambition.**

Leader



Laggard



## 8 Households

**In 2004, households accounted for 24 per cent of greenhouse gas emissions (27 per cent of CO<sub>2</sub> emissions). Emissions of CO<sub>2</sub> have fallen by around 2 per cent since 1990, but this is entirely attributable to changes in the electricity supply sector; end-user demand in households is actually increasing. Furthermore, demand for housing is likely to continue to grow, with an additional 155,000 households per year projected<sup>33</sup>. Much of the additional demand will be for single occupancy dwellings, which tend to have the highest per capita energy demand. Also energy use for new appliances and lighting is increasing and may well continue to do so. Thus far, efforts to improve the efficiency of both new and existing housing have had limited impact, and greater efforts will be needed to tackle individual behaviour and building industry inertia if inroads are to be made into carbon emissions from the domestic sector.**

### 8.1 Introduction to housing and climate issues

According to the census there were 24.5 million occupied households in the UK in 2001, with a total population of around 58 million (average occupancy 2.36 persons per household). Population is projected to rise to a peak of around 67 million in 2051, while the trend in average household size is downwards due to societal change and rising incomes. This must be seen alongside the declining trend in house building; below 140,000 units per year (and taking demolitions and conversions into account the net rate could be as low as 120,000) compared to a demand of 155,000. Also the very slow stock turnover (20,000 demolitions per year) creates significant problems in tackling the energy efficiency of the built stock, and dictates that existing stock urgently needs to be improved as well as new.

The implications of these trends in housing and house building are likely to be large from the perspective of climate policy, with clear evidence that on a per capita basis, greenhouse gas emissions are highest from single occupancy households<sup>34</sup>. Older buildings are also generally less energy-efficient than those built to modern building regulations, and the UK housing stock is one of the oldest on average in Europe. POST<sup>35</sup> recently described the UK housing as being ‘some of the least efficient in Europe’, with only 6 million out of a possible 17 million homes having cavity wall insulation in 2003. Hence action is needed with respect to both new and existing housing (see Box 11), and new build standards need to address both mitigation (eg building in renewable energy and energy efficiency) and adaptation (eg avoiding building on floodplains to reduce risk of flooding during severe weather events).

The Office of the Deputy Prime Minister (ODPM) has responded primarily to the excess of demand over supply for housing by developing its ‘Sustainable Communities’ Plan, which sets out to address the problems of high demand across the country, with a building programme of an additional 200,000 homes by 2016 in South East

## Box 11 - Sustainable housing schemes

Sinderland Brook represents a positive example of the integration of housing development with the use of natural flood mitigation strategies. The houses themselves have been designed with high specification insulation, heating and ventilation systems to minimise carbon dioxide emissions, while maximising solar gain and incorporating water saving and recycling facilities. The development has been undertaken in conjunction with the restoration of the natural course of a previously canalised river (Sinderland Brook) and its flood plain. In combination with a sustainable urban drainage system incorporating attenuation ponds, the restored natural state of the river will offer floodplain storage of water during high flow events and thus reduce the risk of flooding to nearby properties and those further downstream.

Given the very low turnover of the housing stock, though, improving the energy efficiency of existing buildings is a key challenge. Older buildings and those under private landlords pose particular problems, so the London Boroughs of Kensington and Chelsea and Westminster set up a partnership to develop a Flagship Home. This demonstrated a range of practical and cost-effective efficiency improvements covering all areas of the building fabric, and heating, ventilation and lighting systems in a run-down period house, and cut energy use by 60 per cent.

England alone, over and above existing commitments by local authorities. In total 478,000 new homes are envisaged for the London-Peterborough growth area, for example. The Plan also includes some measures towards improving energy efficiency.

However, the ODPM's plans have come in for widespread criticism. The Sustainable Development Commission, for example, expressed concerns that the plan will exacerbate the current imbalance of economic development in favour of the South East, and that it will place excessive demands on resources such as water and energy. An assessment undertaken for the East of England Regional Assembly also argued that the rate and intensity of development that was envisaged would be intrinsically damaging to the environment and many aspects of quality of life<sup>36</sup>. CPRE attacked the plan's 'predict and provide' approach to housing provision, low targets for housing density and reuse of brownfield land, and the lack of any proper environmental assessment. The Green Alliance also accused ODPM of obstructing efforts to address home energy efficiency standards in the review of the CCP, as a means of keeping development costs down.

Tackling fuel poverty has been a significant commitment of the government and a significant degree of success has been achieved, with a reduction from 4.5 million households in 1996 to 2 million in 2003<sup>37</sup>. This achievement however was during a period of falling energy prices and is now likely to be reversed by the rapid increases in gas prices of the last few months, as the Climate Review now acknowledges. According to some estimates, a 15 per cent increase in gas prices predicted by British Gas would force an additional 250,000 households back into fuel poverty by the end of 2006<sup>38</sup>. Energy use for new appliances and lighting is also on the increase – at around 2 per cent per year since the 1970s.

Total carbon dioxide emissions from the sector fell during the 1990s, but this was attributable to changes in the electricity supply mix, and the trend has now once more turned upwards. Technologies with significantly improved efficiency are available (such as compact fluorescent lights) but takeup is poor and efficiency gains tend to be outstripped by uptake of additional appliances. Future technologies also offer both threats and opportunities; for example the '40% House' project forecasts that televisions with LCD screens could reduce electricity consumption relative to conventional cathode ray tubes; but even quite a small share switching to plasma screens will result in a dramatic increase instead<sup>39</sup>.

In Scotland, the 2006 Housing (Scotland) Act requires ministers to draw up a strategy for improving energy efficiency. To this end a detailed analysis of the Scottish housing stock has been undertaken, and a strategy focussing on housing is expected to be published as part of Scotland's own review of the Climate Change Programme during 2006. The Executive gives substantial funds to the Energy Saving Trust for work in Scotland, and the latter gave advice to 90,000 clients in 2004-5. Fuel poverty was substantially better than halved between 1996 and 2002. As part of its groundbreaking climate change strategy, Woking Borough Council has made concerted effort to improve the energy efficiency of its built stock, including new technologies such as photovoltaic panels. As a result,

## Box 12 – Improving building energy efficiency

Sweden has an established track record in the use of legislation to ensure that the energy efficiency of buildings is a key component in house building. Greenpeace suggests that *“A new home built to current UK building regulations will use on average 65 per cent more energy than a home built in Sweden to Swedish building regulations.”*

A joint initiative has been set up with Sweden to promote and support more sustainable construction. It is intended as an information sharing process between countries both on the strategic policy level as well as at grass roots between individual cities. Specifically, the development of the UK’s Code for Sustainable Building was hoped to have benefited from the initiative.

In spite of this, however, progress in the UK has been slow on the development of guidelines for public sector buildings, with the new standards now set to enter force in April 2006. The intention is that their use will save around 1Mt of CO<sub>2</sub> annually. Much criticism however has been levelled at the level of ambition of these standards and the extent to which they are a step forward for building in the UK. In December 2005, WWF resigned from the senior steering group for the Code for Sustainable Buildings claiming that the recommendations and advice of the group had been ignored. They stated that the new proposals represented less than current commitments for public sector energy efficiency.

The Environmental Change Institute in Oxford comments that current standards fall far short even of current best practice in domestic construction, and that compliance is also poor.

council tenants have experienced no increase in their average energy bill since 1992. The council has a stated commitment to working towards its Home Energy Conservation Act target to improve the energy efficiency of the Borough's housing stock by 30 per cent over 10 years to March 2006, and to continue with a year on year improvement thereafter.

The problem presented by addressing the emissions from the housing sector is significant, as it requires policy to directly influence and tackle individual consumer and industry behaviour. The scale of the problem also adds to this, with the huge number of households, new housing units and very slow stock turnover involved. As a result, most of the policies already in place have had a very limited effect on emissions from this sector.

For new buildings, much more stringent energy efficiency regulations and broader sustainability criteria are both possible and urgently needed. The latter could include, for example, a requirement to embed small-scale renewables and/or combined heat and power schemes in major developments. It has also been suggested that the new Sustainable Building Code should be made mandatory. Tougher standards will also require greater attention to inspection and enforcement – in 2004 the Building Research Establishment found that a third of new houses did not even meet the existing standards (see Box 12).

Industry will also need to play its part in a number of ways. For example, the building industry will need to equip its workforce with new skills to meet more exacting standards; energy suppliers will need to accelerate their transformation into energy service providers; and appliance manufacturers will need to be prepared to meet ever tighter energy efficiency requirements on their products.

## 8.2 Lessons learnt

- The housing sector represents a significant and growing proportion of the UK’s greenhouse gas emissions. It also represents a key challenge to policy makers requiring that patterns of individual consumption be addressed, as well as measures put in place to influence the practice of business.
- Measures currently in place are inadequate to tackle the challenges faced by the housing sector. Measures focused on new builds only tackle a tiny proportion of the housing stock. Evidence also shows that existing standards are poorly implemented and enforced.
- There is a need to build on the findings of research, such as those from the Oxford University Environmental Change Institute’s ‘40% House’ project. Key findings included the following.

- Lighting and appliances offer important potential to dramatically reduce energy consumption in the home, not least because they are replaced relatively frequently. However, a market transformation approach must be applied to ensure rapid take-up of the most efficient technologies. The report underlines the importance of labelling and minimum standards set at EU level, and warns that a shift towards voluntary agreements is likely to be less effective.
- There remains significant cost-effective potential to improve the energy efficient performance of the existing built stock. Some policies are in place to encourage this, but for the stock as a whole, they are wholly inadequate to the scale of the task. Even with a greatly enhanced rate of refurbishment, the report argues for an increased rate of demolitions targeted at the least efficient houses. This in turn underlines the need for more sustainable building practices.

### 8.3 The way forward and the UK CCP

The Review predicts that carbon emissions from the domestic sector will fall quite significantly by 2010, reversing a gradual upward trend from the mid-1990s. Emissions are predicted to rise again by 2015, but the Review pays no attention at all to possible longer term measures, which seems a major lost opportunity given the scale of the task of upgrading the UK housing stock.

Curiously, although it gives a good overview of some of the underlying trends in domestic energy use, it does not highlight growth in the number of homes as a factor. In general, it seems that the programme gives rather little attention to the sheer scale of the task and it seems doubtful that some items (such as a £20million programme to help overcome consumer resistance to energy efficiency measures) will be equal to the task. A number of new measures are proposed in the Review, but these are mainly limited in scope and impact. The most important is a welcome upgrading of the Energy Efficiency Commitment by fuel suppliers. As with some other measures, the scale of the additional commitment remains subject to review and could vary significantly.

Similarly the government is ‘undertaking a wide-ranging review to identify measures to improve the sustainability of the existing building stock, including energy efficiency ...’, but it is hard to understand why it has taken until a third term of office to address this rather fundamental question. A study on the use of market-based mechanisms to deliver energy efficiency is also ongoing, and the technical basis for a commitment on standards for public procurement is under development. Other important developments, such as moves towards energy services or further efforts to tackle fuel poverty, have been deferred to the consideration of the Energy Review, although there appears to be no guarantee that they will be addressed in detail there, either.

Although recognising the value of energy labelling schemes and standards, the Review still professes a preference for voluntary measures wherever possible, in spite of the ECI’s warning that these could dilute efforts towards market transformation. Many will be disappointed in particular that the Code for Sustainable Homes is not to be made mandatory, and the Review proudly proclaims that ‘the lowest level [of standards in the Code] will be above Building Regulations’ without explaining what purpose they would serve if they were not. On the other hand, plans to link public procurement to the standards in the Code, and to use it to signal future changes in building regulations, are welcome.

The Review states clearly (and reasonably enough) that it cannot deliver significant change in the domestic sector without changes in attitudes and behaviour; but it appears not to have put in place significant measures that might change that behaviour, or to set out a long-term programme to tackle the problems of the UK’s housing stock.

**Although the UK CCP does propose some measures in relation to households, it seems unlikely that these will meet the scale of the challenge, with key opportunities for change missed and longer term issues poorly considered. The UK has been slow off the mark in terms of addressing household energy use, which is surprising considering the additional social benefits of change. There has been some good work by local government in this area, but a clear and proactive steer from central government is lacking.**

Leader



Laggard





## 9 The Public Sector

According to government reports, in 2002 public sector greenhouse gas emissions were around 6 MtC on an end user basis, around 4 per cent of total UK emissions, and had reduced by some 30 per cent since 1990. These emissions include those from the central government estate, the NHS estate, local authorities, the education sector, but not including local authority housing, which are covered under households <sup>40</sup>. Emissions from the public sector are predicted to rise between now and 2015, falling again below current levels by 2020 <sup>6</sup>. The government has set specific targets for the public sector including those in the Sustainable Development Framework for the Government Estate eg requiring departments to reduce absolute carbon emissions from fuel and electricity used in buildings on their estate by 12.5 per cent by 2010-11 relative to 1999-2000, and increasing energy efficiency. The Government's 2003 annual report on progress against the framework noted that preliminary results indicate that overall carbon emissions on the Government Estate were 3 per cent down on the period 1999-2000.

There are also specific measures for other parts of the sector, such as energy certificates for schools; targets for the NHS to reduce the level of primary energy consumption by 15 per cent or 0.15 MtC from a base year of March 2000 by March 2010; to achieve a target of 35-55 GJ/100m<sup>3</sup> energy efficiency performance for the healthcare estate for all new capital developments and major redevelopments or refurbishments; and that all existing facilities should achieve a target of 55-65 GJ/100m<sup>3</sup>.

### 9.1 Introduction to the public sector and climate Issues

The public sector represents the multiplicity of government departments, local authorities, regional authorities, public services such as education, public transport and the NHS, and all the individuals employed by them, educated by them and contracted to them. The variety of actors and motivational drivers involved within this structure means that taking forward change can be difficult. However, these groups have a great amount of influence in terms of the levers for change available and the profile of action completed by them – such a huge number of individuals have some contact with the public sector on a regular basis that it provides an extensive platform for awareness raising and change. The profile of the public sector, therefore, means it is essential that as a whole it clearly adopts climate change as a priority issue, and is seen to be working towards a common goal.

This sector also be is vital in terms of taking forward climate change policy owing to its power to legislate, at a national, devolved administrative, regional, and local level, and influence European measures. In addition the

mobilisation of its substantial purchasing power in the form of sustainable procurement can make a huge difference to emission levels. The public sector can, therefore, influence the public, help to support innovative new markets, and provide finance to help develop new technologies and approaches.

The public sector is also subject to external policy. For example some boilers in hospitals are potentially covered by the EU ETS and public sector emitters more generally fall under the remit of the CCL and other business measures. There has been debate concerning whether market based instruments are as effective within this less commercially-driven sector, however.

As highlighted above, there are also specific targets applicable to the public sector, in terms of emission reductions required from its estate. In addition DEFRA, the DTI and DfT also have Public Service Agreement (PSA) targets relating to the reduction of greenhouse gas emissions and tackling climate change. However, these central government departments, although responsible for environment, energy and transport often do not have the key levers at their disposal to effect change in behaviour ie taxation falls to the Treasury; efficiency and building standards to ODPM; awareness raising amongst school children DfES. These other departments do not have PSA targets on climate change, and therefore this strategic priority risks being given a lower profile in their list of priorities. In addition the existing PSA targets should be reviewed, especially that set for DfT, in order to make objectives transparent and consistent. As noted above, there has been concern regarding the lack of clarity over the DfT's expected contribution to the overall target.

Sustainable or green public procurement is often seen as a key tool in promoting a more sustainable society and promoting greener solutions. Public sector expenditure accounts for approximately 16 per cent of Gross Domestic Product (GDP).

*At 16% of GDP, it has the potential to create new markets and stimulate innovation in environmental goods. By 2010 we want to see the EU as a whole meet the level of green procurement currently achieved by the best performers - and that's 40 to 50%..*

**Margaret Beckett** <sup>41</sup>

Following on from the publication of the Sustainable Development Strategy in 2005, the government set up the Sustainable Procurement Task Force, a group of business representatives and relevant representatives from government departments. This group was tasked with developing an action plan, by April 2006, to bring about a step-change in sustainable public procurement so that the UK is among the leaders in the EU by 2009. The Action Plan should set out how to embed sustainable development considerations into procurement and investment decisions across the UK public sector. Thus far, however, there has been relatively slow uptake of sustainable public procurement, and it is important that the barriers to this are properly and quickly addressed.

If the government wants to be seen to lead by example it is vital that this approach is integrated into all elements of public sector business, that it is properly resourced and supported politically. Many companies have been able to implement significant greenhouse gas savings and make significant advances in terms of sustainable procurement. At one level this is a relatively simple, quick win and the government must be seen to act. It is vital that more is made of the opportunity this presents and that climate impacts and considerations are fully integrated into future approaches. There has been much work on public procurement completed in other countries (see box 13) and it is important to build on lessons learnt elsewhere. These should be applied not just to buying energy efficient equipment (although this is a step forward) but also to all government-funded projects and initiatives, ranging from the construction of roads and hospitals to the support for regional development programmes.

Climate change is an issue that can often appear, to the public, as overwhelming in its complexity and uncertainty over its impacts on their everyday lives and decisions. In contrast the public sector has at its disposal local resources which can be used to help the public to understand this issue and relate it to their core values. Local government decisions, and the operation of schools, public transport and hospitals are often the most visible practical manifestations of the public sector in a community. There is therefore an obvious role for these services in communicating what is, can be and must be done to reduce greenhouse gas emissions.

## Box 13 – Lessons on green public procurement

With something as broad-ranging as GPP practice it is important to draw lessons from practice internationally. This helps to build confidence that measures work, build political will and provide a context of what is possible.

- **Driving innovation and GPP combine** - Energy Star is a programme in the US, developed by the Environmental Protection Agency to stimulate energy efficient technologies and solutions. The programme commenced in 1992 with the aim of encouraging energy-efficient computers. It has since expanded to encompass more than 35 product categories for the home and workplace, new homes, and superior energy management within organisations – and continues to expand. Funding is used to provide businesses and consumers with information and tools that break down major market barriers and alter decision making for the long term <sup>45</sup>. In 1993 the US Federal Government decided to purchase only Energy Star-compliant IT equipment. The federal government is the world's largest single computer purchaser, and it is estimated that this decision played a significant part in the subsequent move to compliance with Energy Star standards for the vast majority of IT equipment on the market. The environmental benefits of the move to Energy Star by the federal administration have been calculated at 200 billion kWh of electricity saved since 1995, which equates to 22 million tonnes of CO<sub>2</sub>. Subsequently the EU has also adopted the standard, providing a huge additional multiplier effect.
- **Power in Numbers** - Nearly all public buildings and street lighting in South-East Brabant in the Netherlands are powered by green electricity. In March 2002, 21 municipalities in the Eindhoven Cooperation Region signed a contract with a supplier to obtain green electricity for 75 per cent of their consumption, representing about 29 million kWh. The municipalities banded together in order to obtain a better price from the utility. As well as the environmental improvement, the negotiated contract offers a cost saving of €620,000 over previous contracts.
- **Setting a Precedent for the Future** – In 1997, the Community of Helsinki decided to put their bus services out to tender. Traditional award criteria such as overall price and quality were used, but in addition companies could score extra points if they could comply with certain emission and noise levels. On the basis of these extra points the contract was awarded to HKL. This award was contested by Concordia Bus, a competitor on the basis that these environmental considerations could not be used as award criteria. However, the European Courts upheld the use of such criteria, on the basis that they are linked to the subject matter of the contract. This provides a legal precedent for the use of such criteria in the future.

*Councils are central to our efforts to tackle climate change. Everything from transport, house building to the energy efficiency of public buildings is affected by - and affects - the changing climate. Climate change may be a global problem, but councils are part of the solution. They must work together with their communities to make a difference - not only to prepare for climate change but also to reduce the emissions that cause it*

**Margaret Beckett** <sup>42</sup>

Schools offer the potential for educating the next generation of UK citizens and their families on how to mitigate their climate impacts. School buildings and their energy systems are also excellent teaching resources. A variety of schemes to help increase energy efficiency and environmental measures in schools are run through the Energy Savings Trust, including energy certificates. In addition a range of internet information portals are run amongst others by DEFRA and the Scottish Executive – which has a particularly innovative site as part of its ‘do a little, change a lot’ initiative <sup>43</sup>. Other examples of innovative initiatives include work by Hampshire to develop an energy education programme, intended to move schools and their communities towards being more energy conscious. The project included developing school energy policies, providing training for teachers and school managers, delivering home and school energy surveys, establishing an energy saving target, and providing curriculum support materials <sup>44</sup>. However, these innovative approaches in education are not being taken forward adequately on a nationwide basis. There is a need to build on these local efforts and ensure that all schools are actively placing climate and energy issues on their curriculum and engaging with pupils.

Many local authorities have also taken the initiative on climate measures. Box 14 outlines details of the Nottingham

## Box 14 – The role of local authorities – the Nottingham declaration and beyond

In October 2000, the Nottingham Declaration was launched at a conference of 200 leaders, chief executives and senior managers of UK local government. It is designed to acknowledge that local authorities can play a key role in ensuring a more stable environment for future generations in action on climate change. In December 2005, to mark its fifth anniversary, the initiative was relaunched with a conference in Nottingham designed to help local authorities to develop their skills in a range of actions that they might take forward. Local authorities were also asked to sign up to a reinvigorated declaration – see [www.nottingham2005.org](http://www.nottingham2005.org)

The declaration includes:

- acknowledgment that climate change is occurring and will continue;
- welcomes central government targets regarding emissions and the opportunity for local government to lead the response at a local level; and
- commits the Councils to work with central government to achieve emission reductions, to participate in local and regional networks, to publicly declare the commitment to reduce greenhouse gas emissions from the authorities own operations, to encourage all sectors of the local community to reduce greenhouse gas emissions and to monitor progress of their plans and publish the results.

Thus far over 100 local authorities have signed the declaration, each pledging to actively tackle climate change within their area. Each signatory is provided with a pack designed to show the Councils how to develop a sustainable energy strategy, in areas such as housing and transport systems. The pack also contains a number of support measures to help implementation in local authority strategies for combating climate change.

The signing of the declaration is intended to be the starting point for local authority action, with authorities encouraged to develop an action plan to ensure that good intentions turn into reality. There is currently no formal monitoring process in place and as the declaration is non-statutory there are no sanctions if a council has not delivered on a particular aspect of the declaration. However, they are encouraged to set targets and publicise achievements in order to maintain momentum and to motivate both staff and the community. The scheme is administered through the Energy Saving Trust <sup>46</sup>.

Declaration, to which over 100 local authorities have signed up. This sets the platform for action, with each authority acknowledging its role in addressing climate change. The Declaration, however, as a voluntary initiative contains no specific requirements for this commitment to be followed up with action. As highlighted, however, in section 8 some local authorities have voluntarily embraced the need to put in place innovative local measures in this area. Local authorities have at their disposal important tools, such as the stipulation of requirements on planning permissions, to help ensure that local developments undertaken now contribute to the reduction of emissions and continue to do so into the future. There is a need to build on the work of the most proactive authorities, explain how such measures can be utilised and share the knowledge to improve practice. In addition a clear and strong steer from central government on this approach is needed. This should encourage innovation within local authorities, but also prevent a widening divide emerging between the most ambitious and least.

## 9.2 Lessons learnt

- The public sector is hugely diverse and influential; hence, it is vital that it is seen to be acting on climate change in a coordinated way, with all elements working towards transparent and complementary goals.
- The provision specific public sector targets on climate change and emission reduction is valuable. The targets for central government departments on climate should however be expanded so that all departments are required to properly consider this important challenge and will be required and to report on their efforts in this area. The expected contributions of the various departments should also be clarified.
- Climate change is an issue of concern for those within the public sector and there are many examples of bottom up good practice emerging. These need to be capitalised upon with lessons and ideas consolidated. There is a

need for innovation to be encouraged, but also for laggards to be required to meet a certain minimum standard – potentially set down by central government. An ever-widening divide between leaders and laggards at the local level must be avoided.

- Sustainable public procurement represents a major opportunity for delivering change and addressing climate change. This must be integrated into all aspects of the public sector, with a clear assessment of the barriers that might exist and how these will be overcome. This must build on the lessons emerging elsewhere both internationally and within the private sector. This approach offers a quick win in terms of policy, with a potentially huge impact.

### 9.3 The way forward and the UK CCP

As climate change is agreed to be one of the most important challenges facing the UK today, it is vital that the government, and hence the public sector, be seen to lead by example. Into the future there is a need for better coordinated action across the public sector over climate change. There needs to be clear direction, goals and targets set across the sector, with all elements of government committed to taking forward action. A tool to do this might be the extension of PSA targets to reflect the fact that all departments have the ability to stimulate action on climate change. The UK CCP highlights that consideration will be given to how to ensure that the local government performance framework takes climate change into consideration appropriately.

Sustainable public procurement, if utilised correctly, can offer major benefits in terms of the reputation of the government, stimulating the development of more climate-aware businesses and reducing emissions from the public sector. Climate change must be properly integrated into a sustainable procurement policy developed by the government and its Sustainable Procurement Taskforce.

As in other areas, the implementation of measures must be better considered. Initiatives such as the Nottingham Declaration are important, but would be greatly strengthened by more coherent follow-up on commitments, sharing good practice on implementation, etc. In the UK CCP the government has set aside £4 million of new funding to create local authority best practice support and improvement programmes, which will be launched in 2006 to 2007. This is welcome in principle, but it is not yet clear how this money will be used and it appears unlikely to be enough to make a real difference.

There is also need to be a better focus, when developing policy measures, on whether they are fit for purpose in the public sector. Under the UK CCP public sector initiatives are focused on the provision of funds to both local authorities and other public sector organisations for the completion of new voluntary initiatives, including a £20 million loan fund to finance energy efficiency. While considering fitness for use, it will also be important to consider whether continuing to only require voluntary efforts on climate change, for the majority of actions within the public sector, is appropriate.

**The UK has been relatively slow in making the most of the opportunities presented by the public sector in tackling climate change. There is a need for a more transparent and consistent approach to this across the sector, particularly in terms of the steer coming from central government. Efforts are, however, being made by different elements of the public sector to innovate and taken forward climate action especially at the local level, and recent initiatives on sustainable procurement may yet provide key tools for taking forward action into the future.**

Leader



Laggard

# 10 A platform for a change

## perceptions of climate action in the UK

In the UK all the three of the main political parties have highlighted that there is a need to address the problem of climate change, with the Liberal Democrats particularly pushing for an all party consensus on the issue. The fact that all the major parties are at least talking of action is a major step forward in ensuring continuity in the event of a change of government or political leader. There is now a fundamental need to capitalise on this acknowledgement of the need for action, and to develop a clear way forward for climate change measures.

For this to succeed, however, there needs to be more than just political consensus; there needs also to be commitment within all government departments that action should be taken, and an understanding of the scale of action that will be required by each (see chapter 12). There also needs to be a level of understanding amongst the public at large regarding the need for action and a transparent way of presenting action so that the reasons behind it are understood and its implications are clear. It is important to avoid climate measures being unnecessarily identified as the reason for ills, eg the assumption that all rises in electricity prices are due to emission reduction policies, or that emissions reductions will automatically impair economic growth.

Public opinion and the possibilities of grass roots action offer major opportunities in driving change; but also pose major challenges. This is especially true when trying to explain a complex problem, such as climate change, because there is a pressing need for action, when outcomes are uncertain; because the scale of the challenge is so great; and because the impacts at present often appear remote or intangible for an individual. On a positive note, public understanding of climate change issues appears to have developed over the last year, with the way in which it is being presented in the media also altering. This reflects both the changing political mood and the profile provided by politicians, but has also emerged in the wake of major natural disasters, unusual weather events and high profile developments in understanding regarding the rate at which the climate is changing.

Action by individuals is vital if major change is to be achieved. This is acknowledged in the 2006 Climate Change Programme, with a section dedicated to 'Stimulating action by individuals' focusing on the 'how government can play a critical role, by establishing a framework that encourages and enables change in behaviour'. It is essential that government leads individuals down a more sustainable path and now takes concrete action to do this. There cannot be an assumption that individuals, even if they are well informed regarding the issues, will take proactive action. Research into public perceptions in this area reinforces this, suggesting that the public wants the government to take a lead – see box 15.

*There is personal and social responsibility involved here. We can as individuals make a difference, both in the way we behave and the way we use the environment, and persuade other people to use their behaviour to do so. But it has got to be matched, and I think this is the important policy point, by measures that we take as a community as a whole. Voluntarism in its self will not be enough*

**Gordon Brown**<sup>47</sup>

*Individuals can't be expected to take responsibility for reducing the UK's CO2 emissions unless the government establishes a regulatory framework to encourage them to do so.*

**Caroline Lucas, Green Party**<sup>48</sup>

The 2006 CCP's actions in this area focus predominantly on awareness raising activities, including a strong emphasis on web-based information services, funding for community action groups (both part of efforts more generally on environment) and the Climate Change Communication Initiative\*. There is also a focus on providing funds for certain actions, the development of eco-design standards and the development of voluntary schemes to

\* Launched in December 2005, the government's programme entitled 'Tomorrow's climate, today's challenge' is a three year drive to communicate the threat of climate change and the need for everyone to tackle the problem. It provides funding of at least £12 million over the period 2005-08, to tackle public attitudes to, and understanding of, climate change, and what we can each do to help reduce our personal contribution to climate change.

## Box 15 – Public Perceptions of Climate Change – Implications for Action

Work published in December 2005 by the University of East Anglia <sup>49</sup> looking at public perceptions of climate change found that 91 per cent of respondents believed that the world's climate is changing, with 77 per cent registering concern about climate change. A clear majority (94 per cent) indicated that action should be taken against climate change, 62 per cent underlined commitment by stating that 'every possible action' should be taken. Over half of those surveyed (57 per cent) felt that current rules and regulations are insufficient to address climate change, with only 14 per cent of people confident that the UK Government adequately tackles climate change. The three main tools respondents suggested should be used to tackle climate change were:

- manage demand through behavioural change (69 per cent);
- use of renewable sources (68 per cent); and
- use of energy efficient technologies (54 per cent).

Regulation and taxation were far less popular mechanisms for change, with only 12 per cent of respondents feeling that these should be utilised. Interestingly while the vast majority perceive the need for action, only 8 per cent felt that responsibility for change lies with the individual and families. However, many seem keen to see governments act on this issue, with 32 per cent of people attributing responsibility to the global level and 39 per cent at the national level.

Recently published survey conclusions, by Eurobarometer on 'Attitudes toward energy' <sup>50</sup> also provide some interesting insights into the mindset of the UK public, and how this might compare to that in other EU Member States. When asked about the sorts of energy technologies national governments should invest in, solar energy came out on top, with nuclear at the bottom. In addition it was found that the UK public, along with those in Luxembourg and Denmark, are the most willing to pay more for renewable energy. In terms of awareness of energy use when making purchases, however, the UK public scored near the bottom, with only 46 per cent, 42 per cent and 35 per cent respectively stating that they pay attention to energy when purchasing cars, refrigerators and light bulbs.

encourage more energy efficient purchasing. Little reference, however, is made to concrete dates by which these measures will be developed, and a long term vision for this area is lacking eg key funding streams only apply for the next three years. In addition, there are few measures relating to the direct or active encouragement of behavioural change, an area of action fundamental in this field.

The CCP also makes reference to the importance of the government leading by example, with mechanisms such as Sustainable Public Procurement helping to raise people's awareness of climate issues. This is an approach the government has proposed to focus on under the UK's Sustainable Development Strategy – see chapter 9 on public sector action.

Many of the tools proposed, however, operate on the basis that people are open to the need to change their behaviour ie they acknowledge that it is their responsibility to change. Looking at research such as that outlined in box 13, however, people often do not appear to feel that responsibility rests with them as individuals, potentially limiting the effectiveness of proposed instruments. This suggests that there is scope and need for better communication and more proactive measures to encourage behavioural change.

# 11 The UK Climate Change Programme driving forward action?

On 28 March 2006, following repeated delays and uncertainty, the UK government's Climate Change Programme 2006 was published. Margaret Beckett and the document itself both highlighted that this is '*not the last word*' on the issue and that '*there is more that government can and will do to meet the target*'<sup>51</sup>. This merely heightened the perception that the review was an awkward compromise and a piece of unfinished business, however, and its publication was met with widespread criticism from opposition parties and environmental NGOs. This criticism centres on the expectation that the domestic target of a 20 per cent reduction in carbon emissions by 2010 (based on 1990 levels) will be missed. Instead the government now anticipates achieving a reduction of 15-18 per cent. More generally a reduction of overall greenhouse gas emissions of 23 to 25 per cent between 1990 and 2010 is anticipated – and this would undoubtedly be an achievement of note. It is estimated that the additional measures outlined in the 2006 Climate Change Programme will result in between 7 and 12 MtC saved in 2010 (the degree of uncertainty, a high proportion of the savings, and the greatest overall contribution are all generated by the projected if of the air impact of the second phase of the EU ETS).

*The Government's efforts to tackle climate change remain piecemeal, timid and half-hearted. This was an opportunity for Labour to show how they intend to lead the world, and they have missed it. Instead we get fudge and a photo-call. There is nothing new in this review, just a series of recycled announcements.*

**Peter Ainsworth**<sup>52</sup>

The government has repeatedly reasserted its commitment to the 2010 target, it being a key manifesto pledge at the last election. It is, however, not just the fact that the target will be missed that has raised concern; more crucially it is the manner in which it will be missed, the implicit acceptance of this and the impact this will have on the UK government's reputation. The review of the UK's climate policies gave the government the opportunity to address the gaps and move forward in terms of reductions, but unfortunately, despite some new initiatives, it fails to do so to any significant extent. In contrast, if an adequate commitment had been made, it may well have been possible to reach the target or at least be seen to be trying seriously to reach it.

*Tough action is needed to tackle climate change. But once again the Government has caved in to short-term political pressures and produced a totally inadequate response. This pathetic strategy will not deliver the Government's promise to cut carbon dioxide emissions by 20 per cent by 2010, and will further undermine the Prime Minister's reputation on this issue*

**Tony Juniper**<sup>53</sup>

Importantly, although there has been a downward trend in the level of emissions since 1990, in recent years there has been an increase in the level of CO<sub>2</sub> emissions, ie reductions have slowed and then gone into reverse. This is a cause for concern as, although the UK is expected to easily meet its Kyoto target (primarily due to changing dynamics within the energy sector ie the switch to gas), it is vital that reductions continue in the longer term. This is essential to address the problem of climate change, but also to ensure that this is done in the most effective and efficient manner. Both the business community and the government have acknowledged that there will be considerable costs associated with postponing action, not only in terms of the higher costs to meet future targets but also in terms of benefit forgone from impaired ability to compete in emerging green markets, as well as the reputational damage to the UK's image as a 'climate leader'.

*Just two days after the government effectively abandoned its climate change targets we learn that carbon dioxide emissions continue to be on an upward trend. Whilst Tony Blair continues to make fine speeches about climate change he continues to fail to put his own house in order.*

**Keith Allott**, Head of Climate Change at WWF<sup>54</sup>



## Box 16 – Terms of Reference <sup>56</sup> of the review assessed against the 2006 Climate Change Programme as published

When Defra launched the review of the UK's climate change programme in September 2004, it set out Terms of Reference to highlight what the review should achieve. Below these are assessed against the content of the new climate change programme as published.

Terms of Reference	Achievement
to evaluate key elements of the UK Climate Change Programme, to measure their impacts and effects	<b>Yes</b> , the review does <b>catalogue existing measures</b> and provide an assessment of <b>achievements thus far</b>
to update greenhouse gas emissions projections	<b>Yes, revised figures are included</b> eg in relation to anticipated reductions in transport emissions actually making figures more realistic than in the past
to assess whether the UK is on course to achieve its target under the Kyoto Protocol	<b>Yes</b> , there is an <b>'assessment' that the UK will meet its Kyoto target</b>
to assess whether the UK is on course to achieve its domestic goal to reduce carbon dioxide emissions by 20 per cent below 1990 levels by 2010	<b>Yes</b> , there is an <b>'assessment' of whether the target will be met</b> , although disappointingly the assessment <b>suggests it will be missed</b>
to assess whether the UK is on course to make the "real progress by 2020" towards the longer-term goal of reducing carbon dioxide emissions by some 60 per cent by about 2050, anticipated in the Energy White Paper	<b>No</b> , there is little <b>consideration of the longer term perspective</b> within the new Programme, which is a key failing. In climate policy it is vital to consider the longer terms strategy and how measures will be taken forward over time; but although there is some mention of 2020, there is <b>no assessment as to whether this represents 'real progress' towards longer term goals, or even of what 'real progress' might be.</b>
to identify and evaluate the options for putting the UK on a path to a 60% reduction in carbon dioxide emissions by 2050 by delivering further reductions in greenhouse gas emissions through to 2010, 2015 and 2020	<b>No</b> , this <b>assessment of what is needed</b> does not appear in the programme, although it is arguably a key component of strategy
to set out how we intend to ensure the UK achieves its Kyoto target and continues to move towards its domestic carbon dioxide goals	<b>Yes</b> , the programme <b>does set out how the UK will 'move towards' its domestic target, but not how it will achieve it</b>
to assess the costs and benefits to the UK and to UK business of the proposed revised programme of action to reduce emissions	<b>Yes</b> , costs and benefits are assessed <b>although limited consideration is given to the long term savings</b> arising from action now; mention is made of this in the text but is not <b>reflected in the policy outcomes</b>
to prepare for the 4th National Communication to the UNFCCC1 Secretariat, and to ensure that the UK can report with confidence in 2005 to its European partners and the international community that the UK has made "demonstrable progress" towards its Kyoto target	<b>Yes</b> , the <b>UK has certainly made progress towards its Kyoto target</b> , although arguably largely due to price and technology developments leading to a switch away from coal and oil to gas. The report is comprehensive in its review of developments and does make assessment against the 1990 baseline (although this often masks adverse recent trends)
to assess the UK's response at national, regional and local level to adapting to the impacts of climate change	<b>Yes</b> , there is a <b>section on adaptation to climate change, which is limited in content but a significant development</b> compared to the previous programme

Lack of coordination between government departments and public disputes over the level of action required have undermined the programme. Disagreement between government departments over the level of emissions reduction to be sought during the second phase of the EU emissions trading scheme - a fundamental element of the UK policy mix - has intensified concerns that not all departments, and not all Ministers, are dedicated to making meaningful progress on emission reductions. This appears to be contradictory to high-level declarations of the importance of the climate change challenge facing us all today.

*The review is nine months late and a failure. This is much bigger than a sidelined Labour manifesto pledge and a Whitehall turf-war. The Prime Minister must call his Ministers to account. He must explain to the nation how he will get Britain back on target to reduce climate change*

**Menzies Campbell**<sup>55</sup>

*This is an issue which, above all others, demands joined up Government. Instead, we see Government departments squabbling as emissions continue to rise*

**Conservative party spokesman**<sup>52</sup>

There were clear terms of reference (ToR) set out for the review, and box 15 provides a summary assessment of the 2006 Programme against these. Analysis of the ToR shows that the 2006 Programme does indeed meet many of the specified requirements, but this does not stop it being a disappointment to many. In addition, two of the most fundamental requirements are not adequately dealt with: the assessment of whether the UK is on course to make "real progress by 2020" towards the longer-term goal of reducing carbon dioxide emissions by 60 per cent by 2050 and identification; and evaluation of the options for putting the UK on a path to meet the 60 per cent reduction by 2050. With most of the ToR reflecting relatively minimal requirements such as assessing and updating, the latter action is one of few that actually required proactive steps to be taken, and they were not.

On top of this, the ToR themselves are largely unambitious. That is, they focus on assessing where we are rather than identifying problems and developing policy solutions, the fail to highlight the more deep-rooted problems associated with the UK's approach to climate policy.

The current programme does not therefore set out a clear way forward for UK action on climate change. The outcome is mixed and there are confusing messages, with on the one hand climate being made a priority while on the other the climate programme is not as strong as is necessary to meet stated aims. The programme has been weakened further by problems and delays associated with its publication; conclusions being undermined by reviews and processes going on elsewhere; and divisions that have become evident within the government in relation to the level of ambition.

The fact that the UK is on course to meet its Kyoto target is important, as is the fact that it is anticipated that there will be at least a 15 per cent drop in carbon dioxide emissions. Equally important, however, is that for the UK to maintain this position as a leader when compared to other countries, and to maximise the reputational and economic benefits of being in such a position, requires a clear, proactive vision for the future. This vision should contain a clear, practical way forward on climate issues and the reduction of emissions; in order to achieve reductions in the medium to long term it is essential that the correct action is taken now. This is not provided by the 2006 Programme.

# 12 Climate policy, a way forward

## enabling the UK to lead

The renewed Climate Change Programme does outline opportunities for additional emission savings, albeit the level of ambition is low. It also allows some conclusions for future climate policy to be drawn. Given the emphasis on continual review of climate actions and a proposal for a new annual report to Parliament it is important that lessons for the future are learnt to make further reviews more efficient and to ensure they deliver useful and timely results in a pragmatic and rigorous manner. In this vein the following is an assessment of what policy making in future might look like.

Key features of this round of review and programme relaunch that need to be improved upon for the future are outlined in box 17. These are accompanied by suggestions for the future, representing approaches that this and future governments should utilise to address current deficiencies. In summary these point to a future for climate policy making based around the following elements.

- As far as possible, the current appearance of **high-level cross-party consensus** on climate should be capitalised upon to raise the climate strategy above day-to-day party politics.
- The need for a **strategic approach** to climate policy where **aims, objectives and targets are clearly set out, accompanied by binding requirements** placed upon government – it is proposed that all government departments be given clear greenhouse gas emission performance targets, which are transparent and have consistent baselines.
- Based around these goals **priorities reflecting barriers to change and problem areas** should be identified and focused upon, **rather than taking a broad approach to dealing with all issues. The emphasis should be on delivering solutions to meet the goals set out. Solutions should be clearly thought through, including the selection of policy instruments and the course of action in terms of implementation and enforcement.**
- **Where parallel processes** that impact on climate are ongoing, it **must be clear what the emerging solutions in relation to climate should be**, to allow an informed debate and clear input into such processes.
- If climate truly is being seen as a major challenge, government **departments must all be seen to be working together**. The opportunities for change must be maximised by making use of all tools available to all departments.
- There are many other initiatives that the government should and could be taking forward. There are also some good ideas within the 2006 Programme, but the timetabling of many measures is uncertain. **Clear timetables need to be set out to achieve future action.**
- There is a need to **make the most of the proposed annual reporting** to ensure that the opportunities offered are capitalised upon. This should not just be to report updated figures, but to **proactively engage all political parties and stakeholders on a regular basis to identify a way forward on key issues, agreeing priorities and actions.**

*What we need is serious action for the long-term, not the spinning of targets for the short-term*  
**David Cameron**<sup>57</sup>

*Tackling climate change will take leadership, dynamism and commitment*  
**Tony Blair**<sup>2</sup>

*I am determined that we account to our children and grand children for what we did not what we said*  
**Sir Menzies Campbell**<sup>58</sup>

*There is a need 'to have practical and substantive measures... cannot do this simply by warm words you have got to do it by substantive practical long term measures... What we need is a debate based on a willingness to take tough long term decisions*  
**Gordon Brown**<sup>47</sup>

## Box 17 – Focusing on problems and solutions

Key problems are identified below in the current approach to climate change policy making. Ten proposals are indicated to prevent such problems re-emerging

	Issue Highlighted by the 2006 Programme and Review Process	Solution Proposed for the Future
1	<b>The protracted review process</b> - There were difficulties in the timing of the review, with its publication significantly and repeatedly delayed. The five-yearly interval between updates is too long and a new process is needed. <b>Climate change science and policy are changing rapidly</b> and this needs to be reflected.	<b>The new annual reviews should be used to ensure that priority climate issues are being dealt with.</b> The annual reports should trigger a yearly discussion on the way forward for climate policy. They should <b>help build on the emerging cross-party commitment on climate, and used proactively to engender discussion on key issues, to highlight key problems and barriers that need to be addressed and develop solutions with cross party buy in.</b>
2	<b>The broad brush approach</b> taken allows little opportunity for issues to be explored in depth, so the programme's impact was weakened. The current five-yearly review means that all aspects must be covered, but this <b>does not allow prioritisation and in-depth assessment of problem areas</b>	Given that a rolling programme of review is now proposed, a <b>more systematic and pragmatic approach could be taken to climate policy making in future.</b> Although action needs to be taken across all actors in the UK, it is important to <b>focus the debate on priority issues, problems and barriers and address these specifically using the best tools.</b> In this way the government can use a more targeted policy approach to achieve emission reductions. The review of the European Climate Change Programme, where four key priority areas have been highlighted, offers an alternative model. This allows stakeholders to be engaged more effectively as they have a clearer concept of what they are addressing. Finally, although priority issues should be focused upon, it should be clear <b>how these feed up into the broader approaches to climate policy, how they deliver on key goals and sit with other measures. In short, the overall</b> programme should become more clearly structured and allow more effective assessment of problems and identification of solutions within this structure.
3	<b>Key gaps were not sufficiently focused upon.</b> In the 2006 Programme, developments in some areas were constrained by parallel processes. However, other areas where there was a possibility for making clear future statements were not focused upon, eg in the business sector. This is a missed opportunity	
4	There is a <b>lack of a clear way forward and a strategic approach balancing short term and long term measures.</b> At present the 2006 Programme seeks to do many things but fails to address the key issue of the long term dynamics of UK climate policy. The manner in which missing the 2010 target was accepted is an example of this.	There is a need to decide where the UK policy is headed, not just for the long term in 2050, but also how we plan to get there. <b>There is now no clear framework of what the UK has to achieve, or has ambitions to achieve. A clear statement of purpose is needed, and within this all government departments should be set clear targets against which their performance will be transparently assessed.</b> Many stakeholders now appear to favour sector targets, and performance against such targets should also be reported to Parliament.
5	<b>Decisions with major implications for climate change are being taken forward outside the Programme with no reference to the required outcomes from a climate perspective.</b> There does not appear to be a 'joined up' approach to the various reviews ongoing. This reflects other political pressures and competing objectives in these other processes	In future there is a need to <b>set out clearly what the climate policy needs are</b> for parallel policy processes. Once these have been identified, this <b>an informed debate can help to balance policy priorities in a transparent way.</b> A more strategic approach to climate policy making, as outlined in solution 4, would itself facilitate a better understanding of needs and requirements from the outset.
6	There is an <b>perceived lack of commitment within certain government departments</b> to take action and approaches are not joined up. The 2006 Programme and review have been <b>undermined by the apparent lack of commitment to change within some government departments</b> and public disputes between different interests.	The nature of the climate challenge means that it is <b>essential that all government departments are seen to be committed to action. All departments should therefore have clear performance targets for greenhouse gas emission reductions.</b>

7	<p><b>Messages on the benefits of climate action are unclear.</b> There appear to be mixed messages arising from the divergence between the high level aspirations of the Programme and its actual content.</p>	<p>It is <b>vital that rhetoric and reality be more closely aligned on climate issues.</b> The impression that the rhetoric of senior politicians (from all parties) is not translated into tough action is undermining climate policy and the perception of UK accomplishments. For example it is often stated that early action is needed, that there are competitiveness benefits for such action, yet this does not appear to translate into any sense of urgency in the approaches taken by key government departments</p>
8	<p>There is insufficient focus on <b>ensuring</b> that the measures selected are fit for purpose. It is preferable to have a mix of appropriate policy tools than have one approach badly utilised across the board.</p>	<p>There needs to be a <b>proper assessment of the appropriateness and benefits of using particular policy instruments to bring about change.</b> For example, the 2006 Programme mentions emissions trading in various sector contexts including agriculture, but seemingly with little real focus on what will work best and where.</p>
9	<p>There appears to be a <b>lack of focus on effective implementation</b> of measures and the requirement that existing measures are <b>rigorously enforced.</b></p>	<p>Although, new policy initiatives are welcome, it is equally important to ensure the effective implementation of existing measures. <b>Without implementation and enforcement the policies proposed will not lead to change.</b> This is particularly important in relation to innovative policy solutions such as emissions trading.</p>
10	<p><b>Solutions proposed are often vague in substance and timetables.</b> There are many proposals to ‘explore’ or ‘assess’ an issue with no explanation of what such an action will entail or the deadline for its completion.</p>	<p><b>Solutions must be clear and timetables should be explicit</b> in order to clarify how actions will be taken forward and to instill more confidence in the processes. In a democratic society this allows the government to be held to account more effectively.</p>

# 13 Conclusions: leader or laggard?

Is the UK leader or laggard on climate change? On some aspects, it is undoubtedly a leader. First, it is one of the few industrialised countries that is well on course to meet its greenhouse gas reduction target under the Kyoto Protocol. The UK had a 'head start' as a result of the switch from coal to gas for electricity generation in the early 1990s, but the Government has followed this up with some innovative policy instruments such as the UK emissions trading scheme; the Climate Change Levy and Agreements; and its restructuring of car taxation according to CO<sub>2</sub> emissions. These policies have also contributed to further emissions reductions.

The UK has also demonstrated leadership on taking forward climate change policy internationally. Under its Presidency of the G8 in 2005, the UK focused the attention of the leaders of world's largest industrialised economies on climate change to an unprecedented degree. Under the UK's EU Presidency, progress was also made at the COP11 and COP/MOP1 meetings in Montreal, and climate change was integrated into the EU's external relations policy to an extent not seen under any previous Presidency. Having said this, these agreements now need to be translated into concrete action; whether the agreements eventually live up to the rhetoric remains to be seen.

Domestic action on climate change, however, is now lagging behind the Government's declared aspirations. According to the 2006 UK CCP, the domestic target of reducing the UK's CO<sub>2</sub> emissions by 20 per cent by 2010 will be missed. Even though the Programme underlines that it is '*not the last the word*' on UK action on climate change, its seeming acceptance that the 2010 target will not be achieved is a step backwards. This gives the impression that the target has not been treated as seriously as it might, especially given that all the major parties now agree that climate change is such a priority issue.

The apparent lacklustre approach to the 2010 target also risks undermining the UK's longer term commitment to reducing emissions by 60 per cent by 2050. These concerns are compounded by the fact that emission projections show that the UK will not achieve its 20 per cent reduction in CO<sub>2</sub> ie the 2010 target until well beyond into the next decade, with emissions rising between 2010 and 2015, and only dropping between 2016 and 2020. Although it was intended to do so, the review conspicuously fails to give a longer term perspective on the aim of a 60 per cent greenhouse gas reduction by 2050. It also fails to offer the long term policy framework that progressive industry leaders have called for.

Given that the 2010 target is to be missed there are currently no operative intermediate goals between now and 2050. There is a need for a clear way forward to meet this later and more challenging goal. The sectoral analyses brought together in this report underline that the UK could be doing better in many areas.

While the energy supply sector has been instrumental in delivering greenhouse gas emissions reductions to date, the UK is lagging behind most of its EU partners in developing renewable technologies, in terms of both action and aspiration. The approach taken by the UK to emissions trading, in setting up its own scheme prior to the EU one, was positive and proactive. In contrast, the UK's image as a leader on climate change was damaged by its handling of the development of the NAP for the first phase of the EU Emissions Trading Scheme. The UK, through the work of the Environment Agency, is one of the leading countries in relation to implementing and taking forward good regulatory practice in relation to the EU ETS, and the experience with the UK scheme has benefited carbon traders in the City of London. Such activity is supported by the fact that the UK is a perceived protagonist and leader on emissions trading. Efforts are needed to maintain this position or this leading role, along with all its ancillary benefits, will be undermined.

In the transport sector, the differentiation of vehicle taxation by CO<sub>2</sub> emissions was the first policy of its type in the EU and is being copied by other countries. However, the fact that emissions from transport are still increasing is a major cause for concern, and of the two transport policies that have delivered most emission reductions to date, one – the fuel duty escalator – has been abandoned and there are increasing doubts that the other – the EU-level voluntary agreement – will achieve its targets. Even though it is predicted that the new RTFO will help to bring transport's emissions under control, this will not be enough and there has arguably been insufficient ambition in the transport sector to reflect its importance.

In the household sector, while some progress on improving building standards has been made, there is still an urgent need to ensure that new houses are built to the highest possible standards. Most housing built today will still be contributing to climate change in 2050 and beyond, and increased effort in this area is required. The UK currently lags behind other EU Member States in the housing sector, and lack of action in this area also increases other social ills such as fuel poverty – an issue of far lesser importance in many other Member States including those that experience more extreme winter weather than the UK. New housing represents a tiny proportion of the UK’s overall housing stock (with about 1 per cent turnover per year), so further action is needed to address the existing stock, and existing and proposed measures here are clearly inadequate to the scale of the task.

The action of UK citizens is vital in order to shift efforts on climate change up a gear. Actions outlined in the CCP in relation to individuals, including the government’s new initiative the ‘Tomorrow’s climate, today’s challenge’ programme (designed to communicate and inform the public of the need for action) lack the teeth to stimulate change. The Government’s current proposals rely on improving products and providing information and funding ie giving people the knowledge to choose to make a change rather than actively changing behaviour or encouraging such change. In other words, there are plenty of carrots, but few sticks. This approach does not sit well with the results of public opinion polls, where it has been revealed that the public at large does not feel that individuals should be responsible for making change happen without a lead from government.

While the actions of the whole UK community are important, from individuals and households to big business, it is fundamental that the UK government is leading this action. This involves the setting up of proactive, forward-looking policy to guide and encourage efforts by others, and also leading by example. While the government has in the past taken the initiative in terms of the use of innovative policy instruments and measures, there is no longer a clear way forward in terms of policy targets on climate or a strategy to take forward coordinated action. There also appears to be a disconnect between the levels of ambition of different government departments.

The key strategic UK document on climate, the 2006 UK CCP, lags behind the aspirations of its own terms of reference, themselves relatively unambitious. The CCP fails to meet two of the most ambitious goals set out for it. These two aims are fundamental to the future of UK climate change policy and the way forward, relating to ‘real progress by 2020’ towards the 2050 target and identification and evaluation of options for putting the UK on a 60 per cent reduction path by 2050.

If climate change is truly the ‘*greatest challenge we face*’, then the UK CCP does not set about addressing it effectively. While the UK is a leader in reducing its emissions and engaging others in the international process, it is lagging behind its own aspirations and the expectations of others, which have been based on the UK’s rhetoric of leadership. Although there is very positive action in some areas, this is counteracted by inaction in others. Additionally, the current CCP defers some of the most important climate questions to the Energy Review and beyond, but does not set out what the climate needs are from these parallel processes.

The government have stated that this is not the last word on the UK climate action, merely a further installment. There is now a need to reinvent the UK’s approach to policy making for climate change, to enable further real progress to be made in both the short and the long term.

**Overall a leader or laggard?**

Overall UK leadership, can be split between domestic and international action. Given the UK’s diminishing share of global emissions, international engagement is particularly vital in this arena. Thus far the UK has shown that it is committed to using its reputation and negotiating power to achieve change at this level. Domestic action however, is crucial too, both for its own value and to legitimatise a progressive international role. Given the performance in the sectors summarised above, domestic achievements lag behind the expectations generated by the UK in its international leadership role.



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## the all-party parliamentary environment group

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Now one of the larger all-party groups in Parliament, the All-Party Parliamentary Environment Group was set up twelve years ago to strengthen the influence of Parliamentarians on public policy and public debate on the environment. The Group also aims to assist Parliamentarians by improving their access to specialist information through regular group meetings and contact with senior environmental managers and directors from industry and NGOs, written briefings and special reports such as this one.

The group has some 175 Members of Parliament and the House of Lords and more than 200 associate member companies and organisations. It holds regular meetings and receptions at the House of Commons, with talks by leading British and International politicians and captains of industry on key environmental issues. A newsletter and briefing sheet is produced after each meeting.

Over the years the Group has played host to quite a number of different British Ministers including Margaret Beckett, Elliot Morley and Michael Meacher, the Dutch, German and Danish Environment Ministers, senior Brussels officials including Margot Wallstrom, EU Commissioner, and many others from government, business and the campaign groups both in the UK and abroad.

The Group meets 5 or 6 times a year at the Houses of Parliament and membership is by invitation. If you would be interested in joining the Group as an associate member, please contact the membership office shown opposite with details of your company or organisation.

## The Institute for European Environmental Policy



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The Institute for European Environmental Policy (IEEP) is a leading centre for the analysis and development of environmental and related policies in Europe. An independent, not for profit organisation, the Institute has offices in London and Brussels. IEEP brings a non-partisan analytical perspective to policy questions, engaging in both pressing short-term questions and long-term strategic studies.

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