Climate Change
The UK Programme
Summary

Department of the Environment,
Transport and the Regions
Scottish Executive
The National Assembly for Wales
Department of the Environment
(in Northern Ireland)
Climate change is one of the most serious threats facing the world’s environment, economy and society. But if we all act, the world can avoid its worst effects. The devastating floods, droughts and storms we have seen in the UK and across the world in recent years show all too clearly how vulnerable we are to climate extremes and how devastating they can be. And we have been warned that things will get worse. We have to take practical action to deal with flooding and severe weather. But we also need to tackle climate change by cutting the greenhouse gas emissions that cause it.

As a result of the Kyoto Protocol, developed countries have agreed that they will cut their overall emissions of greenhouse gases by 5.2% below 1990 levels by 2008-2012. For the first time, these targets will be legally binding and countries have different targets to reflect their circumstances.

Following Kyoto, the UK’s target is to cut its emissions by 12.5% below 1990 levels by 2008-2012. But the Government and the devolved administrations are convinced that the UK can and should go further. The Kyoto Protocol is only the first step. In the longer term, bigger cuts worldwide - perhaps 60% or more - will be needed. There will also be many benefits for the UK from taking early action to cut our emissions. This approach is supported by many other stakeholders, including business and local authorities.

The Government and the devolved administrations have therefore set a domestic goal to go further than the Kyoto commitment and cut the UK’s emissions of carbon dioxide by 20% below 1990 levels by 2010.

The UK’s programme is a significant contribution to the global response to climate change. It sets out a strategic, far reaching package of policies and measures across all sectors of the economy. We estimate that it could cut the UK’s greenhouse gases by 23% below 1990 levels by 2010. This means that carbon dioxide emissions could be reduced by 19% by 2010 and that we could achieve the 20% domestic goal.

The programme is supported by many other stakeholders. Not only have they worked closely with the Government and the devolved administrations to develop it. They will also be crucial in delivering it.
They recognise the benefits that the policies and measures offer including:

- improved energy efficiency and lower costs for businesses and householders;
- more employment opportunities through the development of new, environmental technologies;
- a better transport system;
- better local air quality;
- less fuel poverty; and
- improved international competitiveness for the UK.

The programme sets out how much we have achieved during the last decade, and how much we intend to achieve in the future, through action by businesses, local authorities, other organisations and individuals. The programme highlights good examples and aims to inspire others to take similar action.

This booklet provides a summary of the main areas of action and key facts and figures relating to the programme.

**Why should we act?**

**The world is getting warmer**

Global temperatures rose by 0.6°C during the last century,

- they are forecast to rise by about 3°C during this century; and
- the 1990s included seven of the ten warmest years on record and 1998 was the warmest year in a 140-year record.

Average temperatures have also risen in the UK. In England, four of the five warmest years in a 340-year record were experienced in the 1990s and 1999 was the joint warmest year ever.

**Observed and predicted global temperature change**

![Observed and predicted global temperature change graph]

*Source: The Met Office’s Hadley Centre for Climate Protection and Research*

**The world faces major impacts**

The rate at which the climate is changing will affect the world in extreme and unpredictable ways. Climate change brings with it huge costs to the economy, environment and society, including:

- temperature increases, drought and flooding will affect people’s health and way of life, and cause the irreversible loss of many species of plants and animals;
- rising sea levels threaten the existence of some small island states and puts millions of people at risk; and
- in the UK, rising seas threaten our
coastal communities and environment, and higher temperatures, increased and more intense rainfall will bring droughts and flooding.

Source: Environmental Images

**Avoiding the worst impacts**

We cannot avoid some climate change. Greenhouse gases which have already built up in the atmosphere mean that some rise in temperature is inevitable. So we need to consider what steps we should take to cope with the effects. But the worst effects of climate change can be avoided if the world begins now to cut its emissions of the greenhouse gases that cause climate change. This is a major challenge and the scale of the changes needed must not be underestimated.

**The world is responding**

Countries around the world are taking action through the United Nations Framework Convention on Climate Change, which was agreed at the Earth Summit in Rio de Janeiro in 1992. Under the Convention, all developed countries agreed to aim to return their greenhouse gas emissions to 1990 levels by 2000. The UK will be one of a small number of OECD countries who will meet this target, as its emissions in 2000 are projected to be about 13.5% below 1990 levels.

These commitments can only be a first step in the fight against climate change. Climate prediction models show that much deeper cuts in emissions will be needed globally - perhaps 60% or more - if we are to avoid the worst effects of climate change. The Kyoto Protocol was designed to address this need, and is an important stage in what will be a long term process.

For the first time, developed countries agreed to take on legally binding targets to cut their emissions. If delivered, these targets will reduce developed countries’ emissions of greenhouse gases by 5.2% below 1990 levels over the period 2008-2012. Developed countries also know that tougher targets are likely to be needed beyond 2010, and that developing countries will need to be part of the long term global response to climate change.

As a result of the Kyoto Protocol and an agreement between European member states, the UK has a target to reduce its greenhouse emissions by 12.5% below 1990 levels by 2008-2012. It also has a domestic goal to reduce its carbon dioxide emissions by 20% below 1990 levels by 2010.
The UK’s climate change programme

The UK has already made major cuts in its emissions

Projections show that action already taken in the UK is currently expected to cut emissions by around 15% below 1990 levels in 2010. The projections include the effect of some policies that have been introduced since Kyoto, such as the climate change levy and the 10% renewables target. The projections also show the gap to the 20% domestic goal and they illustrate that more action is needed if emissions are to continue falling after 2010.

What further action is needed?

The UK’s climate change programme sets out the UK’s response to the worldwide call for action. The Government and the devolved administrations are leading the way in outlining a strategic, far reaching programme that:

• helps people to understand why we need to tackle climate change;
• explains how the international community is responding and describes the leading role the UK has played internationally and in Europe;
• sets out a package of cost effective, flexible policies and measures in which all sectors of the UK’s economy and all parts of the UK play their part. The package will safeguard and enhance the UK’s competitiveness and deliver wider benefits through lower energy costs for businesses and people; less fuel poverty; improved air quality in our towns and cities; reduced risk to health; and new business and export opportunities;
• responds to the need for action to cut emissions in the longer term by putting in place policies that give clear signals about the changes that will be needed and ensure the UK moves towards a more sustainable, low carbon economy;
• builds on and develops the partnerships and the action being taken by many other stakeholders. The programme sets a clear framework and direction that will enable and empower key players to do what they can to reduce emissions; and
• outlines the action the Government has started to take to prepare the UK to adapt to the impacts of a changing climate.

1990 levels by 2010. This means that carbon dioxide emissions alone could be reduced by an estimated 19% below 1990 levels by 2010. Together with policies where the impact has not been quantified, this could also achieve the domestic goal;
The climate change programme sets out a substantial, integrated package of policies and measures to:

- improve business’ use of energy, stimulate investment and cut costs:
  - the climate change levy package, which includes challenging improvement targets for energy intensive sectors through climate change agreements, and additional support for energy efficiency measures in the business sector;
  - a domestic emissions trading scheme, with Government support of £30 million in 2003-2004 to kick start the scheme by providing a financial incentive for companies to take on binding emission reduction targets;
  - establishment of a new Carbon Trust, which will recycle £130 million of climate change levy receipts to accelerate the take up of cost effective, low carbon technologies and other measures by business and levy payers;
  - exemption of good quality CHP (combined heat and power) and renewable sources of electricity from the climate change levy;
  - energy labels, standards and other product-related measures designed to deliver ‘market transformation’ in the energy efficiency of lighting, appliances and other key traded goods; and
  - Integrated Pollution Prevention and Control.

- stimulate new, more efficient sources of power generation:
  - electricity suppliers will be obliged to increase the proportion of electricity provided by renewable sources to 10% by 2010, subject to the cost to consumers being acceptable; and
  - a target to at least double the UK’s CHP capacity by 2010.

- cut emissions from the transport sector:
  - European-level agreements with car manufacturers to improve the average fuel efficiency on new cars by at least 25% by 2008-2009, backed up by changes to vehicle excise duty and the reform of company car taxation; and
- the 10 Year Plan: £180 billion of investment and public spending on transport over the next ten years to cut congestion and reduce pollution.

- promote better energy efficiency in the domestic sector, saving householders money:
  - a new Energy Efficiency Commitment (successor to the Energy Efficiency Standards of Performance), through which electricity and gas suppliers will help their domestic customers, particularly the elderly and those on low incomes, to save energy and cut their fuel bills;
  - the New Home Energy Efficiency Scheme in England, similar schemes for Wales and Northern Ireland and, in Scotland, the Warm Deal Initiative;
  - an Affordable Warmth Programme developed in conjunction with Transco to facilitate the installation of efficient gas central heating systems and insulation in a million homes;
  - the promotion of new community heating and upgrading of existing systems; and
  - more efficient lighting, heating and other appliances.

- improve the energy efficiency requirements of the Building Regulations;

- continue cutting emissions from agriculture by:
  - better countryside management;
  - cutting fertiliser use;
  - protecting and enhancing forests; and
  - better energy efficiency.

- ensure the public sector takes a leading role by:
  - new targets for improving energy management of public buildings;
  - energy efficiency targets for local authorities, schools and hospitals; and
  - developing green travel plans.

Projected greenhouse gas emissions and estimated effect of all quantified measures, MtC
Cutting emissions in the longer term

We need a long term response to tackle climate change, including a fundamental shift in the way we generate and use energy over the coming century. There are no easy solutions. The Government does not have all the answers and it wants a national debate on how the UK might make the transformation to a low carbon economy, drawing on the advice of experts to look at technological options for the future and the scope for significantly changing patterns of demand and consumer behaviour. The Government plans to review the options for longer term energy choices, considering the scale of emission reduction that might be needed and the scope and cost of low carbon or energy efficiency options that could be used.

The programme begins to lay the foundation for more fundamental changes in the years to come. Many of its policies and measures will deliver cuts beyond 2010:

- the new strategy on renewable energy; the Government has announced substantial new capital grants to support offshore wind and energy crop installations. £89 million is to be made available from the Government and the New Opportunities Fund. An additional £12 million over three years will be available as planting grants for energy crops;
- action to ensure fair access to the electricity distribution networks as numerous small and scattered sources of electricity supply come into the market;
- market mechanisms, such as the climate change levy and emissions trading, which will encourage industry to invest in low carbon technologies and research and development;
- developing a new coordination framework for the development of these new technologies;
- changes to the planning system which will influence development patterns and reduce the need to travel; and
- a significant expansion of programmes to increase the penetration of the next generation of fuel efficient technologies and to overcome barriers to their use.
Adapting to a changing climate

The UK needs to adapt to the predicted impacts of climate change including sea level rise, droughts and more intense rainfall. Extreme weather events, such as severe flooding, will become more common. The programme examines likely impacts on the UK, considers how central and local government, businesses and other organisations might start adapting and suggests priorities for the UK.

The Government has begun to take action to prepare the UK for climate change. Work to predict and assess the impacts on the UK is being enhanced so that its adaptation response can be well targeted. The Government has announced that it:

- is reviewing its approach to development in flood risk areas with the Environment Agency,
- will issue fresh planning guidance to local authorities;
- is providing significant extra funding for flood and coastal defences; and
- is taking action to prepare for the effects climate change is likely to have on water resources, buildings, biodiversity, and agriculture and forestry.

Key statistics

The table below shows the projections of greenhouse gases. The projections include the effect of the climate change levy, the 10% renewables target and the fuel duty escalator to 1999.

### Projections of UK greenhouse gas emissions, MtC

<table>
<thead>
<tr>
<th>Gas</th>
<th>Baseline</th>
<th>2000</th>
<th>2010</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbon dioxide</td>
<td>168.0</td>
<td>154.3</td>
<td>153.8</td>
<td>160.7</td>
</tr>
<tr>
<td>Other greenhouse gases</td>
<td>43.7</td>
<td>28.6</td>
<td>26.4</td>
<td>25.5</td>
</tr>
<tr>
<td>Total greenhouse gas emissions</td>
<td>211.7</td>
<td>182.9</td>
<td>180.2</td>
<td>186.2</td>
</tr>
<tr>
<td>Change from 1990 levels (6 gas basket)</td>
<td></td>
<td>-13.6%</td>
<td>-14.9%</td>
<td>-12.1%</td>
</tr>
<tr>
<td>Change from 1990 levels (CO₂ only)</td>
<td></td>
<td>-8.2%</td>
<td>-8.4%</td>
<td>-4.4%</td>
</tr>
</tbody>
</table>

1990 has been used as the baseline year for carbon dioxide, methane and nitrous oxide. 1995 has been used as the baseline year for hydrofluorocarbons, perfluorocarbons and sulphur hexafluoride.
Where possible, the programme estimates the level of emission cuts in million tonnes of carbon that each policy could deliver. The table below summarises the main elements of the UK’s climate change programme.

### Summary of the UK’s climate change programme - emission projections and additional measures

<table>
<thead>
<tr>
<th>Measure</th>
<th>Saving (MtC)</th>
<th>% change from 1990 levels</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Projected emissions in 2010</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Includes ongoing impact of measures introduced before 1997, as well as:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- climate change levy</td>
<td>2</td>
<td>1-2.5</td>
</tr>
<tr>
<td>- fuel duty escalator to 1999</td>
<td></td>
<td>2.5</td>
</tr>
<tr>
<td>- delivery of 10% renewable energy target</td>
<td></td>
<td></td>
</tr>
<tr>
<td>All greenhouse gases</td>
<td></td>
<td>-15%</td>
</tr>
<tr>
<td>Carbon dioxide</td>
<td></td>
<td>-8.5%</td>
</tr>
<tr>
<td><strong>Additional measures</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Business</td>
<td>2.5</td>
<td></td>
</tr>
<tr>
<td>Climate change agreements</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Business</td>
<td>0.5</td>
<td></td>
</tr>
<tr>
<td>Energy efficiency measures under the levy package/Carbon Trust</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Business</td>
<td>0.5</td>
<td></td>
</tr>
<tr>
<td>Emissions trading scheme</td>
<td>At least 2</td>
<td></td>
</tr>
<tr>
<td>Business and Domestic</td>
<td>1.3</td>
<td></td>
</tr>
<tr>
<td>Reform of Building Regulations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transport</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Ten Year Plan</td>
<td>1.6</td>
<td></td>
</tr>
</tbody>
</table>
## Summary of the UK’s climate change programme - emission projections and additional measures (cont)

<table>
<thead>
<tr>
<th>Measure</th>
<th>Saving (MtC)</th>
<th>% change from 1990 levels</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transport</td>
<td>Additional savings from sustainable distribution in Scotland and Wales</td>
<td>0.1</td>
</tr>
<tr>
<td>Domestic</td>
<td>Domestic energy efficiency</td>
<td>2.6-3.7</td>
</tr>
<tr>
<td>Domestic</td>
<td>Action to encourage replacement of community heating systems</td>
<td>0.9</td>
</tr>
<tr>
<td>Domestic</td>
<td>New HEES</td>
<td>0.2</td>
</tr>
<tr>
<td>Domestic</td>
<td>Appliance standards and labelling</td>
<td>0.2-0.4</td>
</tr>
<tr>
<td>Agriculture, Forestry and Land Use change</td>
<td>Afforestation</td>
<td>0.6</td>
</tr>
<tr>
<td>Public sector</td>
<td>New central Government, schools and NHS targets</td>
<td>0.5</td>
</tr>
<tr>
<td>Scottish Executive</td>
<td>Building Regulations, central estate and NHSiS targets</td>
<td>0.1</td>
</tr>
<tr>
<td><strong>Reduction from additional measures (MtC)</strong></td>
<td></td>
<td>17.75</td>
</tr>
<tr>
<td><strong>All greenhouse gases</strong></td>
<td></td>
<td>-23%</td>
</tr>
<tr>
<td><strong>Carbon dioxide</strong></td>
<td></td>
<td>-19%</td>
</tr>
<tr>
<td>Examples of additional action not quantified at this stage</td>
<td>- further action by devolved administrations - housing expenditure by local authorities - improved management of traffic speed - further action by local authorities - carbon offset schemes - public awareness campaigns</td>
<td>Additional carbon savings</td>
</tr>
</tbody>
</table>