



SE/2000/208  
November 2000

ISBN 0 7480 9339 7  
© Crown Copyright 2000

Extracts of this publication may be made for non-commercial in-house use, subject to the source being acknowledged.

# CONTENTS

- 4 FOREWORD**
- 6 INTRODUCTION**
- 10 DELIVERING A SCOTTISH CONTRIBUTION TO EMISSIONS REDUCTIONS**
  - 11 ENERGY SECTOR
  - 20 BUSINESS SECTOR
  - 24 TRANSPORT SECTOR
  - 28 DOMESTIC SECTOR
  - 33 AGRICULTURE, FORESTRY AND LAND USE SECTOR
  - 37 PUBLIC SECTOR
- 44 THE FUTURE: ADAPTING TO THE IMPACTS OF CLIMATE CHANGE IN SCOTLAND**
- 48 BRINGING THE SCOTTISH BIT TOGETHER – A PARTNERSHIP APPROACH**
- 50 CONCLUSION**
- 52 SUMMARY OF SCOTTISH CLIMATE CHANGE PROGRAMME MEASURES**
- 54 ANNEX A: SUMMARY OF THE RESPONSES TO THE SCOTTISH CLIMATE CHANGE PROGRAMME CONSULTATION**

# FOREWORD

**When Sarah Boyack introduced the draft Scottish Climate Change Programme in March, she began by stating that the world's leading scientists had told us that there was a discernible human influence on our climate and that greenhouse gas emissions are the biggest single contributor to climate change.**

Since then it is clear from media coverage and the growing level of debate that climate change has climbed up the political agenda. The next stage, therefore, is a plan of action. A plan that tackles the causes of climate change across all sectors; a plan that seeks to include everyone in the fight against the worst impacts of climate change; and, most importantly, a plan that will deliver our commitments and lead to the ratification of the Kyoto Protocol.



In our first Programme for Government *Making it work together*, the Scottish Executive committed to integrating the principles of environmental and social sustainable development into all of our policies. We are taking a strategic approach to environmental issues on the basis that sustainable development brings benefits now and provides protection for the people of Scotland in the future. This commitment underpins our climate change strategy.

I have had concerns for some time about flooding in Scotland, one of the main impacts of climate change identified by leading scientists. I am delighted therefore that one of my first tasks as the new Minister with responsibility for the environment is to bring forward this Scottish Climate Change Programme today. I want to thank all of those who contributed to the consultation in Scotland. We are committed to continuing to work in partnership with all of you.

The Scottish Climate Change Programme provides us with the opportunity to focus on policies which make sense for Scotland. We are also committed to working in partnership with the UK Government in delivering our domestic goal of reducing carbon dioxide emissions by 20% by 2010. The Scottish Executive are therefore happy to be party to publication of the UK Climate Change Programme which also issued today.

A handwritten signature in blue ink, appearing to read 'S Galbraith'.

**Sam Galbraith MSP**

Minister for Environment, Sport and Culture  
November 2000

# INTRODUCTION

1. The introduction to the *draft Scottish Climate Change Programme*<sup>1</sup> which we published in March 2000 began thus:

*Climate Change is for real: it is happening \_ \_ \_ we in Scotland have to play our part in [the] global effort to reduce emissions.*

Less than two months later, Edinburgh suffered the worst floods in living memory. The cost of damages was reported to be in excess of £25m and hundreds of people were evacuated from their homes; the effects were felt for months after the event. And this was not an isolated event. It followed the devastating floods in Mozambique and preceded flooding in South-east Asia which caused 1000 deaths and left 10 million people homeless. A month or so later much of England suffered severe flooding and storms which some insurers believe will be the most expensive natural disaster in British history.

2. Whilst no one extreme climatic event can be directly attributed to climate change, severe flooding is just one example of the predictions that climate scientists are making for the future if we do not curb emissions of greenhouse gases. It is against this backdrop that the Scottish Executive chose to develop this Scottish Climate Change Programme. It reflects the commitment in our programme of work for the first Scottish Government *Making it work together*<sup>2</sup>. We committed the Scottish Executive to work together with the people and communities of Scotland, as well as with the UK Government and the European Union, to make a difference for Scotland. Our approach to sustainable development encourages decision makers to take account of the effect of policy options on the production of waste, energy use

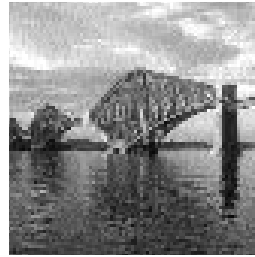
and travel. We hope that the wider community will embrace this approach and not only think seriously about the effect of their individual actions but take steps to minimise their impact on the environment.

3. The Programme supplements the UK Climate Change Programme<sup>3</sup>. The UK Programme is designed to deliver our Kyoto commitment to reduce the 6-gas basket of greenhouse gas emissions by 12.5% below 1990 levels in the period 2008-2012, and to move towards the domestic goal of a 20% reduction in carbon dioxide emissions by 2010.

<sup>1</sup> *Scottish Climate Change Programme Consultation*, Scottish Executive, March 2000, ISBN 0-7480-9339-7. A copy is available on the Scottish Executive climate change web-site at [www.scotland.gov.uk/climatechange](http://www.scotland.gov.uk/climatechange). The consultation ran until 2 June 2000.

<sup>2</sup> *Making it work together: A programme for government*, Scottish Executive, September 1999.

<sup>3</sup> *UK Climate Change Programme*, DETR, November 2000. A copy is available on the Scottish Executive climate change web-site.



## THE DEVOLUTION CONTEXT

4. When the 12.5% 6-gas basket reduction target becomes legally binding on the UK under the Kyoto Protocol, the Scottish Executive will be committed to contributing to this target. The *Scotland Act*<sup>4</sup> provides a reserve power to ensure that the Executive deliver a share of this commitment but there is no proposal to use it at this stage. The Executive are keen to make an equitable contribution to the Kyoto target as well as helping to deliver the domestic goal and we are working in partnership with the UK Government to ensure that these objectives are achieved. It is however right that we monitor the position to ensure that our plans are meeting the objectives we have set. The Executive and the UK Government will therefore keep our climate change programmes under review, monitoring the impact of individual policies and

measures and tracking annual emission levels. This will ensure that any implementation problems, or deviation from emission projections, are identified at an early stage and allow us to respond appropriately. There will also be a formal review of the overall UK and Scottish programmes in 2004.

5. As a result of the devolution settlement, responsibility for environment policy is devolved to the Scottish Executive. We now have the opportunity to make a distinctive and important contribution to efforts to address the problems which climate change will bring. The *UK Climate Change Programme* covers a wide range of sectors and policy responsibilities and spans reserved and devolved areas. Action at the EU level will also deliver carbon savings. All of the measures outlined in the UK Programme will affect

Scotland in one way or another. But, because of the way in which the data is collected and analysed, it is not easy to define precisely how successful UK policies have been or will be in delivering emission savings in Scotland.

<sup>4</sup> *Scotland Act 1998*, The Stationery Office, ISBN 0-10-544698-X.



## ASSESSING THE SCOTTISH CONTRIBUTION MORE PRECISELY

6. Before devolution, emissions data - historical and future projections - had been produced at the UK level. With the establishment of the Scottish Executive, we decided that Scotland-specific data should be collected. But the data we have on action in devolved areas is somewhat imprecise.

7. The Executive are committed to making climate change a priority issue. We have disaggregated the UK inventory of greenhouse gases for the years 1990, 1995 and, since the consultation exercise, for 1998.<sup>5</sup> This has allowed us to identify the level of emissions produced in Scotland, and their sectoral split. **As of now, we will produce an annual Scottish inventory.**

8. The following table is derived from the Scottish inventory and shows the emission levels for 1990, 1995 and 1998 by sector and compares them with the UK as a whole.

<sup>5</sup> *Greenhouse gas inventories for England, Scotland, Wales and Northern Ireland: 1990, 1995 and 1998*, NETCEN, due for publication shortly. The report was commissioned jointly with the UK Government and contains further detail of the Scottish inventory.





TABLE 1

Sector	1990 MtC <sup>6</sup> in Scotland (and% of Scottish total)	1995 MtC in Scotland (and% of Scottish total)	1998 MtC in Scotland (and% of Scottish total)	UK MtC <sup>7</sup> (and Scottish % of UK total)	
				1990	1998
Energy	6.0 (25%)	6.6 (28%)	6.8 (30%)	74.2 (8%)	59.0 (12%)
Business	4.5 <sup>8</sup> (19%)	3.4 <sup>9</sup> (15%)	3.0 (13%)	54.3 (8%)	49.0 (6%)
Transport	2.4 (10%)	2.5 (11%)	2.4 (10%)	34.0 (7%)	35.7 (7%)
Domestic	2.0 (8%)	2.0 (9%)	2.0 (9%)	22.0 (9%)	23.5 (9%)
Agriculture, forestry and land use	8.5 (36%)	8.5 (37%)	8.5 (37%)	23.9 (36%)	21.8 (39%)
Public	0.4 (2%)	0.2 (1%)	0.3 (1%)	2.6 (15%)	2.9 (10%)
Total	23.8 (100%)	23.2(101%) <sup>10</sup>	23.0 (100%)	211.0 (11%)	191.9 (12%)

## CONSULTATION

9. Because of the imprecise nature of the information we have available, the Programme is not supported by as wide a range of data as we would have liked. Work is ongoing to improve the quality of data in the Scottish inventory and to provide Scottish emissions projections. This work will allow us to make a more precise analysis of the contribution we in Scotland are making to the overall Programme, the effect of our

policies in devolved areas and the likely level of future Scottish emissions based on policy developments. In the meantime, the sectoral sections below describe how we will make our contribution; they constitute what we believe is a credible and cost-effective Scottish Climate Change Programme.

10. The Executive were delighted with the number, quality and generally supportive tone of responses to the draft Scottish Programme, the consultation on which closed in June 2000. Over one hundred organisations and individuals submitted responses. An analysis of the responses can be found at the annex to this final Programme.

<sup>6</sup> Million tonnes of carbon equivalent.

<sup>7</sup> Scottish inventory includes some public sector emissions with business. UK data in this table uses same approach for consistency.

<sup>8</sup> Slight decrease from figure quoted in the *Scottish Climate Change Programme Consultation* due to revisions of methodology used to allocate fuel consumption in the commercial sector.

<sup>9</sup> See footnote 8.

<sup>10</sup> 101% due to rounding.

# DELIVERING A SCOTTISH CONTRIBUTION TO EMISSIONS REDUCTIONS

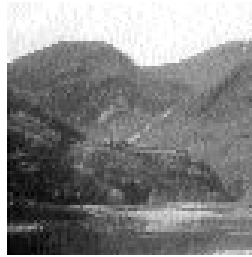
**11.** The challenge we face in Scotland is clear from the content of Table 1. For example, the agriculture, forestry and land use sector accounts for 37% of Scottish and 39% of UK emissions in this area. This is disproportionately high and makes it extremely difficult for us to replicate the emission reduction targets agreed for the UK as a whole. Scottish emissions from the energy sector are growing, in contrast to the UK as a whole, but the transport and business sectors emit slightly less than an expected UK pro rata share.

**12.** The Scottish inventory shows that our emissions between 1990 and 1998 reduced by 3% to 23 MtC. This is a much lower reduction when compared to the UK as a whole where actual emissions in 1990 dropped from 211<sup>11</sup> MtC to 191.9 MtC in 1998 (a 9% reduction). The only sector in Scotland in which savings have consistently been achieved during this period is business. Our challenge, therefore, is to seek to deliver savings in all sectors.

**13.** The following chapters describe what our policies are for achieving savings in Scottish emissions. Each sector begins with some comments from respondents to the consultation exercise and goes on to describe how we will handle them. We then identify the level of emissions from each sector based on figures derived from the Scottish inventory. We have also included examples of good practice to demonstrate some of the practical action already being taken in Scotland to address the challenges posed by climate change.

---

<sup>11</sup> This is actual emissions for 1990. Although 1990 is taken as the baseline year for carbon dioxide methane and nitrous oxide, 1995 is used as the baseline year for hydrofluorocarbons, perfluorocarbons and sulphur hexafluoride, in accordance with Article 3.8 of the Kyoto Protocol.



## Energy Sector

### *Some comments received in response to the consultation:*

We support the increase in renewable energy target to 17.5% but strongly encourage appropriate incentives and adequate power distribution infrastructure.

More attention needs to be given to the potential long-term contribution of nuclear energy to climate change commitments.

The Programme is lacking in measures aimed at alteration of public attitudes to energy efficiency and public acceptance of infrastructure changes such as new renewable energy.

**14.** There are significant differences in the power generation mix between Scotland and the UK as a whole. Figures from the Scottish inventory show that emissions from the energy supply industry rose from 6 MtC in 1990 (25% of total Scottish emissions) to 6.8 MtC (30% of the total) in 1998. This rise was in large part due to greatly increased exports of electricity (largely generated by coal-fired stations) to England over the period and contrasts with the rest of the UK where emissions from the energy sector have fallen sharply mainly because of the switch to gas from coal for electricity generation.

**15.** Although it is planned that there will be an increase in renewable generation in Scotland, and notwithstanding the reduction in energy demand we expect from other measures set out in this Programme, emissions from the energy sector will probably increase again over the next 5 years due to an expected increase in electricity generation to meet new export demand through the interconnector being constructed to Northern Ireland and the upgrade in interconnector capacity with England.



## ENERGY EFFICIENCY

**16.** Improved energy efficiency is generally agreed to be the most cost effective way of reducing energy demand and, in turn, the emissions of carbon dioxide. Energy efficiency is therefore at the heart of the Scottish Programme's carbon reduction objective. The need for this was reinforced by respondents to the consultation who considered energy efficiency to be one of the most important contributors to climate change mitigation. We readily concur with this view. Energy users can often make savings at little or no extra cost through improved energy management using proven technologies.

**17.** The Energy Saving Trust works to improve domestic energy efficiency, while our Scottish Energy Efficiency Office (SEEO) works with business and the public sector in Scotland. We will receive some of the Climate Change Levy revenues (see paragraphs 37-39) which will be used to further strengthen the promotion of business energy efficiency in Scotland.



## COMBINED HEAT AND POWER

**18.** Combined heat and power schemes (CHP) can enable highly efficient use to be made of fossil fuels. At present, around 11% of UK installed capacity of CHP is sited in Scotland of which most is accounted for by a few large industrial installations. We view CHP as an important way of improving the efficiency of energy production with consequential savings in carbon dioxide emissions. CHP has, in particular, a role to play as part of district heating schemes. We already have three such schemes in Scotland which although small will, we hope, provide encouragement to others.

**19.** The UK Government have a target to deliver 10,000 MW<sup>12</sup> of CHP in the UK by 2010 and current figures suggest that in Scotland around 350 MW of this target has already been delivered. There is much potential in Scotland for more CHP schemes to be developed in the future, and Scottish companies are at the forefront of its development throughout the UK. As a first step, exemption from the climate change levy of the electrical output from good quality CHP plants is expected to stimulate further development in Scotland as elsewhere in the UK.

---

<sup>12</sup> Megawatt. One megawatt is a million watts.

## RENEWABLES

20. Scotland's geography and climate provides enormous potential for the development of renewable energy sources. The availability of wind as a resource is unparalleled anywhere else in Europe. Energy policy and utility regulation are reserved matters but the promotion of renewable energy is executively devolved, allowing Scottish Ministers to set renewable energy targets for Scotland. We are committed to an increase in the use of renewable energy and are fully supportive of the UK Government's commitment to a new and strong drive for renewable energy. The target of meeting 10% of UK electricity demand from renewables by 2010 was confirmed by the UK Government in February 2000, requiring an increase in UK renewables generation above the 5% figure expected to be achieved by 2003.

21. The great majority of responses to the Scottish consultation strongly supported our proposal that there should be a similar expansion of renewable energy in Scotland, to take advantage of the very real potential that exists. Electricity generation from renewables in Scotland, including the major hydro-electric schemes, already accounts for up to 11% of demand (although this varies according to rainfall) and is expected to increase by 2003 as renewables projects in the pipeline are commissioned. **We have decided to aim for a further increase by 2010, similar to the planned increase for the UK as a whole, taking the Scottish total to around 17-18% by 2010.** This increase will be implemented under a new Renewables Obligation (Scotland)<sup>13</sup> on all licensed electricity suppliers in Scotland. It should result in

---

<sup>13</sup> A *Renewables Obligation (Scotland) Consultation* is due for publication shortly. A copy will be available on the Scottish Executive web-site at [www.scotland.gov.uk](http://www.scotland.gov.uk).



around 2,000 GWh<sup>14</sup> of additional renewables output which would ultimately produce a saving of between 220ktC<sup>15</sup> and 530ktC in Scotland, depending on the fuel displaced.

**22.** Much of the additional renewables capacity needed under this new Renewables Obligation (Scotland) will probably come from wind power and there are planning (see paragraph 27) and technical questions that need to be addressed. A study is currently under way to establish how much additional power the Scottish electricity grid can carry and what it would cost to enable it to take the additional generation capacity implied by the new target.

**23.** The Renewables Obligation (Scotland) will operate in parallel with a similar Renewables Obligation<sup>16</sup> in England and Wales, on the basis of competitive trading across Great Britain of Renewable Obligation Certificates which will be issued by the energy regulator to renewables generators according to the amount of electricity produced from qualifying renewable sources. The costs of both Obligations will be passed on to electricity consumers.

<sup>14</sup> Gigawatt hours. One gigawatt is a billion watts.

<sup>15</sup> Kilotonnes of carbon.

<sup>16</sup> The Department of Trade and Industry are consulting on a Renewables Obligation for England and Wales. The consultation closes on 5 December 2000 and a copy can be found at [www.dti.gov.uk](http://www.dti.gov.uk).

The Scottish Energy Environment Foundation (SEEF) was launched in March 2000 as a joint industry/university body with funding from three Scottish electricity companies and Scottish Enterprise and support from Strathclyde and Edinburgh Universities. Its objective is to support energy sector investment in the Scottish knowledge base to create an internationally significant centre of excellence in energy and related environmental technologies and their commercial exploitation. SEEF is expected to attract large amounts of research money for energy research and development.

Their objectives will be met by:

- identifying energy research outcomes that might be near market and supporting their commercialisation;
- attracting European Union and research funding;
- providing authoritative advice on energy/environment policy issues and options; and
- stimulating economic activity in Scotland as a result of commercialisation of research outcomes or manufacturing opportunities which would not otherwise have occurred.

**24.** In addition to wind and hydro, we are also considering how best to encourage and fund renewable technologies which are not yet cost competitive. In the medium term, these might be offshore wind and forestry biomass. Part of the funding to explore some of the opportunities here will come from the climate change levy revenues referred to already, while we will also ensure that Scotland receives an appropriate share of the UK Government funding for research into new forms of renewable energy.

**25.** Renewable energy developments can also contribute to our policies on rural development. While they are unlikely to provide a large number of jobs, the opportunities can be significant in rural areas where job availability can be limited. Employment can be linked to construction, as well as the operation of plants, such as biomass.





## PLANNING

**26.** National Planning Policy Guidelines (NPPGs) are statements of the Scottish Executive's policies on nationally important land use and other planning matters. Reviews of existing NPPGs 3, Land for Housing; 8, Town Centres and Retailing; 17, Transport and Planning are relevant in the context of climate change. Some recent practical examples of how the planning system has a role to play include car free housing developments in the major cities, an increasing proportion of new housing being built on brownfield sites, restrictions on the ease of car access to central areas, and careful placement of some wind farms in sensitive natural environments.

**27.** NPPG 6, Renewable Energy is particularly important. We are committed to the development of renewable energy and NPPG 6 is being revised to support an increase in renewable energy developments in Scotland. The siting of renewable energy developments can raise complex issues in relation to the protection of the natural heritage. This is particularly evident in the case of wind farms. The new guidance, while maintaining the usual planning controls, will be designed to encourage the planning system to play its full part in making positive provision for renewable energy developments.

**28.** A survey carried out for us by System 3 in summer 2000 on *Public attitudes towards wind farms in Scotland*<sup>17</sup> found that fears held by those living in and around Scotland's 4 operating wind farms prior to the farms being built were allayed once they were up and running. 40% of respondents anticipated problems prior to development but only 9% felt they had experienced problems. Indeed, 73% of those living within 5km of a farm said there was something they liked about the development.

<sup>17</sup> *Public attitudes towards wind farms in Scotland*, Scottish Executive, August 2000. A copy can be found on the Scottish Executive climate change web-site at [www.scotland.gov.uk/climatechange](http://www.scotland.gov.uk/climatechange).

## NUCLEAR

**29.** In the long term, beyond 2010, the closure of nuclear power stations will have significant implications for greenhouse gas emissions in the UK and particularly for Scotland, where nuclear accounts for over half of electricity production. It is much too early to be certain how nuclear capacity would be replaced when it begins to close (in perhaps 10 years time or more), or with what type of generation source. But if the 17-18% target for renewables is achieved by 2010, that would go a significant way towards replacing the output from a nuclear (or any other type of thermal) power station.

## ENERGY - THE CHANGING CLIMATE

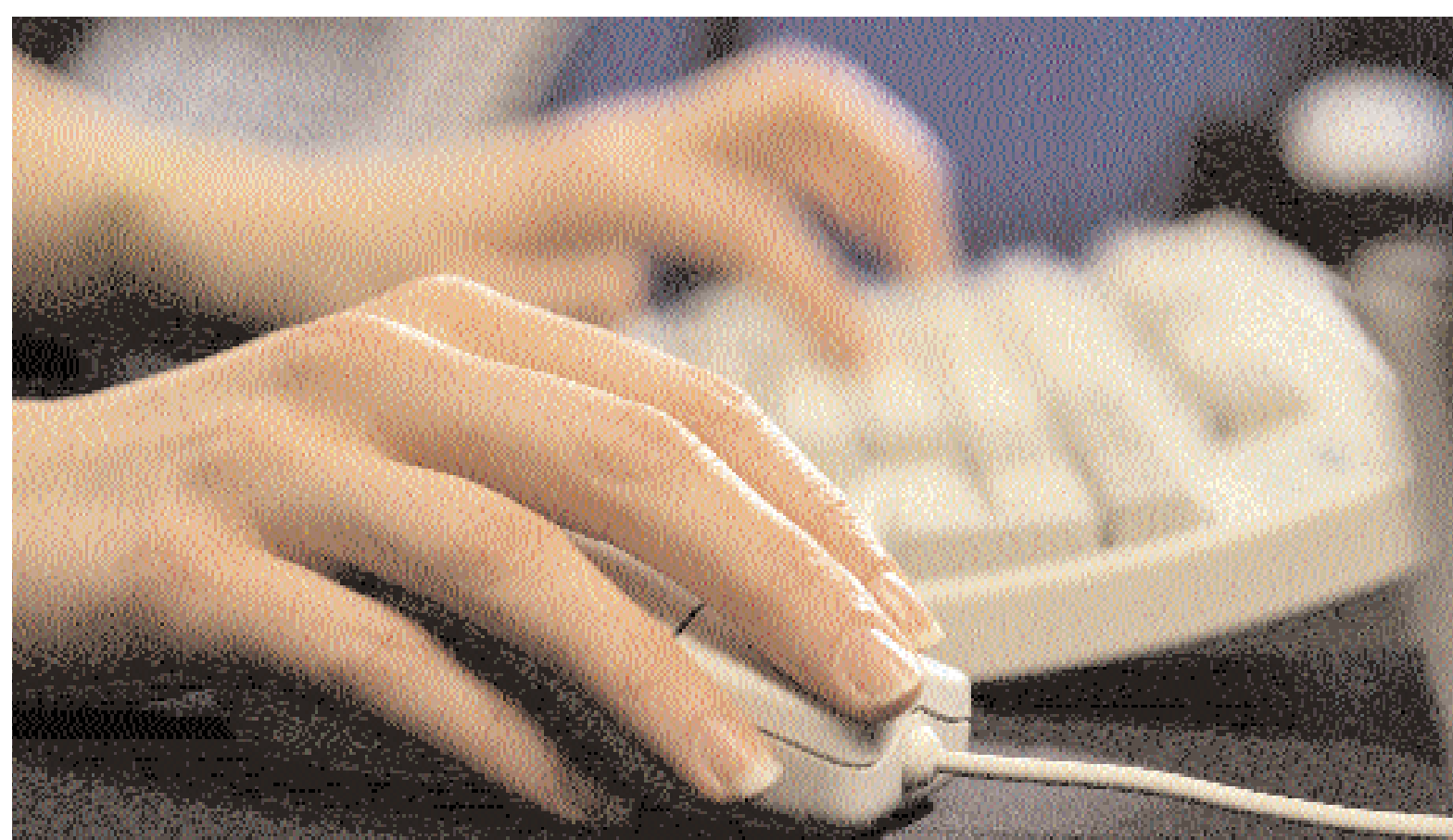
**30.** The Royal Commission on Environmental Pollution is an independent standing body established in 1970 to advise the Queen, Government, Parliament and the public on environmental issues. The primary role of the Commission is to contribute to policy development in the longer term by providing an authoritative factual basis for policy-making and debate, and setting new policy agendas and priorities.



31. In their report, *Energy - The Changing Climate*<sup>18</sup>, The Royal Commission on Environmental Pollution made several recommendations relating to energy and climate change. The report included 19 key recommendations and a further 68 findings. One key recommendation and 5 others were addressed jointly to the UK government and to the devolved administrations. In addition there were 4 recommendations addressed

specifically to the devolved administrations. Many of the remaining findings applied equally to the devolved administrations. We will, in conjunction with the UK Government, review the longer term energy challenges as recommended in the report.

<sup>18</sup> *Energy - The Changing Climate*, Royal Commission on Environmental Pollution, June 2000.



## Business Sector

*Some comments received in response to the consultation:*

We see benefit in research to assess more precisely how Scotland is contributing to the UK Climate Change Programme but are wary of setting separate Scottish targets.

It is disappointing that none of the Executive's research relates to the opportunities for more jobs as a result of action to meet the Kyoto targets.

We support the Best Practice Programme in Scotland but it should be expanded to cover effective resource use and waste minimisation in addition to energy efficiency.

32. Business in Scotland has a key role to play in helping to meet climate change commitments. Figures from the Scottish inventory show that business was the one sector in Scotland to achieve a consistent reduction in emissions between 1990 and 1998 – from 4.5 MtC (19% of total Scottish emissions) in 1990 to 3MtC (13%) in 1998. Apart from helping to meet climate change commitments, there are very real commercial opportunities for business. Companies are well placed to develop new technologies and techniques to reduce emissions and some Scottish businesses are taking advantage of the new global business opportunities that are now arising.

33. Our stated objective is to encourage businesses to reduce emissions without creating a disproportionate burden on the sector or damaging competitiveness.



## ENERGY EFFICIENCY

**34.** In October 1999 we launched an interest free loan scheme for energy efficiency measures in SMEs in Scotland. We will strengthen promotion of this scheme, and will also encourage companies to take advantage of the new opportunities that are emerging in the Scottish, UK, European and global marketplace.

**35.** Improvements in business energy efficiency have been driven by commercial pressures but have also been stimulated by advice and assistance over many years from our Scottish Energy Efficiency Office (SEEO). The SEEO works on a number of fronts, including waste minimisation, but its main focus is on energy efficiency, using the Energy Efficiency Best Practice Programme (EEBPP). This offers impartial information and free advice on energy efficient technologies and energy management to a

wide range of companies and organisations. The EEBPP is expected to lead to savings across the UK of 3.5MtC by the end of 2000. The work of the SEEO has been strengthened through an increase in funding of £1 million a year, and a further increase in funding is due to become available next year from part of the Scottish share of Climate Change Levy revenue (see paragraph 39). This will stimulate further savings over the next decade. In addition, SEEO will work with Scottish companies to ensure that they take full advantage of the new enhanced capital allowances for investment in energy efficient technology.

**36.** The new Integrated Pollution Prevention and Control (IPPC) Directive, which will apply to most energy intensive industries, breaks new ground in that it will, for the first time, place an obligation on companies to use energy in an efficient manner. The provisions of the Directive will progressively replace the existing Integrated Pollution Control system and will be brought into force through Scottish Pollution Prevention and Control Regulations<sup>19</sup> between 2000 and 2007. The Regulations will require all qualifying sites to obtain authorisation for emissions from the Scottish Environment Protection Agency (SEPA). We will work with business, SEPA and the UK Government to stimulate the maximum possible energy efficiency gains through the new IPPC Directive, commensurate with business competitiveness.

<sup>19</sup> *The Pollution Prevention and Control (Scotland) Regulations 2000*, The Stationery Office, ISBN 0-11-059467-3. New or substantially changed installations were brought into the regime with immediate effect. Existing installations will be brought under the regulations on an industry sector-by-sector basis between 2001 and 2007.

The Scottish Utilities Forum was established following the Utilities Pathfinder report to the Scottish Parliament in March 1999. The report, which included input from the chief executives of the Scottish electricity, water and gas utilities recommended that a Forum be set up to address and discuss relevant issues. The Forum includes senior officers from the utilities, Ministers and officials from the Scottish Executive, a cross-party group of MSPs from relevant committees, and other organisations including energy consumer representatives and the STUC. The Forum meets on a quarterly basis, with a remit to provide a formal channel between the Scottish Parliament and the utilities sector to increase MSPs' understanding of the utility industry and the utilities' awareness of and responsiveness to the concerns of the Scottish Parliament. The Forum has established an environment sub-group which will convene when specific issues need to be addressed.

Preliminary issues were identified as climate change, renewables, energy efficiency and environmental standards.

Amongst the major issues for consideration by the Forum are:

- how to increase knowledge and understanding between MSPs and the utility companies;
- improving customer service, ensuring competition benefits for all customers;
- how the Scottish Parliament could assist Scottish utilities in pursuing business opportunities in the UK and overseas;
- the utilities' impact on the environment;
- developing a skilled workforce with partnerships on education;
- assisting the Scottish Parliament in tackling the issues of energy efficiency and fuel poverty; and
- regulatory issues.

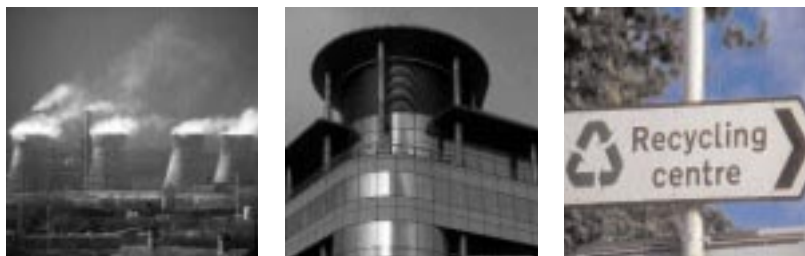
## CLIMATE CHANGE LEVY

**37.** The climate change levy, payable on the business use of energy, will be introduced by the UK Government in April 2001. The levy will be a major driver of business energy efficiency, leading to lower greenhouse gas emissions, and helping to meet emission reduction targets under the Kyoto Protocol. The levy is designed to encourage efficient use of energy.

**38.** A £150m package of UK measures is to be funded from the levy for energy efficiency and renewable energy and the development of low carbon technology. The package will be introduced in 2001 and will include £100m for the introduction of 100% first year enhanced capital allowances against tax on investment by companies in energy efficient technology. In recognition of the essential role of energy efficiency and renewable energy in reducing greenhouse gas emissions, the remaining £50m will be split between

more support for energy efficiency measures and some further support for renewable energy technologies.

**39.** Scotland has been allocated £3.2 million a year on average over the next 3 years for energy efficiency and renewables. We will use part of this extra funding to encourage better energy efficiency on the part of small and medium enterprises (SMEs) in Scotland. Most SMEs find it difficult to dedicate management resources to energy or environmental management and are unlikely to be covered by regulation. They are, however, a large and relatively energy inefficient group with the potential for cost-effective savings to be realised. In view of this, the SEEO will be targeting further energy efficiency advice and assistance on the SME sector in Scotland.



## WASTE

**40.** In 1990, in Scotland, 29% of emissions of methane - one of the most potent of greenhouse gases - came from waste. The Scottish Executive have adopted the SEPA *National Waste Strategy (NWS) for Scotland*<sup>20</sup> with the aim of producing an integrated and sustainable strategy for dealing with waste. The spending review announcement in September provided an extra £50m specifically for waste management to help local authorities take forward implementation of the National Waste Strategy. The strategy follows the waste hierarchy which puts emphasis on waste reduction, before recycling and recovery, and finally disposal only when other methods are inappropriate. This will mean a reduction in the overall amount of waste to be disposed of which, in conjunction with the reduction in waste sent to landfill because of the Landfill Tax and the required reduction in biodegradable waste disposed of at landfills under

the new EC Landfill Directive, will reduce the quantities of methane emitted from landfills.

**41.** The EC Packaging Waste Directive already requires approximately 0.5 Mt of Scottish packaging waste to be recycled by 2001. Roughly half of this is likely to be biodegradable waste which would previously have gone to landfill and will therefore also contribute to methane emission reductions. The business sector will already be aware of its responsibilities to reduce the amount of waste they produce. What may not be so clear is that their efforts in this area also have considerable potential for assisting the reduction of greenhouse gas emissions in Scotland.

**42.** If these initiatives result in a greater amount of waste being incinerated, however, our efforts to reduce emissions through the *National Waste Strategy* and the Landfill Directive may be diminished. We therefore plan that any incineration should be undertaken in energy from waste plants, which will minimise carbon emissions and make better use of any waste that is produced.

**43.** Figures from a UK study of projections of greenhouse gas emissions, other than carbon dioxide<sup>21</sup>, suggest that emissions of methane from landfill will reduce to less than half of the 1990 levels by 2010. We will produce estimates of overall carbon savings from these waste initiatives when more robust waste management data becomes available.

<sup>20</sup> *National Waste Strategy for Scotland*, SEPA, adopted May 1999.

<sup>21</sup> *Projections of non-CO<sub>2</sub> greenhouse gas emissions for the United Kingdom and constituent countries*, WS Atkins Consultants, due for publication shortly.



## Transport Sector

*Some comments received in response to the consultation:*

*Public understanding of the link between fuel efficiency and emissions is poor and this should be addressed - an appropriate time to do so is March 2001 when Vehicle Excise Duty for new cars is differentiated by CO<sub>2</sub> emission levels.*

*We welcome plans to modernise transport but are concerned that the huge investments needed might not be forthcoming. We favour the application of market instruments such as fuel duty, congestion charging and parking charges, with the receipts ring-fenced for public transport spending.*

*LPG-powered vehicles are potentially one means to help alleviate the heavy burden of rural transport costs.*

44. Figures from the Scottish inventory show that emissions from the transport sector in Scotland accounted for around 2.4 MtC in 1990. In contrast to the UK as a whole, where emissions are rising, this was unchanged in 1998, but it will not be clear whether this represents a long term trend for Scotland until traffic projections are available from later in 2000.

45. Transport is a vitally important sector in Scotland and one where there is a clear urban and rural dimension that needs to be taken into account in the development of any environmentally driven policy with implications for the sector. We are committed to continued development, with local authorities and transport operators, of our integrated transport system which meets our economic and social needs but does not threaten the health of our environment.

46. Technological improvements are coming on stream all of the time and have made, and will continue to make, a significant contribution to the reduction of carbon dioxide emissions from vehicles. We do not underestimate the scope for reducing emissions in this way but, over recent years at least, these improvements seem not to have been enough to offset the increase in travel and, in particular, the growth in road transport.





**47.** One of the main tools in recent years for cutting emissions from the transport sector has been the fuel duty escalator. This policy has elicited differences of opinion in Scotland; environmental groups and some academics responding to the climate change consultation considered it an important method of curbing transport emissions; others questioned its effectiveness and suggested that it unfairly affected rural communities.

**48.** The Chancellor announced the abolition of the fuel duty escalator in Budget 2000 and that any changes to the levels of road fuel duties would be decided on a Budget by Budget basis. However, the retail price of road fuels has risen, as a direct consequence of a number of factors outside of Governmental control, such as OPEC's supply strategy. In the 2000 Pre-Budget Report, the Chancellor announced that, due

to ongoing high oil prices fuel duty would be frozen in cash terms in Budget 2001. He also announced that he would be considering increasing the current 1 pence per litre differential between Ultra Low Sulphur Petrol and standard unleaded by a further 2 pence per litre. At the same time to maintain the balance between duty rates, the Government would bring the duty rate of Ultra Low Sulphur Diesel down by 3 pence per litre.

**49.** For our part, the Scottish Executive will continue efforts to mitigate the effects of fuel prices on rural areas. The Rural Transport Fund is being increased by £4.5 million over 3 years to provide more resources for new rural public passenger transport services and community transport projects; to safeguard rural petrol stations and encourage adaptation of petrol stations to dispense Liquid Petroleum Gas.

A further £0.9 million per annum is being made available to assist conversions of cars to use Liquid Petroleum Gas. Rural communities are also benefiting from substantial additional capital investment in ferry, bus, rail and airport infrastructure; and revenue support for lifeline ferry and air services is at record levels.

## TRAVEL CHOICES FOR SCOTLAND

**50.** The White Paper, *Travel Choices for Scotland*<sup>22</sup>, outlined a package of measures which would increase transport choices, tackle congestion, combat social exclusion and reduce both carbon dioxide and regulated emissions. Implementation of those commitments are being taken forward.

**51.** Local authorities will have a key role in implementing this policy through the development of local transport strategies. These strategies set out local authorities' transport plans and priorities on issues including bus quality partnerships, road traffic reduction plans, freight quality partnerships, walking and cycling initiatives and road user charges. We are making

available some £150 million over 3 years through the Public Transport Fund to support these strategies and the Transport (Scotland) Bill, currently being considered by the Scottish Parliament, will, amongst other things, provide local authorities with additional powers on buses and charging. We are pursuing better integration of transport and land use through National Planning Policy Guideline 17.

---

<sup>22</sup> *Travel Choices for Scotland: The Scottish Integrated Transport White Paper*, The Stationery Office, July 1998.



**52.** We are also encouraging the transfer of freight from road to rail and inland waterway by means of Freight Facilities Grants. An amendment to the forthcoming Transport (Scotland) Bill will extend the scheme to include coastal and short sea shipping. Spending on Freight Facilities Grant will increase to £36 million over the next 3 years and we have increased our March 2002 target for freight transferred from Scotland's roads from 15 million to 18 million lorry miles a year. The carbon saving effect of transferring this freight target from road to rail and inland waterway translates to 8 million kg of carbon per year. On this basis, Freight Facilities Grants will continue to stimulate carbon savings over the next decade.

**53.** The Executive is also committed to improving the efficiency of freight transport operations as part of the UK's sustainable distribution strategy<sup>23</sup>. Greater fuel efficiency is being promoted within the distribution (and bus) industries through the Energy Efficiency Best Practice Programme (EEBPP). The programme encourages the uptake of best practice through free advice to hauliers and logistics companies on available fuel efficiency measures. A recent survey showed that companies using the advice of the EEBPP had saved 25% more fuel compared to companies that had not.

**54.** One of the main difficulties in this area is changing attitudes to transport. Plans for a Scottish Travel Awareness Campaign, which can be used to complement local activities and encourage more sustainable travel choices, are being prepared.

**55.** The likely level of emission reductions from the measures outlined depends, among other things, on the extent to which local authorities take action at the local level, including the extent to which they utilise the proposed new powers on charging. We have commissioned a research study to arrive at better founded estimates of future traffic growth and carbon dioxide savings for Scotland. The first stage of this work is to be concluded by the end of 2000.

<sup>23</sup> *Sustainable Distribution: a strategy*, DETR, March 1999.

The Energy Efficient Village project in Crossgates, Fife is an excellent example of joined-up thinking and partnership working. It was awarded the Green Apple Scotland Gold Award 2000. The Energy Efficient Village project arose out of the desire to show how sustainability could work at a practical level. Several local authority services have joined together with a very active community group and other partners such as ScottishPower and the Scottish Energy Efficiency Office. Elements of the project have included energy

audits in local houses, public buildings and local businesses including farms; awareness raising of the value of energy efficiency within the community including the pupils of Crossgates Primary School; and physical improvement works in homes and public buildings including the use of loft insulation, cavity wall insulation, boiler efficiency improvements, window replacement, draught stripping of doors and windows, thermostatic radiator valves and lighting controls, solar panel heating systems and heat recovery fans.

## Domestic Sector

*Some comments received in response to the consultation:*

Given the problem of fuel poverty in Scotland, it is important that there is a distinct link drawn between the dual advantages of emissions reduction and cost savings through energy efficiency partnership programmes.

HECA has been a useful instrument in focussing efforts on increasing home energy efficiency. There are useful lessons in terms of joint and partnership working to be learned from past experience.

HECA, Warm Deal and EESoP should be linked so that homes are improved systematically and that measures such as insulation, boiler efficiency and energy efficient appliances are tackled together rather than in a piece meal fashion.

**56.** Figures from the Scottish inventory show that emissions from the domestic sector in Scotland accounted for some 2 MtC in 1990. This was 8% of total Scottish emissions and, whilst the figure in 1998 was still 2MtC, the share had increased to 9%.

## Energy efficiency

**57.** Energy efficiency is the main issue in this sector and one that the Executive are addressing in a number of ways. Given the need to improve the quality of a substantial part of the housing stock in Scotland, we recognise the importance of cross policy co-operation if we are to achieve emission reductions. The Executive have already introduced initiatives to bring about improvements in existing housing.



## Housing

**58.** The Scottish Executive have introduced the New Housing Partnerships and Warm Deal initiatives. Funding for the New Housing Partnerships for the period 1999 to 2002 amounts to £337 million and is being provided to promote community ownership and to secure additional investment for housing.

**59.** The Warm Deal was introduced on 1 July 1999. The budget set aside for the Warm Deal was £10.5 million in 1999-2000 and £13 million in 2000-2001. It currently provides a £500 package of home insulation measures for low-income households. About 25,000 low-income households in Scotland are expected to benefit each year under the scheme. 100,000 households will benefit over the lifetime of the current Administration.

**60.** A scheme to install free central heating and insulation in the homes of around 70,000 pensioners and 71,000 tenants in local authority and housing association stock will begin from April 2001. A total of £350 million is to be invested. It will reduce average fuel bills to about £500 per annum and 90% of beneficiaries will be helped out of fuel poverty. Efficient heating and effective insulation should help to reduce average carbon dioxide emissions by about 0.8 tonnes per house per annum.

**61.** We are determined to integrate environmental concerns into all aspects of our work and the promotion of our social policies is an example of how this can be done. The measures above include an element of energy efficiency. While the main driver is not climate change, they will deliver some carbon dioxide savings.

**62.** The Home Energy Conservation Act (HECA)<sup>24</sup> has also helped stimulate energy efficiency. Under HECA, local authorities are required to report on their plans for significant improvements in energy efficiency in all homes in their area and on the scope for carbon dioxide emissions reductions. A clearer picture of the likely extent of these reductions will be available when the first progress reports have been analysed.

**63.** Other policy tools are also being applied in Scotland to bring about improved energy efficiency in housing. The *Utilities Act*<sup>25</sup> provides for the energy regulator to be placed under a duty to have regard to guidance on environmental objectives in the exercise of his functions. This will stimulate further improvements in energy efficiency.

<sup>24</sup> *Home Energy Conservation Act 1995*, The Stationery Office, ISBN 0-10-541095-0. The Act entered into force in Scotland on 1 December 1996.  
<sup>25</sup> *Utilities Act 2000*, The Stationery Office, ISBN 0-10-542700-4

Launched in August 2000, the Scottish Homes Sustainable Development Policy seeks to improve the environmental performance and sustainability of Scotland's homes. The policy is aimed at those who receive grant funding from, and all organisations registered with, Scottish Homes. It is also aimed at individuals to improve their awareness of the influence they have on improving the environmental performance and sustainability of housing and, more generally, at the wider construction sector with which Scottish Homes shares innovation and good practice. Among the objectives of the policy are to:

- improve the thermal performance of housing;
- reduce the need for physical resources;
- influence the location and mix of housing; and
- raising and improving consumers' awareness.

**64.** A new Energy Efficiency Commitment scheme is being developed at the UK level, and we will work with the UK Government to ensure that Scotland benefits from the new funding. As well as reducing consumers' bills and tackling fuel poverty this could make a significant contribution to emission savings in Scotland by 2010. Also, the Energy Efficiency Best Practice Programme has been used by building professionals and housing stock managers to achieve energy efficiency savings in new and refurbished housing. This, along with tighter building regulations, is expected to continue as old stock is replaced with new or is upgraded.

**65.** We are also considering how the house buying process in Scotland can be improved to avoid the additional costs that can be incurred from multiple surveys and valuations. To assess how best to introduce any measures to improve the house buying process, the Executive is monitoring two market led pilots in Scotland and is also considering how these might include energy efficiency assessments.



## BUILDING REGULATIONS

**66.** We have consulted on a revision of Part J of the Technical Standards for compliance with Building Standards Regulations<sup>26</sup> which deals with the energy efficiency of new buildings. Specific proposals have been discussed with the Building Standards Advisory Committee. The proposed revision is aimed at significantly reducing carbon dioxide emissions through energy efficiency measures and, in the case of dwellings, includes provision to calculate a carbon index.

**67.** Energy efficiency improvements will cover the fabric of new buildings, domestic boilers and hot water services. In particular, for non-domestic properties the revision proposes to introduce standards for air-conditioning and mechanical ventilation systems.

**68.** A fundamental review is being undertaken of the building control system in Scotland. A consultation seeking views on the reform of the system has been conducted and the results are being analysed. Major questions have been asked which relate to the role buildings have to play in relation to climate change. The review is expected to result in new legislation.

## THE ENERGY SAVING TRUST IN SCOTLAND

**69.** The Energy Saving Trust (EST) in Scotland plays an important role in delivering energy efficiency measures and therefore reducing energy consumption and greenhouse gas emissions in the domestic and very small business sectors. The EST in Scotland receives funding from the Scottish Executive to develop and manage programmes to promote better energy efficiency in these sectors. It aims to develop distinctive responses to Scottish energy efficiency issues, while maximising the impact of UK wide programmes. Development of programmes is carried out in close co-operation with the Scottish Executive, including the Scottish Energy Efficiency Office.

<sup>26</sup> The consultation is available on the Scottish Executive web-site at [www.scotland.gov.uk](http://www.scotland.gov.uk). The consultation closed on 27 October 2000.

The SchoolEnergy programme in Scotland is a partnership between the Energy Saving Trust and Scottish Gas. It offers schools a rebate of up to 50% (maximum £3,000) of the cost of investing in energy efficiency measures to cut fuel bills and greenhouse gas emissions. The programme aims to educate school pupils about the need for energy efficiency in the school and home.

**70.** A number of schemes are currently being operated and developed by the EST in Scotland. For the SME sector the EST operates Loan Action Scotland on our behalf, which provides interest free loans to enable SME's to install energy efficiency measures. A recent award was given to ScottishPower for the Scottish Powered Energy Solutions Scheme, as part of the development of the Energy Services approach. EST in Scotland also contributes to the Energy Efficiency Partnership for Homes programme. This Partnership allows better integration of all sectors involved in domestic energy efficiency. The Partnership was launched in England and Wales in April 2000. EST in Scotland is currently in discussion with the Scottish Executive as to the development of a similar partnership in Scotland.

**71.** Assistance of over £1.5 million has been given by the EST to seventeen Scottish local authorities to help them meet their HECA obligations. In the domestic sector the EST supports a network of eight Energy Efficiency Advice Centres across Scotland. The EST also runs the Energy Efficiency Campaign which aims to raise the profile of the issue among householders. The EST is developing schemes to assist individual householders, such as a pilot programme to help make solid fuel fires more efficient.





## Agriculture, forestry and land use Sector

*Some comments received in response to the consultation:*

The very important role to be played by biomass heating is an omission in an otherwise strong strategy.

We support the expansion of woodland in Scotland, particularly because of the added benefit of fuel and availability of timber for use in construction.

More attention should have been given to land use in the consultation in view of the high emissions from this sector.

**72.** Figures from the Scottish greenhouse gas inventory suggest that the agriculture, forestry and land use sector in Scotland accounted for some 8.5 MtC in 1990. This was 36% of total Scottish emissions and whilst this figure was unchanged in 1998, the share of total Scottish emissions had increased to 37%.

**73.** Plants generally remove carbon from the atmosphere. This may accumulate to create “carbon sinks” in the soil and in perennial plants, notably trees, where the carbon will be locked up in the plant material until it rots or is burnt. Scotland has around 50% of the UK carbon sink capacity. It is clear that Scotland’s soils have a high carbon content and changes of use involving these soils have the potential for significant emissions of carbon dioxide. Practices such as peat drainage and, to a lesser extent, cultivation may lead to loss of soil carbon. We are undertaking research to review the contribution to climate change of organic soils under different land uses. This will aid our consideration of how guidance on fertiliser and soil management practices might be utilised to reduce greenhouse gas emissions.

## CARBON SOURCES AND SINKS

**74.** A particular feature of Scotland that has emerged from our work on establishing the levels and sources of greenhouse gas emissions in Scotland, is the influence of land use and agriculture/forestry. This has brought out the critical importance of the balance of the flow of carbon into and out of Scottish soils and the implications for policy development in this area. It has been recognised for some time that trees lock up carbon. It has perhaps been less widely appreciated that Scottish soils are carbon rich – particularly in semi-natural and natural habitats including peat bogs and heathlands.

**75.** Whereas Scotland's share of emissions from most sources comes in around 6% to 12% of the UK totals, preliminary estimates suggest that emissions from soils in Scotland may be nearer to double the expected amount based on a pro rata share of the UK land area. Given the proportion of Scotland's greenhouse gas emissions emanating from this sector, in particular from soils, it is important to improve our understanding of the processes and the means by which emissions might be reduced and this is currently the subject of further research. For the sector as a whole, Scottish emissions are estimated to produce around 16% of UK methane emissions from agriculture and more than half of carbon dioxide emissions from the countryside.

## EXISTING AND POSSIBLE FUTURE POLICIES

**76.** In developing further policies to achieve reductions, account will clearly need to be taken of the wider rural development agenda. We support the planting of new woodland for all the economic, social and environmental benefits, including its action as a carbon sink. Other policies that will contribute to mitigation are implementation of Integrated Pollution Prevention and Control (expected to deliver energy efficiency savings in intensive pig and poultry units which will be covered by the regime) and the climate change levy which will impact on agriculture.



**77.** The Forestry Commission provides technical advice on Forestry Practice and species choice. There is a substantial research programme into the effects of the changing environment on forest growth and yield, and the results will be fed into future advice. Research, involving SEPA, has commenced to model water use by trees and woodland so that this may be factored into the planning of land-use and water resources.

**78.** In August 2000 the Forestry Commission Guideline Note *Forests and Peatland Habitats*<sup>27</sup> was published. It provides guidance on how to identify important peat bogs where tree planting should be avoided, and also how to assess the potential environmental gains from restoring bogs that have already been converted to woodland. In producing the guideline, the Forestry Commission consulted Scottish Natural Heritage and other countryside organisations in Britain. An Information Note *Climate Change - Implications for Forestry in Britain*<sup>28</sup> has also been published.

**79.** Carbon sequestration (allowable for the purposes of meeting the UK Kyoto commitment) of 600 ktC per year is achievable on a UK scale by current planting levels and the Forestry Commission estimate that the Scottish share of this is 410ktC. Opportunities for further new planting are being examined as part of the development of the Scottish Forestry Strategy which will demonstrate a full range of benefits; improved biodiversity, recreational opportunities, timber production, as well as carbon sequestration.

<sup>27</sup> *Forest and Peatland Habitats*, Forestry Commission, August 2000.

<sup>28</sup> *Climate Change - Implications for Forestry*, Forestry Commission, April 2000.

The first of the Timber Transport Groups to gain partnership funding for a Project Officer, the Argyll Timber Transport Group:

'focuses on ways of improving the efficiency of the existing local infrastructure, investigating the alternatives to road transport, and developing innovative and creative solutions to the problems associated with the transportation of timber.'

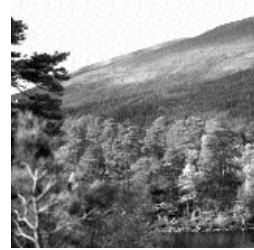
Current projects include:

- improving the current infrastructure to ensure timber traffic can use the rural road network;
- identifying the shortfall in funding and exploring new sources of funding; (for example the partnership project for Scottish Executive Freight Facilities Grants for the construction of a purpose built freight handling facility in Argyll, and the possible upgrade of Rannoch station to enable the loading and transportation of timber);
- developing an Integrated public/private timber transport network in Argyll, to formulate a bid for the forthcoming Highlands and Islands Special Programme 2000-2006;
- promoting the exchange of information;
- promoting the use of rail and sea transport; and
- encouraging a strategic approach and "joined -up" policy approach to timber transport amongst those involved in decision making in the local authority and the forestry industry.

**80.** Planting trees is encouraged by the Government through the Woodland Grant Scheme and the Farm Woodland Premium Scheme, where this will bring public benefits, including carbon sequestration. It is likely that both schemes will be developed and reviewed to take account of the Scottish Forestry Strategy. In addition, there are private forestry initiatives in Scotland including a commitment by BP Amoco to contribute £10 million, over a ten year period, towards a sustainable forestry project. A key objective of this project is enhanced carbon sequestration.

**81.** Forestry has a number of interactions with renewable energy, and there is a considerable opportunity to develop the use of biomass (including forest residues and wood fuel), as these provide carbon-neutral energy and can typically be used in small scale plants, adding value locally. The Forestry Commission introduced a pilot scheme to support short rotation coppice in 1995, for a 5 year period, and the Scottish Rural Development Plan provides for the scheme to be continued. Consideration will be given to encouraging forestry biomass under the Renewables Obligation (Scotland).

**82.** Timber transport groups around the country are working hard to bring partners together and look at efficient and effective means of tackling the challenges posed by the need for transport to realise the benefits of a doubling of timber production in Scotland over the next 10 to 15 years.



## Public Sector

*Some comments received in response to the consultation:*

The education system has an important role in raising awareness and understanding of the need to be more environmentally conscious.

Promotion by the Scottish Executive will have to be in partnership with local communities. The first task is to get the message across.

Sympathetic tourism developments will have positive benefits.

A Scottish public awareness campaign on lines of *Are you doing your bit* would be an important part of delivering the Scottish Programme. But it must be well publicised and enabling in terms of facilities.

**83.** Figures from the Scottish inventory show that the public sector accounted for some 0.4 MtC in 1990, 2% of total Scottish emissions. This fell to 0.3MtC in 1998.

**84.** The public sector is responsible for a relatively small percentage of Scotland's greenhouse gas emissions, but it has an importance beyond its size as an example for society as a whole. A large part of the sector's emissions arise from the heating needs of public sector buildings, including buildings in the Scottish Executive's own estate, hospitals and schools.

### THE SCOTTISH EXECUTIVE CONTRIBUTION

**85.** The Scottish Executive readily acknowledge that we must lead by example and we will work in partnership with others to deliver carbon savings. We are committed to reducing emissions by implementing a wide range of

energy efficiency initiatives in our own buildings. It is estimated that these have improved energy efficiency by 30% over the past 4 years. In April 1998 the Environmental Management System (EMS) at Victoria Quay achieved ISO 14001 accreditation. This is the international standard for Environmental Management Systems, a system which demonstrates sound environmental performance and effective procedures in identifying, controlling and managing the environmental impacts of activities, products or services.

**86.** We are committed to developing environmental management systems at other buildings throughout Scotland. A rural site has been identified to work towards ISO 14001 accreditation over the next two years and initial development work is already underway.

Published in May 2000, the West of Scotland Water Environmental Strategy includes commitments to:

- investigate options for monitoring waste and select appropriate indicators and targets for reducing the amount of waste;
- undertake energy efficiency audits by March 2001 to identify actions for improving efficiency from amongst 20 of the largest water and waste water treatment works and pumping stations;
- implement a monitoring regime in selected waste water treatment works and networks;
- appoint an Energy Advisor in all operational functions;
- estimate and quantify where possible carbon dioxide, methane, nitrogen and sulphur oxides and other greenhouse gas emissions with a view to establishing targets for reduction in the future;
- develop an information programme to raise awareness of alternatives to making work-related journeys;
- establish a transport research group to investigate alternative fuels and vehicles and trial innovative devices;
- review route management in order to reduce journey distances and time; and
- develop a Green Commuter Plan for head office and extend the scheme to other offices within the authority.

**87.** The Scottish Executive *Greening Government*<sup>29</sup> policy was introduced in November 1998 and promoted various environmental aims, objectives and targets. *Greening Government* carbon dioxide targets expired in March 2000 and, along with a review of our Greening Government policy, we will introduce a new reporting methodology and new targets for energy, waste and water reductions. Baseline information is currently being collected with a view to setting realistic but demanding targets which also satisfy our corporate aims. Over the last 2 years contract facilities have been put in place to recycle a wide variety of products to reduce the volume of office waste taken to landfill sites. A programme of Environmental Awareness presentations is provided at major offices on the central estate, with a view to optimising environmental performance and raising staff awareness. The new policy, when finalised, will be made available on the Scottish Executive internet site.

**88.** The Scottish Executive vehicle fleet now comprises 50% alternative fuelled vehicles. The Government Car Service (Scotland) consists of 100% dual-fuelled saloons.

**89.** As from 1 July 2000, 100% of the Executive's electricity to all Scottish Executive offices is supplied from renewable sources. The Scottish Courts Service, SEPA sites and a further 22 organisations on the new electricity contract will also be supplied wholly from renewable sources; approximately 450 sites.

### THE SCOTTISH PARLIAMENT CONTRIBUTION

**90.** The Scottish Parliament is also leading by example. The design brief for their new building specifies that it will minimise adverse effects on the environment in its construction and use. This objective was addressed in the design team's response.

**91.** The building will, amongst other things, incorporate a small combined heat and power scheme; use natural ventilation whenever possible; incorporate condensing and high efficiency boilers; incorporate solar panels for domestic hot water and make use of well water for cooling and for flushing toilets. On completion of the building, The Scottish Parliament plan to develop an Environmental Management System (EMS) with the aim of achieving registration to ISO 14001.

**92.** The materials to be used for the building have been chosen to minimise environmental impact. Criteria used to select the materials include long life, low maintenance, and low embodied energy.

<sup>29</sup> A copy is available on the Scottish Executive web-site at [www.scotland.gov.uk](http://www.scotland.gov.uk)



## A CONTRIBUTION FROM OTHERS IN THE PUBLIC SECTOR

**93.** The Scottish Prison Service (SPS) has published an Environmental Policy Statement and the Scottish Executive Health Department has produced an Environmental Management Policy Statement for the National Health Service in Scotland (NHSiS).

**94.** The SPS document demonstrates the commitment of their senior management to environmental matters and to integrating them into their every day business. It represents a formal statement by the SPS of its intention to improve environmental performance by preserving natural resources and reducing pollution within its estate in the procurement of goods and services and in all other activities. Specific among its aims are the minimisation of greenhouse gas emissions and the improvement of energy efficiency.

**95.** Waste management is being addressed with recycling encouraged throughout the estate and is highlighted by the impressive efforts at HMP Noranside in waste management, waste recycling and accelerated composting. HMP Barlinnie has installed a finger jointer to recycle timber offcuts for reuse by Prison Industries and may well be used by the private sector in an attempt to reduce timber waste within commercial enterprises. Benchmarks and key performance indicators are to be developed against which performance of key areas set out in the Environmental Policy (including energy, waste, water and transport) will be measured.

**96.** The SPS has conducted a review of its estate with the result that three establishments, Penninghame, Dungavel and Longriggend have been closed. A further review to develop a long term strategy for the estate,

including environmental matters, is expected to be completed later in the year. SPS is also part of the Executive's contract with Scottish and Southern Energy for the supply of energy from renewable sources.

**97.** The water industry is, generally, energy-intensive although this is less so in Scotland. The Scottish water authorities are very aware of the current contribution made by their energy use in areas such as treatment and pumping, and by sewage sludge disposal routes. In October 2000, we brought together the 3 Scottish water authorities, SEPA, the Water Industry Commissioner and others involved with climate change issues to discuss the areas in which the authorities can make appropriate contributions to deliver savings in carbon emissions<sup>30</sup>. Among the outcomes was a proposal to set up a Scottish water industry climate change

<sup>30</sup> A report of the proceedings is available on the Scottish Executive climate change web-site at [www.scotland.gov.uk/climatechange](http://www.scotland.gov.uk/climatechange).

The Warmburgh Plan is the City of Edinburgh Council's strategy for improving the energy efficiency of all residential property in the city by 30.9% in 10 years (from 1997). In addition to improving significantly the energy efficiency of its own stock, the Council has been active in encouraging energy efficiency activity in the private sector. It has won funding from the Energy Saving Trust for a grants scheme called ReWarm which has been successful in encouraging private landlords to install energy efficient heating systems and insulation. ReWarm won the Scottish Energy Savers Award 1999 and the Chartered Institute of Housing's Scottish Housing and Environmental Innovation Good Management Practice Award 2000. The Council, as part

of a consortium of 6 neighbouring local authorities in the Lothians, Borders and Fife, has also won funding from the Energy Saving Trust for a grant scheme for owner occupiers called Quality Assured Warmth. This scheme will promote negotiated discount prices on a range of energy efficiency goods and services to owner occupiers and will seek to ensure exceptionally high standards of work. By so doing it will increase the uptake of energy efficiency measures by directly addressing consumers' concerns. Once the Warmburgh Plan has been fully implemented, carbon dioxide emissions from all homes in the city built prior to 1997 will be reduced from 1997 levels by an estimated 459,000 tonnes a year.

network to disseminate Scottish climate scenarios, identify the need for new climate data and share good practice. Also recognised was a need for the water authorities to integrate climate change into their business strategies and to take account of climate change in future investment programmes. We will work with the water authorities in taking forward these, and other, conclusions of the seminar.

**98.** The NHS in Scotland (NHSiS) has a longstanding commitment to energy conservation. The NHSiS Property and Environment Forum's 1998-1999 Energy and Environment report announced a climatically adjusted saving in energy consumption of 3.3% for that year, which contributed to a cumulative saving in energy of over 28% since the base year 1985-1986. Also, during the period 1989-1990 to 1998-1999 the NHSiS delivered a reduction in its carbon dioxide emissions of just over 30%.

**99.** A new energy savings target of 2% per year for the 9 year period 2001-2010 has recently been announced. If achieved, and having regard for the changing nature of NHSiS property holdings, this figure suggests an energy consumption reduction of 46% by 2010 over the 1990 Kyoto base year. This will undoubtedly also lead to a significant further reduction in carbon dioxide emissions.

**100.** Under current guidance, NHSiS Bodies are encouraged to consider the installation of CHP plant as part of the option appraisal for any new hospital or healthcare development. In existing sites, where plant has reached the end of its lifecycle and is to be replaced, NHSiS Bodies are also encouraged to undertake a CHP feasibility study based on an analysis of all factors affecting the use of energy.

**101.** SEPA has a target to reduce its' 1998-1999 levels of carbon dioxide emissions by 20% by 2010. In April 2000 SEPA established a network of environmental monitors at each of SEPA's 21 offices and 6 laboratories. The network is tasked with reducing building energy use and waste. Monitors are responsible for the weekly collation of energy consumption data. This system is designed to attribute collective and local responsibility for these emissions.





**102.** Monitors are responsible for conducting six-monthly energy and waste audits at their sites and then formulating action plans to tackle findings. They also act as the liaisons between Head Office and other staff at their locations, advising and encouraging their colleagues in efforts to reduce energy use and waste generation. Environmental monitors have been provided with resources including energy efficiency best practice guides, best practice software, digital thermometers, seminars presented by the Scottish Energy Efficiency Office and energy awareness videos.

**103.** In addition to the monitoring network, SEPA has developed regional Waste Watcher groups with a remit to address Agency-wide energy and waste minimisation. These groups will address larger energy use issues including building energy management.

**104** Independent energy audits have been conducted at 5 main SEPA sites as part of the Government's Energy Efficiency Best Practice Programme with findings predicted to produce significant energy savings. Further initiatives include a mileage reduction of the vehicle fleet - pro rata targets must be set for all lease vehicles in 2001-2002 business plans; conversion of 11 of 40 pool vehicles to run on either LPG or petrol with plans to convert the remainder as the renewal cycle permits and where practicable; an expansion of video conferencing facilities - monitoring of the Head Office facility identified a saving of 20,000 miles and a reduction of 7 tonnes of carbon dioxide over the first 6 months of 2000 in addition to 400 hours of staff time saved.

**105.** The Scottish Court Service has reduced its energy consumption by 35% during the period 1991-1992 to 1998-1999 and is consistently amongst the top 5 performers in the UK Government Estate. The targeted performance figure by the year 2010 is a 40% reduction in the 1991-1992 base year figure.

**106.** All Courthouses within the Scottish Court Service estate are linked to the Court Energy Network System that independently monitors and controls the environmental conditions within each building. The majority of Courtrooms are controlled through occupancy sensors that automatically detect if the spaces are not in use. If this occurs, the building services are systematically shut-down to use minimal energy. The refurbishment project at Parliament House, which is due to be completed in 2012, will include a small-scale CHP plant, photo-voltaics and has a

Fife Council's Brass Monkeys Initiative was designed to raise awareness amongst young people about fuel poverty and how being energy efficient can help to avoid fuel poverty problems. It focused on the difficulties young people experience in cold weather, as recorded by the Youth Enquiry Service and Youth Homeless Project, 'Open Doors Fife'. These organisations worked with young people to produce CDs and cassettes in a format and language appropriate for young people. The initiative was launched in January 1998, as part of Fife Council's Warm and Well in Winter programme, and it was sponsored by ScottishPower and Sound Control. The initiative is currently being used in education and less formal youth provision to raise awareness and inform young people about the issues surrounding energy efficiency, sustainability and climate change.

Fife Schools have been actively participating in the ScottishPower Energy Education Project which covers the aims of Environment 5-14 of the curriculum guidelines. The Energy Efficiency Upper Primary resource pack, developed by ScottishPower in partnership with the Energy Efficiency Advice Centre and the Centre for Sustainable Energy, is made available to schools. Primary pupils have also been given talks on energy efficiency. By mid-1999, 80 of Fife's 146 primary schools had taken part in the project and 120 schools had taken part by spring 2000.

In a separate project, a Home-School Link pack has been produced by Aberhill Primary School, Methil and Kingdom Housing Association (partly funded by Scottish Homes). The pack is now an integral part of the 5-14 science education curriculum in the school.

stated annual energy target of 145kWh/m<sup>2</sup>. This equates to 30% less than the best rating under the performance yardsticks for Court buildings. The Scottish Court Service was awarded membership of the Energy Efficiency Accreditation Scheme in November 1999.

**107.** Local authorities are major users of energy for offices, housing, schools, leisure and care facilities, street lighting, etc., yet the full scale of their impact on Scotland's energy system is largely unknown. Scottish councils have, however, made substantial savings in energy consumption and are working towards their HECA targets to achieve an improvement in the energy efficiency of all housing in their area. But more can be done to establish an understanding and vision of how local government might co-ordinate their activities to help tackle the challenge of climate change. Following a joint workshop<sup>31</sup> held during the consultation on the draft programme, many of Scotland's local authorities submitted substantive responses which have helped firm-up this final Programme.

**108.** We recently announced our intention to introduce a statutory power of community initiative for local government at the earliest legislative opportunity. As with the new powers delivered in England and Wales by the Local Government Act 2000, this measure will give Scottish local authorities greater scope to promote, among other things, the environmental wellbeing of their communities. As such, it should give councils greater scope to take action in support of the climate change programme. We will consult with local authorities on how this might be taken forward. We look to forging a joint commitment between local authorities and the Scottish Executive to ensure that effective climate change response measures are introduced.

<sup>31</sup> The workshop was organised jointly by the Convention of Scottish Local Authorities, the Energy Saving Trust and the Scottish Executive. A report of the findings can be found on the Scottish Executive climate change web-site at [www.scotland.gov.uk/climatechange](http://www.scotland.gov.uk/climatechange).



**109.** CoSLA, with financial assistance from the Energy Saving Trust, has appointed an energy adviser to identify energy actions that will help Scottish local authorities to achieve their priorities of social inclusion and sustainable development. The key responsibility of the post is the development of a sustainable energy strategy statement for Scottish local authorities which will, amongst other things, assist development of a co-ordinated approach to the challenge of climate change.

**110.** Schools impact on energy in two important ways; as major consumers of energy and in educating future generations in the responsible consumption and conservation of energy. In recognition of this, a partnership involving the Energy Saving Trust, Aberdeen Environmental Education Centre, Eco-Schools Scotland and Aberdeen City Council commissioned the **energyzone**, a guide covering the 5-14 curriculum, to assist teachers with planning a teaching programme about energy, with

a particular focus on energy efficiency at school and in the home. The Department of Transport and the Regions have established an interactive web site<sup>32</sup> for school children and young people aged between 7 and 16 which explains the causes of climate change, why it is causing concern and what can be done to help cut emissions. We are also considering options for raising awareness of climate change issues among school children of all ages.

<sup>32</sup> [www.schools.detr.gov.uk/global/index.htm](http://www.schools.detr.gov.uk/global/index.htm)

# THE FUTURE: ADAPTING TO THE IMPACTS OF CLIMATE CHANGE IN SCOTLAND

111. The focus of this Programme is on the Scottish Executive's efforts to reduce greenhouse gas emissions. Taken together with the UK Programme, even if our efforts were to be successful, and were matched by a corresponding level of success by other developed countries, they will not be enough to prevent climate change. We therefore need to complement our efforts to reduce emissions with action to adapt to climate change impacts. A detailed account of the likely impacts of climate change in the UK and an outline of UK adaptation measures is given in the *UK Climate Change Programme*. We have been closely involved in these studies and, through this involvement, we have become increasingly aware of the need for more detailed information about our particular circumstances so that we can understand better their implications for Scotland.



**112.** As a first step we identified the need for more localised regional scenarios. More detailed UK scenarios based on better climate change models will be developed next year but in the meantime, we have commissioned work to revisit the Scottish data and to develop scenarios for a network of 50 x 50 km squares to cover the Scottish mainland and Islands. This study will be published soon but early

analysis suggests a small increase in winter warming at higher levels and a marked change in the summer precipitation gradient between the west (wetter) and the east (drier). Extreme precipitation events are also likely to increase by between 5% and 15% over the next 40 years; and there could be higher localised increases.

**113.** The adaptation measures described in the UK Programme summarise the current state of knowledge in this complex area. A number of the references are to specific Scottish issues. However, with the development of the more detailed Scottish impacts scenarios and given Scotland's unique geography, we decided that we should build on the UK work and review any specific implications for Scotland. To assist in this process, we have commissioned a study from the Centre for the Study of Environmental Change and Sustainability at Edinburgh University. This work will be completed in Spring 2001 and will inform consideration we are now giving to the development of a Scottish adaptation strategy.

**114.** As we reported in the consultation document, the *Scottish Implications Scoping Study*<sup>33</sup> considered the impacts of climate change across Scotland and reported that climate change has wide ranging implications for the people, the economy and the natural and built environment. The study went on to identify areas for further research, in particular the need for higher resolution climate data and

impacts studies in Scotland so that impacts can be better assessed and adaptation strategies developed. The Executive accepted this recommendation and commissioned further research which is summarised below. Other work, including studies by Scottish Natural Heritage into biodiversity<sup>34</sup> and into potential impacts of climate change on sea levels around Scotland and by the Scotland and Northern Ireland Forum for Environmental Research on Scottish temperature indices, will further inform the debate.

---

<sup>33</sup> The scoping study was led by the Centre for the Study of Environmental Change and Sustainability. A report of the findings can be found on the Scottish Executive climate change web-site.

<sup>34</sup> *Climate Change and Scotland's Natural Heritage: An Environmental Audit*, SNH Research Survey & Monitoring Report No. 132.



## CLIMATE CHANGE RESEARCH

**115.** The Executive make an active contribution to the UK climate change research programme which is administered by DETR. In addition, we have commissioned our own projects to study:

- The effect of climate change on the frequency of floods. Publication expected Spring 2001;

- The effect of climate change on design standards of existing flood prevention schemes. Publication expected early 2001;
- Scottish regional scenarios of climate change. Publication expected early 2001;
- The effect of climate change on Scottish snowfall patterns. Publication expected mid- 2001;
- The impacts and mitigation measures in neighbouring North Atlantic Countries. Publication expected shortly.

The results of all these studies will be published by the Executive and, when available, will be placed on our climate change web-site.

**116.** We recognise that flooding and coastal erosion are issues of concern to many Scottish communities and we are committed to increase investment in sustainable measures to reduce the damaging effects. Whilst the primary responsibility for these matters rests with individual land owners, we have ensured that local authorities, who are best placed to make decisions on local needs, have the necessary powers and resources to address these concerns. Our ongoing research programme will inform future decision-making in this area.

# BRINGING THE SCOTTISH BIT TOGETHER – A PARTNERSHIP APPROACH

**117.** The Scottish Executive are committed to working in partnership with the UK Government, government agencies, business, CoSLA, local authorities and all other interested parties to achieve our climate change objectives. We want to ensure that the policies outlined in this Programme are timeously and effectively introduced.





## PUBLIC ATTITUDES AND BEHAVIOUR

**118.** The Executive recognise that the ultimate driving force for industrial and transport emissions is human consumption. Without changes in the way individuals act, our efforts in combating climate change will undoubtedly fail. Raising the public's awareness of climate change and its impacts is therefore a core component of our Programme.

**119.** Earlier this year, we commissioned a survey into environmental attitudes and behaviour. Results showed that 4 out of 5 Scots recognised climate change as a serious problem for Scotland as well as for the rest of the world. The same proportion also considered that the environment and environmental issues were important to them personally. Clearly there is a huge reservoir of concern that can be tapped. However, concern itself is not enough. The challenge is to help translate

people's concern about the environment into practical, positive changes in their behaviour.

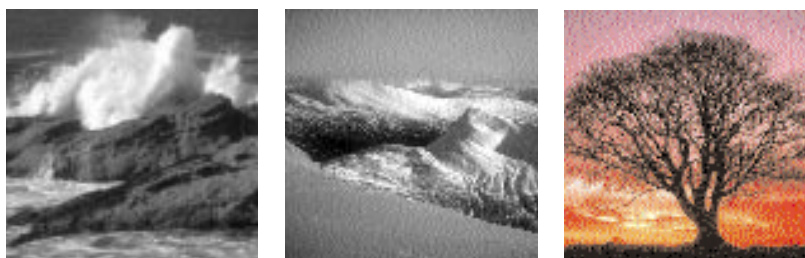
**120.** We commissioned the survey in order to consider the level at which our messages ought to be pitched to achieve the best results in running an environmental awareness campaign. We are now discussing with our advertising consultants the development of such a campaign in order to help deliver our climate change objectives.

**121.** Climate change impacts on a wide range of policy areas within the Executive. To enhance the effectiveness of our efforts it is important for our policy response to be taken forward in a co-ordinated way. We formed an Energy and Environment Group (EEG) in November 1999. The Group comprises Ministers and officials from across the Scottish Executive's departments. It was formed in

recognition of the need for close links across the departments and to ensure that high level consideration is given to the impact of climate change on policy issues. The Group approved this Climate Change Programme and will ensure that it is fully implemented. The Group may call on evidence from experts from outside the Executive during the implementation period and will review progress to ensure that our climate change strategy is achieving our objectives.

# CONCLUSION

**122.** This Programme is intended to make clear the important contribution the Scottish Executive can make in the global effort to tackle climate change. We can only do so much but, working in partnership with others will, we hope, enable us to make a real impression at the UK level and beyond. We hope that everyone will recognise the efforts being made and that they will commit themselves to playing a full and constructive part in achieving our objective of reducing greenhouse gas emissions.



**123.** We have made a start, jointly with the UK Government, on producing separate Scottish data for historical emissions and to enable separate projections for future emissions to be made. We acknowledge the importance that many people place on having a separate Scottish reduction target. However, it is also fair to say that others, responding to the climate change consultation, did not support it, recognising the practical difficulties that exist. This Programme demonstrates the complexities involved in seeking to reduce emissions and the wide range of policies involved. Many of these policies - devolved and reserved - are closely linked and it will be difficult in many cases to unravel their effects on a policy by policy basis. When we have a more robust set of data we will reassess the position and seek to better interpret the inter-relationship between the effects of devolved and reserved policy

measures. At that stage we will consider whether the setting of a separate Scottish target would be an appropriate part of our response measures.

**124.** This Programme focuses on policies that make sense for Scotland. It links to and supplements the UK Programme and will help to deliver the UK Kyoto commitment and contribute to the UK domestic goal of reducing carbon dioxide by 20% by 2010.

**125.** The report by the Royal Commission on Environmental Pollution recognised the role played by the UK Government in bringing the fundamental importance of climate change to the fore. It also addressed the crucial importance of longer term action. We wholeheartedly endorse that opinion. Whilst this is the final Scottish Climate Change Programme, the matter does not end here. We see this very much as a dynamic process.

We will therefore take forward the policies which are at the planning stage; review how those we have already introduced are meeting the objectives set for them; and monitor our performance in contributing to UK greenhouse gas emission reduction objectives. We will keep all interested parties involved through our Newsletter, our climate change web-site and continuing discussion.

**126.** Table 2 identifies what we are doing to help combat the threat of climate change in Scotland. We also published a summary of the Scottish Climate Change Programme. Copies of the summary are available from the Scottish Executive Climate Change Team, whose contact details may be found at the end of this document.

# SUMMARY OF SCOTTISH CLIMATE CHANGE PROGRAMME MEASURES

TABLE 2

Measure	Status	Carbon Savings in 2010 in Scotland <sup>35</sup>
Renewables Obligation (Scotland)	Agreed	220-530ktC <sup>36</sup>
SMEs energy efficiency loan scheme	In Operation	1.8ktC*
Energy Efficiency Best Practice Programme	Ongoing delivery by Scottish Energy Efficiency Office	Scottish contribution included in UK estimates
Energy efficiency provisions of IPPC	To be implemented by SEPA between 2000 and 2007	Scottish contribution included in UK estimates
Scottish Executive share of climate change levy £50m fund	Implementation of energy efficiency and renewable energy support by Scottish Executive using Scottish share	Scottish contribution included in UK estimates
National Waste Strategy	Adopted. Waste Strategy Area Groups established to develop Area Waste Plans	To be identified
Travel Choices for Scotland	Measures being taken forward at Scotland and local authority level	Research commissioned to arrive at estimates of likely savings*
Scottish Travel and Scottish Environment Awareness Campaigns	Arrangements to be agreed	To be identified*
10 Year Plan <sup>37</sup>	Agreed. Savings in Scotland arising from implementation of aspects of the 10 Year Plan	100ktC
Warm Deal	Agreed	To be identified*
Central Heating for Pensioners and Families	Agreed	Up to 110ktC*
Housing – HECA	Local authority targets agreed	To be identified*

<sup>35</sup> Only those savings marked with an asterisk are additional to those identified in the UK Climate Change Programme.

<sup>36</sup> 220ktC saving if gas generation is displaced; 530ktC saving if coal generation is displaced.

<sup>37</sup> See Transport sector of the *UK Climate Change Programme*. Savings in Scotland expected to arise from rail passenger and freight growth and sustainable distribution policies.



Measure	Status	Carbon Savings in 2010 in Scotland <sup>35</sup>
Building Regulations	<p>Consultation paper on proposals to improve the energy efficiency of new buildings issued</p> <p>Review of building control system underway: views sought on possibility of new legislation relating to existing buildings: responses being analysed</p>	<p>60.5ktC per annum* (assuming new proposals are implemented)</p> <p>Further amount to come from upgrades of existing buildings</p>
Scottish Forestry Strategy	Agreed	410ktC
New Scottish Executive central estate target	Energy efficiency target for central estate only - a further 5% over the next 3 years based on existing baseline figures	0.125ktC*
SPS target	Being developed	To be identified*
NHSIS target	Energy savings target of 2% per year for the 9 year period 2001-2010	37ktC*
SEPA	20% reduction in 1998-1999 carbon dioxide emissions by 2010	0.136ktC*
Scottish Court Service	40% reduction over 1991-1992 energy consumption levels	0.810ktC*

## REPORT ON CONSULTATION RESPONSES

**127.** The draft Programme we published in March outlined the Executive's proposals to reduce greenhouse gas emissions in Scotland. For the Programme to be successful we recognised that it would be essential for us all to work together in partnership. To aid our consideration of this final Scottish Programme, we welcomed comments on a number of issues and the attached annex reports on the main points we received.

# SUMMARY OF THE RESPONSES TO THE SCOTTISH CLIMATE CHANGE PROGRAMME CONSULTATION

## INTRODUCTION

1. Between 9 March and 2 June 2000 the Scottish Executive carried out a consultation on what action could be taken in Scotland which would help to deliver the UK climate change commitments. Almost 500 organisations and individuals in Scotland were invited to comment and a further 300 copies of the consultation document were issued on request. During the consultation period, the document was accessed 3,400 times on the Scottish Executive climate change web-site. 117 responses were received which was very encouraging and surpassed the 72 Scottish responses received to the previous UK consultation. Analysis of the responses informed the development of the final Scottish Climate Change Programme.

2. We are grateful to everyone who engaged in the debate and responded to the consultation. During the period

of the consultation a seminar entitled "Taking Ownership" was organised jointly with the Convention of Scottish Local Authorities (CoSLA), the Energy Saving Trust (Scotland) and the Scottish Executive. A seminar organised by the Scottish Council Foundation and Green Alliance entitled "Strategies on Climate Change" brought together a wide range of interested parties to inform the Scottish Council Foundation response to the consultation. The Minister for Transport and the Environment delivered a key-note address at both events. Views expressed at the seminars also informed development of the final Programme.

3. This report is a factual summary of the responses to the consultation. Members of the public can view the written responses by arrangement. They are available at the Scottish Executive Library, Saughton House, Broomhouse Drive, Edinburgh EH11 3XD, telephone 0131 244 4552.

## General

4. Firstly, we have shown some general comments in each of the sectors and then highlighted the most commonly made responses to each of the specific questions we asked in the draft Programme.

## *Energy sector*

5. A few considered the export of electricity to be an important issue for Scotland. There was support for development of a National Energy Strategy along the lines of the National Waste Strategy.

6. There was widespread support for the development of Scotland's renewable energy resource.

7. The uncertainty over the future of nuclear in Scotland was considered important. Closure of existing capacity will present a major challenge which respondents expected to see addressed in the Programme.



### *Business sector*

**8.** Business was keen to ensure that action to reduce emissions should be equitable across all sectors and not focussed on business and that action did not affect competitiveness. There were concerns that tourism had not been addressed in the consultation. Tourism is one of Scotland's largest industries and has a strong relationship with climate change.

**9.** Concerns about the climate change levy were expressed. Some of those who supported it in principle believed that adjustments were required to ensure effective operation. Limitations on those who could sign up to negotiated agreements was criticised. The greater reliance on electricity in Scotland due to the unavailability of gas as an alternative in some areas was seen as penalising Scottish business as the levy was higher. Some felt that the

Climate Change Levy should reflect the carbon intensity of fuels. There was support for emissions trading as a cost-effective means of achieving greenhouse gas reductions.

**10.** Delivery of a best practice programme in Scotland was supported but it was felt that this should cover effective resource use and waste minimisation in addition to energy efficiency measures.

### *Transport sector*

**11.** It was felt that the geography of Scotland gave different opportunities to reduce road traffic growth as there were more compact patterns of urban settlement when compared to England and there were relatively long corridors between major centres in Scotland.

**12.** The fuel duty escalator was criticised for its effect on rural areas and the forestry industry. In rural areas, public transport

is often not a viable alternative to car use and rural transport policies were thought to require more innovative thinking. Environmental groups were generally supportive of fuel duty, the effect of which on rural areas could be mitigated by introduction of a geographically-differentiated banding scheme.

**13.** It was pointed out that there was no differentiation between emissions from public and private transport and, whilst there is a rising trend in transport emissions, the public transport element is likely to be reducing.

**14.** There was a suggestion that there should be more emphasis on reducing congestion. Promotion of cycling would be of benefit.

**15.** There was support for the Powershift Programme and for it to receive more funding in Scotland. The restriction on

LPG conversion to vehicles up to 1 year old was thought to be too restrictive.

**16.** Action will require partnership between central and local government. Congestion charging was contentious and considered inappropriate in council areas which do not have large urban centres.

#### *Domestic sector*

**17.** A number of respondents thought that the Executive should re-instate a commitment to eradicating fuel poverty and develop a programme of work to achieve this which will also result in reductions in climate change emissions. There was some criticism that the Warm Deal was inadequate and would only be able to lift a small proportion of homes out of fuel poverty.

**18.** Building regulations were seen as being important and

the possibility of installing an energy management control system in new build was given as an example. This could be linked to the planning system with a statement that the environmental performance of buildings and the impact of developments on climate change comprised a material consideration in the assessment of planning applications.

**19.** Some mentioned the need for a national Scottish Best Practice Guide on planning for Sustainable Development in the form of an NPPG or PAN.

#### *Agriculture, forestry and land use sector*

**20.** Most respondents who expressed a view felt that more attention should have been given to land use in the consultation in view of the high emissions from this sector. Also, given the importance of this sector to Scotland, it was felt that agriculture and forestry

emissions data should be collected separately to facilitate targeting policies more effectively.

**21.** There was support for expansion of woodland in Scotland particularly because of the added benefit of fuel and availability of timber for use in construction. Technical guidance on species choice and forestry practice is required to ensure new woodlands can cope with climate change. However, concern was expressed that carbon sequestration was being used as a reason to expand industrial forestry whereas small-scale management of species to produce mainly high-quality timber for habitat enhancement or tourism developments was considered more favourable. There was also concern expressed by some businesses that increasing afforestation could affect water supplies.





**22.** Reform of the Common Agricultural Policy was seen as an opportunity to place environmental considerations at the core and ensure sustainable land use with reduced greenhouse gas emissions. Reform of the Farm Woodland Premium Scheme was also seen as an opportunity to encourage increased woodland cover in a sustainable way.

**23.** Peatlands and peat soils were seen as an area to be protected from drainage, afforestation, cultivation and extraction.

#### *Public sector*

**24.** The local authorities who responded recognised that they had a vitally important role to play in both reducing emissions within their own operations and encouraging others in their area to do likewise. There was a willingness among local authorities to work in

partnership with the Scottish Executive and others to help achieve Government targets but lack of resources was seen as a major barrier to local authorities being able to make significant achievements. Notably HECA was seen as an effective measure to reduce emissions in the domestic sector but was considered unlikely to deliver substantial savings without a sustained programme of investment.

# RESPONSE TO SPECIFIC QUESTIONS IN THE DRAFT PROGRAMME

*Is there a need for us to assess more precisely how we in Scotland are contributing to the UK Climate Change Programme?*

**25.** There was overwhelming support for assessing a Scottish contribution to the UK Programme.

**26.** A few felt that the Scottish contribution to a UK Climate Change Programme was irrelevant, provided that efforts were being made to reduce emissions.

*How practicable would it be to have a separate Scottish target for emission levels?*

**27.** Opinion was divided on the practicability of a Scottish target. Some felt a Scottish target was necessary, others thought it would be desirable but difficult to assess, others thought it could be assessed but would not bring any benefits and others felt a target was unnecessary. There was

no clear consensus of support for a Scottish target.

*What further research should be undertaken into distinctly Scottish implications of climate change?*

**28.** Many of the respondents expressed opinion that research on impacts of climate change on Scotland was of high importance. A wide range of projects for further research were suggested with a general theme emerging of the requirement for more knowledge on Scottish climate change scenarios which recognise regional variations. Such scenarios should give better indication of extreme events and demonstrate how these will impact on the different sectors and peoples' lives. Suggestions for specific sectoral research included the need to look at impacts of climate change on tourism and the electricity network in Scotland. Both of these could exhibit Scottish impacts and

the need for particular adaptation measures.

**29.** Other important areas for research were considered to be carbon sequestration and land use in the agriculture, forestry and land use sector; existing and future flood prevention schemes; coastal protection; work on possible changes to North Atlantic circulation currents; the differences between transport in Scotland and England; control of building standards in coastal and flood risk areas; the economic benefits for farmers putting up wind farms; and areas where offshore wind energy schemes could be tested.

*How could the Scottish Executive stimulate more CHP build in Scotland?*

**30.** The important issues here were considered to be stimulation of CHP build by energy taxation; ensuring fair access to the national grid for



excess generation; financial incentives to be funded through the Climate Change Levy Fund; public buildings such as schools and hospitals to use CHP, with excess used to heat local houses; supporting demonstration schemes and feasibility studies; extending a Renewables Obligation (Scotland) to cover heat as well as power; and the New Housing Partnerships programme could include a requirement to explore CHP as part of the transfer and improvement process.

**31.** There were a few cautionary comments, e.g. CHP in Scotland could displace other low emission generation; and that care needs to be taken that action in Scotland does not result in greater costs for a process operator in comparison to his competitors elsewhere in the UK.

*What are your views on the use of renewables in Scotland being increased to around 17.5% by 2010?*

**32.** Of all the specific questions, this elicited most comment. The vast majority who commented expressed support for increasing the use of renewables in Scotland. A few considered the 17.5% target too ambitious, whilst others felt it was not ambitious enough. A few thought that longer term targets to 2025 or 2050 should be set. Some were concerned that the review of planning policy guidance on renewable energy, so that the planning system could take on a more enabling role in the development of renewable energy particularly in relation to wind farms, meant a removal of planning controls or more favourable treatment for wind farms.

**33.** The potential for Scotland to become a world leader in the renewable energy industry

was recognised. Renewables were also seen as an employment opportunity, especially in rural areas. Some of the potential barriers to an increase in renewables capacity were seen as poor grid connections in some parts of the country, which would need to be improved, local authority planning, electricity trading arrangements and public perception.

**34.** Although it was recognised that there was much potential in Scotland for the development of wind energy, many expressed a desire for newer technologies to be supported to the point that they were financially viable. Wave, solar and biomass were seen to have much potential in Scotland. Heat pumps were also viewed as an important technology worthy of further support. A number of respondents suggested that support for these technologies could come from the Climate Change Levy or through the

new Renewables Obligation (Scotland). It was also suggested that higher-value green certificates for certain technologies might help to stimulate those technologies which are not yet financially viable.

**35.** There was a divergence of views on waste-to-energy being considered a renewable technology. Some concern was expressed about the possible visual impacts of renewable energy developments particularly in relation to tourism.

**36.** It was felt that any programme to promote renewable energy should be backed by an awareness-raising campaign to help public understanding. Promotion through the education system from primary schools through to higher education was considered important. As was fair access to the grid with the ability to trade renewables over the Scotland-England

interconnector. A few considered it regrettable that large-scale-hydro had not been exempted from the levy as this made continued investment in existing infrastructure less attractive.

*On what should we spend the Scottish share of proceeds from the climate change levy?*

**37.** It was generally felt that the sectors which contribute to the levels of emissions and therefore pay the highest levy would benefit most from assistance.

**38.** Most felt that the bulk of the revenue should be for promotion of renewable energy and energy efficiency, although public transport was seen as another area for investment. Public awareness raising was also seen by many as an appropriate use of resources.

*Are there any distinctly Scottish issues that need to be addressed by the Energy Efficiency Partnership for Homes programme?*

**39.** The vast majority of respondents who expressed a view felt that there was a need to consider distinctly Scottish issues in the Energy Efficiency Partnership for Homes programme.

**40.** Different climate patterns, different types of construction and poor standards of housing were seen as reasons for a distinctly Scottish approach. As was the greater dependence on electricity as the only available source for heating in many areas.

**41.** Many respondents considered that low standards of insulation, damp/condensation and heating efficiency in Scottish homes should be addressed. Colder, wetter weather means that the benefits of improved insulation are greater in Scotland.



42. A few commented that there should be rationalisation of the many agencies and initiatives in home energy conservation and that the Scottish perspective must be represented during the development and consultation phases of new UK wide programmes. This could perhaps be through a Fuel Poverty and Energy Efficiency Advisory Group to examine fundamentally Scottish concerns whilst feeding into UK programmes.

*Should compulsory sellers surveys, including energy efficiency information, be introduced for house sales?*

43. Of those who expressed an opinion the majority supported the introduction of compulsory sellers surveys which included energy efficiency information. Surveys would need to be backed by practical information on energy efficiency improvement. Consideration could be given to mortgage

subsidies for highly efficient homes.

44. Most felt that including energy efficiency information would act as an awareness-raising tool. Surveys should be extended to business properties and to the rented sector where an energy audit could be carried out when a change of tenancy occurs.

45. Of those who didn't support compulsory surveys, peer pressure, encouragement to builders to adopt eco-audits and increasing energy efficiency ratings in Building Regulations were seen as possible alternatives.

*How should a Scottish Climate Change Programme be promoted by the Scottish Executive?*

46. Most respondents expressing a view felt that promotion was an essential part of a Scottish Climate Change Programme. This

would be most effective if taken forward by working in partnership with a range of people and organisations. Some of the identified partnership opportunities are detailed in a later question.

47. Developing positive attitudes is a long-term process and a few felt that it would be prudent to implement a 5 year programme subject to ongoing review and evaluation prior to further development. Many felt that the Scottish Executive should be seen to be taking the lead with strong messages from a range of Ministers, including the First Minister. The Scottish Climate Change Programme must be adopted by policy-makers across the Executive. It was felt that recent initiatives such as the *Scottish Transport Bill*, *A Forward Strategy for Scottish Agriculture* and a *Framework for Economic Development in Scotland* had failed to address climate change adequately. Policies on transport and

housing should be promoted for their emissions reduction benefits and links should be made between energy efficiency and social exclusion, renewable energy and rural development, biomass and the Common Agricultural Policy reform, and housing and health.

48. Opportunities should be taken to integrate the Programme into school, college and university curricular activities, as well as into community and informal learning programmes and professional education and training.

*Would a separate 'are you doing your bit'-type campaign be worthwhile in Scotland?*

49. There was general support for a Scottish campaign similar to *are you doing your bit*, although some questioned the effectiveness of the current campaign.

50. A high profile campaign backed with publicity such as leaflets and exploitation of the internet were seen as good ideas. TV advertisements and bill posters should be considered. Soap operas are widely watched and could perhaps include a climate change message. A national campaign could be linked to a series of local projects and initiatives run over a similar period.

51. Any campaign would need to be backed by incentives to encourage people to change. The message should be made personal and linked to a 'save money' as well as a 'save the environment' message. The campaign could be linked to other campaigns such as National Travel Awareness and Scottish Waste Awareness.

52. Those who expressed doubt about the effectiveness of a Scottish campaign suggested that the campaign money could be spent on

energy saving measures and to fund innovative projects or award prizes for best practice which would ultimately attract media attention. A few favoured being part of a UK-wide campaign.

*What steps could the Scottish Executive take to encourage public sector organisations in Scotland to invest in energy efficiency measures?*

53. Most thought that the Scottish Executive must lead by example. There should be an obligation on all government departments through the *Greening Government* policy to account for the impact of their energy use and to demonstrate that they have considered the use of renewable energy. Government land holdings and building stocks must be utilised towards meeting targets for tackling climate change.



*Are there any partnership opportunities, not recognised in this draft Programme, which might usefully be developed?*

**54.** A large number of partnership opportunities for the Scottish Executive were suggested, including the general public/local communities, local authorities, Health Boards and industry.

Any enquiries about the Scottish Climate Change Programme should be addressed to:

The Scottish Executive  
Climate Change Team  
1.H-North  
Victoria Quay  
EDINBURGH  
EH6 6QQ

Tel: 0131 244 7384  
Fax: 0131 244 0211  
E-mail: [climate.change@scotland.gsi.gov.uk](mailto:climate.change@scotland.gsi.gov.uk)

All photography supplied by freefoto.com, [www.freefoto.com](http://www.freefoto.com),  
except pictures on page 8, 12, 20, 24, 27 and 35 (courtesy of Forest Life Picture Library)