



Cynulliad National  
Cenedlaethol Assembly for  
Cymru Wales

## Carbon Reduction in Wales

Introduction to the Sustainability Committee's  
inquiry into Carbon reduction in Wales

March 2008

## Introduction

This introductory document sets out the background to our inquiry into carbon reduction in Wales. It is designed to be downloaded and read in conjunction with any of the topic reports on carbon reduction published by the Committee during 2008.

These reports will cover the topics of:

- Residential carbon reduction
- Carbon reduction by transport
- Carbon reduction by industry and public bodies
- Carbon reduction from electricity generation (including renewable energy)
- Rural land use management and carbon reduction
- The role of the planning system in carbon reduction

This introduction is based on a research paper produced by the Assembly Parliamentary Service's Members' Research Service. The full text of the paper (Carbon Dioxide Emissions in Wales, paper number 08/0018) can be found at:

<http://www.assemblywales.org/08-003.pdf>

## Background

"This (climate change) is the biggest problem facing us globally this century. There is no bigger problem. The threat is quite simple; it's a threat to our civilisation".

*Professor Sir David King, Chief Scientific Adviser to the UK Government, June 2004*

1.1. The acknowledgement of the role of humans on the acceleration of climate change has led to a series of targets, policies and actions being agreed at international, national and local levels to achieve a reduction in CO<sub>2</sub> emissions.

1.2. In July 2007, the Committee agreed that its first inquiry should be into carbon reduction in Wales and agreed the following terms of reference:

To scrutinise the Welsh Assembly Government on its progress in contributing to the UK's carbon reduction targets and its proposals for meeting the 3% per year carbon reduction target for Wales contained in the One Wales document.

The inquiry will focus on the following topic areas:

- Residential carbon reduction
- Carbon reduction by transport
- Carbon reduction by industry and public bodies
- Carbon reduction from electricity generation (including renewable energy)

- Rural land use management and carbon reduction
- The role of the planning system in carbon reduction

1.3 We took evidence from a range of organisations and individuals during the course of this part of the inquiry. Their evidence ranged from critiques of the current policies and targets being used at all levels to examples of good practice being used to address many of the issues raised. A list of all those who provided written and oral evidence can be found at annexes to each of the topic reports along with links to the evidence session transcripts and the written evidence.

### **The policy context**

1.4. The UN Framework Convention on Climate Change (UNFCCC) sets an overall framework for intergovernmental efforts to tackle the challenge posed by climate change. It recognises that the climate system is a shared resource whose stability can be affected by emissions of carbon dioxide and other greenhouse gases.

1.5 The Kyoto Protocol is the main international instrument for tackling climate change. 171 Parties have ratified the Protocol to date. The Kyoto Protocol entered into force on 16 February 2005. The Protocol's major feature is that it has mandatory targets on greenhouse gas emissions for the world's leading economies which have accepted it. These targets range from -8 per cent to +10 per cent of the countries' individual 1990 emissions levels, "with a view to reducing their overall emissions of such gases by at least 5 per cent below 1990 levels in the commitment period 2008 to 2012".

1.6 The European Union participated in both the UNFCCC and the Kyoto Protocol on behalf of its Member States. The European Commission launched the European Climate Change Programme (ECCP) in June 2000. Its aim was to help identify the most environmentally- and cost-effective policies and measures that could be taken at the European level to cut greenhouse gas emissions. The second ECCP was launched in October 2005

1.7 The EU has developed numerous policies and measures related to climate change. The following are some examples:

- Green Paper COM(2007) 354 outlines the changes that European societies will need to make in order to adapt to the consequences of climate change.
- Communication COM(2007) 2 final sets out the EU's objective of limiting global temperature increase to less than 2°C compared to pre-industrial levels.
- Green Paper COM(2006) 105 suggests six priority areas for implementing a European energy policy.
- Green Paper COM(2005) 265 introduces a variety of actions and measures to be taken by government, industry and consumers that will make efficiency savings of 20 per cent of current use by 2020.

- Decision 280/2004/EC established a new mechanism for monitoring and reporting greenhouse gas emissions.
- Directive 2003/30/EC requires that 5.75 per cent of transport fuels sold in Member States by 2010 should be biofuels.
- Directive 2003/87/EC established an emission trading system (the EU Emission Trading Scheme) limiting carbon dioxide emissions from 11,500 large emitters in the Member States.
- Directive 2002/91/EC sets minimum energy efficiency standards that must be met by all new buildings and large existing buildings undergoing major refurbishment.
- Directive 2001/77/EC requires Member States to meet an indicative target of 21 per cent of EU electricity consumption being produced by renewable energy by 2010. Conclusion (7224/07) requires the production of 20 per cent of energy in Europe to be from renewable sources by 2020, and requires greenhouse gas emission reductions of 20 per cent from 1990 levels by 2020.
- White Paper COM(2001) 370 envisaged a shifting of transport mode from road to rail and water. Its review (Communication COM(2006) 314) changed the emphasis from curbing transport demand to disconnecting mobility from its negative consequences.
- Directive 1999/31/EC requires Member States to gradually reduce the amount of biodegradable waste landfilled to 35 per cent of the 1995 level by 2020 (biodegradable waste produces methane, one of the greenhouse gases).

1.8. In 1997, the UK committed itself to a domestic target of reducing carbon dioxide emissions by 20 per cent below 1990 levels by 2010.

1.9. In March 2006, the UK Government published its Climate Change Programme (*Progress towards national and international targets*, DEFRA 2006), which sets out the policies and priorities for action on climate change, both across the United Kingdom as a whole, and internationally. The Programme covers adaptation to climate change, and emission reductions – in the domestic setting, in energy supply, business, transport, land use management, and in the public sector. The document also includes a section about Wales-specific factors (pp. 163-168).

1.10. The UK Government's Climate Change Bill is the first piece of legislation in the world to lay legally binding targets for reducing greenhouse gas emissions. It was introduced into the House of Lords on 14 November 2007, and is currently in Committee, having passed its second reading. It encompasses the following main provisions:

- Compared to a 1990 baseline, it sets a mandatory target of a 26-32 per cent reduction in greenhouse gases by 2020, and a reduction of 60 per cent by 2050 (international shipping and aviation will only be included in the UK carbon budgeting process if European or other international law or agreements require it);
- Carbon budgetary periods of five years, during which time greenhouse gas emissions must be within predetermined limits (up to 1 per cent of

the carbon budget can be 'borrowed' from a succeeding budgetary period, and unused carbon budget can be carried forward from a preceding budgetary period);

1.11. The Welsh Assembly Government's climate change commitments are laid out in the Environment Strategy for Wales (Environment Strategy for Wales – Welsh Assembly Government, May 2006):

Greenhouse gas emissions are minimised, consistent with Wales **contributing fully to meeting UK-wide targets** and in line with more specific Wales targets that are under development.  
[emphasis added]

1.12 Prior to the elections for the Third Assembly, the First Minister ruled out annual carbon dioxide emission reduction targets because of the nature of the industrial sector in Wales; a year of low steel production, for example, would cause a reduction in emissions unrelated to energy conservation measures. However, the One Wales document (Labour and Plaid Cymru, *One Wales: A progressive agenda for the government of Wales*, June 2007) commits the Welsh Assembly Government to:

"...aim to achieve annual carbon-equivalent emissions reductions of 3 per cent per year by 2011 in areas of devolved competence. We will set out specific sectoral targets in relation to residential, public and transport areas. We will work with the heavy industry/power generation industries to reduce emissions in those sectors".

The current situation in Wales

1.13 Wales has performed inconsistently in reducing greenhouse gas emissions over the past fifteen years. In particular, emissions of carbon dioxide in 2004 (the most recent year for which data are available) had increased by 2.5 per cent since 1990. The First Minister has ruled out annual emission reduction targets because of the nature of the industrial sector in Wales; a year of low steel production, for example, would cause a reduction in emissions unrelated to energy conservation measures. Likewise, a mild winter will tend to lead to less energy consumption.

1.14. Figure 1 shows the performance of the UK countries in reducing carbon emissions over the period 1990-2004. Note that emissions in Wales and Northern Ireland have increased over that period.

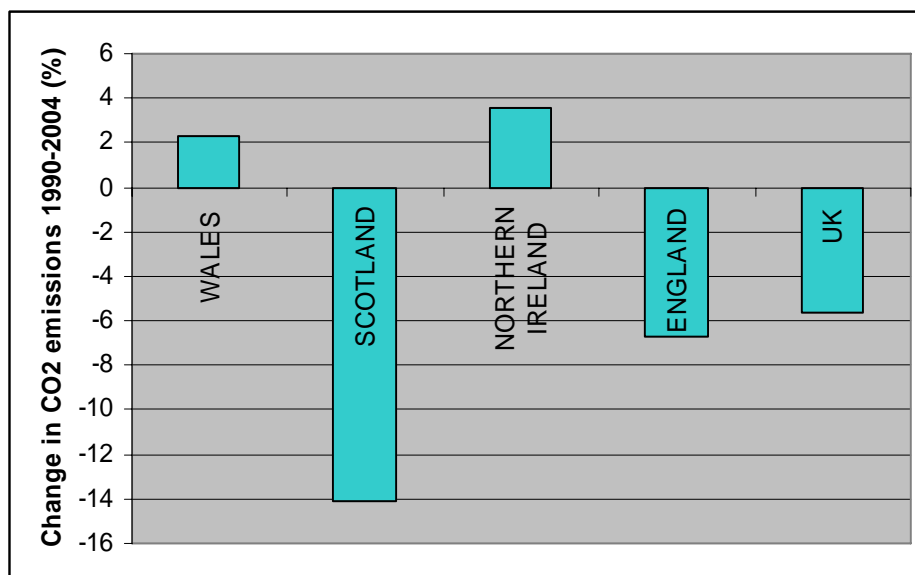
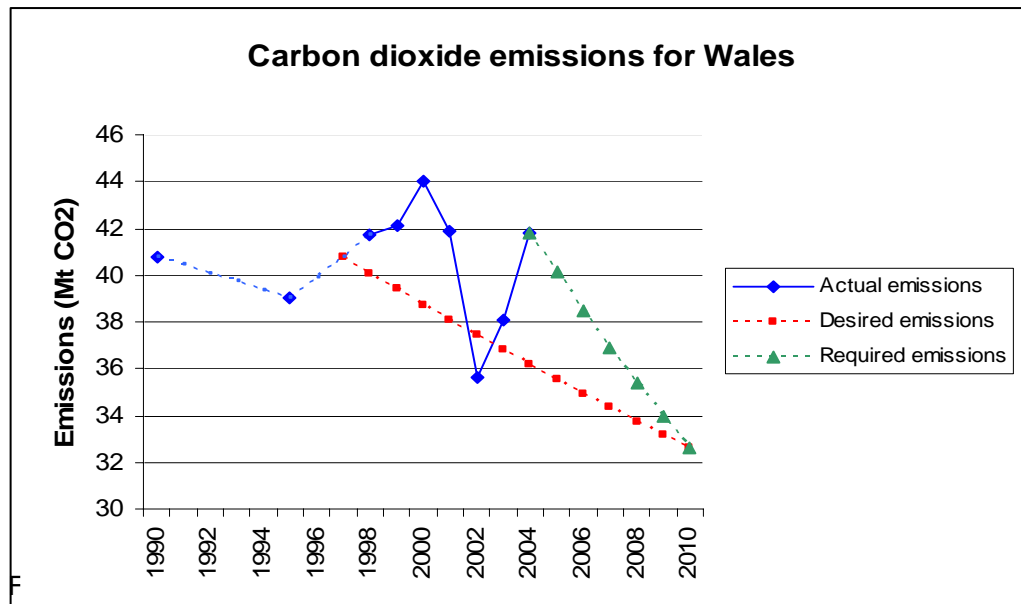


Figure 1 Change in CO<sub>2</sub> emissions over the period 1990-2004

1.15. In the last year for which information is available (2004), carbon dioxide emissions in Wales were 15.6 per cent higher than they would need to be if Wales were to meet its 'full contribution' to the UK's carbon dioxide emission reduction target (*Carbon Dioxide Emissions in Wales* – National Assembly for Wales Research Paper, Members Research Service July 2007).

1.16. In order to meet the 2010 emissions target, Welsh emissions need to reduce by 4.1 per cent per year between 2005 and 2010. This emission reduction path is shown in Figure 2, along with the actual carbon dioxide emissions up to 2004, and the 'desired emissions' path (the declining path of emissions that would have been required since 1997 in order to reach the 2010 target). The value for 1997 that has been used is the point on the trend line between the values for 1995 and 1998.



Actual emissions: Baggot L et al., 2005. *Greenhouse Gas Inventories for England, Scotland, Wales and Northern Ireland: 1990-2004*,

[http://www.airquality.co.uk/archive/reports/cat07/0611081428-419\\_Reghg\\_report\\_2004\\_Main\\_Text\\_Issue\\_2.pdf](http://www.airquality.co.uk/archive/reports/cat07/0611081428-419_Reghg_report_2004_Main_Text_Issue_2.pdf)

Desired and Required emissions calculated by Members Research Service

1.17 Wales performs particularly poorly in terms of carbon dioxide emissions per capita. Of the 210 countries listed by the US Energy Information Administration, Wales would appear in the poorest-performing 20 countries. For comparison, both Scotland and England would rank outside the top 50.

Excluding small island states, Wales had the 12<sup>th</sup>-highest carbon dioxide emissions per capita in the world in 2004.

Of the 195 countries listed for carbon dioxide emissions per unit of GDP by the US Energy Information Administration, Wales would have been approximately 70<sup>th</sup> in carbon intensity in 2004. England would have been outside the most carbon-intense 100 countries.

### **The way forward**

1.18 We are concerned about the lack of action in Wales on carbon reduction. Although there have been commitments made by the Welsh Assembly Government, there is a lack of leadership and action in reducing Wales' carbon footprint.

1.19 We hope that the recommendations contained in the sectoral reports which accompany this introduction, which are based firmly on the evidence we received, will give a guide to the Welsh Assembly Government for the way ahead. We have attempted to 'cost' our headline recommendations in each report to give a clear indication of the potential carbon savings from each of them. We hope that the Welsh Assembly Government will consider each of our recommendations in depth and will use them to make Wales a leader and exemplar of a truly low carbon, prosperous country.