

Part II

The United Kingdom's response

Part II of this report considers the implications for internal policies in the UK of the conclusions reached in **part I** about the urgent need for an effective global response to the threat of climate change and the most credible form for that response.

The key conclusion reached was that, as the corollary of accepting 550 ppmv as an upper limit on the carbon dioxide concentration in the atmosphere, and the contraction and convergence principle as the basis for global agreement, the UK should adopt now a long-term strategy for reducing its emissions of greenhouse gases. The core of that strategy must be very large reductions in carbon dioxide emissions from burning fossil fuels.

Chapter 5 briefly characterises the UK's present energy situation, summarises key trends over recent decades and official projections for the next two decades, and analyses the draft Climate Change Programme.

Chapter 6 discusses the current trends in energy use in the UK by consumers, the potentials for greater efficiency, and the prospects for reducing the amounts of energy used in different consumption sectors. We consider what instruments government should use in order to achieve that.

Chapter 7 discusses the alternatives to using fossil fuels as sources of energy in the UK. This involves analysing the scales on which alternative sources are available, their environmental impacts if they were developed on a large scale and their costs relative to the costs of fossil fuels. It also involves considering what the barriers would be to their rapid development.

Chapter 8 discusses the scope for making fundamental changes in the UK's energy system. We consider the different forms in which energy is required and the most efficient ways of providing it in those forms. Discussion of policy options has often focused on meeting the demand for electricity and disregarded the larger amounts of energy used in other forms. The most difficult uses of fossil fuels to replace will be providing heat and providing power for transport. We identify the problems posed by the intermittency, unpredictability and location of several of the renewable sources of energy, and conclude that reappraisal and some reconfiguration of the current grid system of electricity distribution will be required if they are to be deployed on a large scale.

Chapter 9 sets out four illustrative scenarios in which a 60% reduction in UK carbon dioxide emissions is achieved by 2050 through different combinations of reductions in energy demand and development of alternative sources.

Chapter 10 discusses what changes are now needed in policies and institutions to put the UK on a path to making the substantial, long-term reductions in carbon dioxide emissions which are necessary. It also brings together our **key recommendations**, and is followed by a complete list of **our recommendations**.