

## RECOMMENDATIONS

*We bring together here all the recommendations which appear (in bold type) elsewhere in this report: first 19 key recommendations, which are also included (in capitals) in the relevant contexts in chapter 10; and then a number of other recommendations on particular aspects*

### KEY RECOMMENDATIONS

1. The goal of reducing the UK's annual carbon dioxide emissions by 20% from their 1990 level by 2010 is a major step in the right direction. It should become a firm target and the government should produce a climate change programme that will ensure it is achieved (5.60).
2. The UK should continue to play a forceful leading role in international negotiations to combat climate change, both in its own right and through the European Union. The government should press for further reductions in the greenhouse gas emissions of developed nations after 2012, and controls on the emissions of developing nations (4.68).
3. The government should press for a future global climate agreement based on the contraction and convergence approach, combined with international trading in emission permits. Together, these offer the best long-term prospect of securing equity, economy and international consensus (4.69).
4. While UK carbon dioxide emissions are falling at the moment, they are expected to begin rising again. All but one of the nuclear power stations, the main source of carbon-free energy at present, are expected to close by 2025. The government should set out, within the next five years, a programme for energy demand reductions and development of alternative energy sources that will prevent this from causing an increase in UK emissions (10.12).
5. The government should now adopt a strategy which puts the UK on a path to reducing carbon dioxide emissions by some 60% from current levels by about 2050. This would be in line with a global agreement based on contraction and convergence which set an upper limit for the carbon dioxide concentration in the atmosphere of some 550 ppmv and a convergence date of 2050 (10.10).
6. Absolute reductions in energy demand and a large deployment of alternative energy sources will be needed if the UK is to make deep and sustained cuts in carbon dioxide emissions while protecting its environment and quality of life (10.17). Longer-term targets should be set for expanding the contribution from renewable sources well beyond 10% of electricity supplies to cover a much larger share of primary energy demand (7.106). A range of targets should be developed for raising energy efficiency in all sectors of the economy (6.172). A central policy objective must be a very large reduction in demand for energy for heating and cooling, achieved through much more sophisticated management of heat and much wider use of combined heat and power schemes for both the industrial and the commercial and domestic markets. The resulting heat networks, supplied initially by fossil fuels, could ultimately obtain heat from energy crops and electrically powered heat pumps (8.15).

## *Recommendations*

7. The targets in the UK's long-term strategy should cover protection and expansion of carbon sinks through tree planting and appropriate land use policies (10.20).
8. The UK should introduce a carbon tax, replacing the climate change levy which is due to begin next year. It should apply upstream and cover all sectors (10.26).
9. The first call on the revenue from this carbon tax should be to further reduce fuel poverty by benefit increases and more spending on household energy efficiency measures (10.27).
10. The remainder of the revenue should be used to raise investment in energy efficiency measures in all sectors, to increase the viability of alternative energy sources, and to reduce the impact of the new tax on UK industrial competitiveness (10.28).
11. The UK should press for a carbon tax within the European Union, but proceed on its own if agreement cannot be reached within the next few years (10.32).
12. We recommend that a Sustainable Energy Agency should be set up to promote energy efficiency more effectively in all sectors and co-ordinate that with the rapid development of new energy sources (10.46).
13. We recommend that the government should take the lead in a fundamental review of how electricity networks can best be financed, managed and regulated in order to stimulate and accommodate large contributions to energy supplies from combined heat and power plants and renewable sources, while maintaining reliability and quality of supplies (10.50).
14. We recommend that the fall in government spending on energy research and development should be reversed, and annual expenditure as a proportion of gross domestic product quadrupled over the next decade to bring the UK up to the present EU average (10.59).
15. The need to reduce emissions of greenhouse gases, particularly carbon dioxide, should be taken into account in all government policies. That is not the case at present (10.67).
16. The UK government and devolved administrations should launch a long-term programme to bring about major reductions in the energy requirements of buildings. As well as reducing wastage, this will embrace wide use of technologies that enable occupiers of buildings, including householders, to obtain their own heat and electricity from renewable or energy-efficient sources such as solar heating, solar electricity, heat pumps, and small-scale combined heat and power plants (6.100). It will also require the large-scale construction of district heating networks, so that advantage can be taken of larger-scale combined heat and power schemes (10.68).
17. Reducing carbon dioxide emissions should continue to be a central objective of transport policy (10.69).
18. Growing crops for energy purposes should be regarded as a primary use for agricultural land, and policies and support measures should reflect that (10.71).
19. A comprehensive strategy is needed for developing renewable energy sources offshore. This should cover assessment of environmental impacts, designation of appropriate areas, and the possibility of combining more than one technology within a single installation (10.72).

## OTHER RECOMMENDATIONS

### *THE GLOBAL CONTEXT*

20. On the basis of current scientific knowledge about human impact on climate, we support the proposal that an atmospheric concentration of 550 ppmv of carbon dioxide should be regarded as an upper limit that should not be exceeded (4.32).

21. Our view is that an effective, enduring and equitable climate protocol will eventually require emission quotas to be allocated to nations on a simple and equal *per capita* basis. There will have to be a comprehensive system of monitoring emissions to ensure the quotas are complied with (4.47).

22. We urge government to facilitate and encourage the creation of a national trading scheme, to help position the City of London - which has the necessary skills and capacity - as the world centre for international trading in emission permits when that emerges from the negotiations on implementing the Kyoto Protocol (4.64).

### *A CARBON TAX*

23. A carbon tax should be announced at least a year in advance of its introduction, be set at a modest level initially, and be preceded by or launched alongside the other measures we recommend for raising energy efficiency, reducing energy consumption and reducing fuel poverty (6.169).

### *BETTER MANAGEMENT OF HEAT*

24. The UK must develop a comprehensive strategy for the supply and use of heat (8.6)

25. We recommend that the UK government and devolved administrations carry out detailed studies to identify the most effective ways of promoting and facilitating the large-scale growth of heat networks (8.9). They should examine the institutional, economic and social barriers that might prevent that; consider, in conjunction with plant manufacturers, consumers and potential investors, what incentives could overcome such barriers; and support demonstration schemes (6.102).

26. Energy crops and wastes should be regarded in the medium to long term as having a premium role in supplying heat. They should be used in plants providing both heat and electricity to an urban area, and located close to the sources of the fuel in order to minimise transport (8.11).

27. Combined heat and power plants should be regarded primarily as a source of heat. It may be desirable to keep a large part of their capacity to generate electricity in reserve, so that it can be used at those times at which there is a shortfall in supply from other sources (8.12).

28. An integrated approach to heat management should become a central feature of the design of all new houses and other buildings, and should be applied to existing buildings wherever practicable, and building control legislation and the Building Regulations should be amended to bring that about (6.100).

29. To improve energy efficiency, government should promote use of heat pumps wherever electricity has to be used to supply low-grade heat (8.14). Government should investigate the carbon-saving potential and cost-effectiveness of heat pumps and solar water heating at the level of individual homes and larger buildings, with a view to devising subsidy arrangements, both for existing and new buildings, should the findings prove favourable (6.101).

## *Recommendations*

### *ENERGY USE IN BUILDINGS*

30. Both for the building stock and for other capital assets, maximum advantage must be taken of new construction and the replacement cycle in order to make major improvements in energy efficiency (10.14).

31. We recommend that government revise the Building Regulations to mandate much higher standards of energy efficiency in new homes and commercial and public sector buildings (6.97). That should include more demanding criteria for the energy efficiency of lighting and introduce rigorous standards for air conditioning systems as well as heating systems, thereby encouraging architects and engineers to find less polluting ways of keeping buildings adequately lit and at comfortable temperatures (6.43).

32. We recommend that government join with the construction industry to find an effective way of increasing the awareness and understanding of energy-saving methods and technologies among architects, engineers, surveyors and the building trades. We mean this recommendation to apply as much to the house building sector as to larger commercial, industrial and public buildings (6.44).

33. We recommend that government join with major property owners to develop means of tackling the 'landlord-tenant' problem which plagues attempts to raise energy efficiency in the services sector. We propose that government work with the property and energy industries to devise an incentive scheme which would encourage both landlords and tenants to move to individual meters for each tenant (6.48).

34. Where tenants cannot be individually metered, the landlord should be required to inform them of their building's overall annual energy consumption and fuel bill. At the same time, the landlord should be required to inform existing tenants and prospective tenants of the energy consumption and fuel bill for the average building with the same function and floor area as the one in which they rent, or propose to rent, space, as well as the equivalent figures for a high efficiency 'good practice' building of similar function and floor area (6.49).

### *DOMESTIC ENERGY USE*

35. Major improvements in the energy efficiency of UK housing are required (6.6).

36. We recommend that SAP (Standard Assessment Procedure) survey findings should be part of the information packs provided by sellers to house buyers, together with basic information explaining the SAP and general advice on making energy efficiency improvements (6.78).

37. We recommend that purchasers who can demonstrate that they have raised the SAP rating of their property by 20 points should be entitled to a stamp duty rebate (up to a maximum of 1% of the purchase price) (6.79).

38. We urge UK manufacturers and retailers to take a lead in marketing more energy efficient products, and government to encourage them to do so. Government Departments, local authorities the NHS and government agencies should bulk purchase the more energy efficient products, expanding their market and helping to bring down costs (6.86).

39. For new housing Building Regulations that deliver a SAP 80 rating should be introduced forthwith. We further recommend that government announce its intention to move to a higher standard, based on achieving a SAP 100 rating, by 2005. We also recommend that the practice

cease of rounding down very high SAP ratings to 100, in that a growing number of homes can exceed that level, or that the SAP formula be revised to take higher standards better into account (6.97).

40. We support the introduction of a new energy efficiency index for housing based on carbon dioxide emissions and urge government to make this change as quickly as possible. But there is a strong case for retaining a rating based on energy costs when homes are sold because prospective purchasers wish to know about likely energy bills (6.98).

41. We recommend that government provide greater incentives for the installation of small-scale combined heat and power plants in existing and new blocks of flats (6.101).

#### *FUEL POVERTY*

42. We recommend that government set up a nationwide scheme which enables medical practitioners who believe their patients' health is being put at risk by fuel poverty to put their names forward for prompt attention under the Home Energy Efficiency Scheme (HEES) and its counterparts (6.73).

43. We further recommend that government fund epidemiological research aimed at establishing how effective home energy efficiency measures are in terms of improving health and reducing overall health service expenditure (6.74).

44. The government is mistaken in keeping domestic fuel cheap for all households in order to help a minority of households who suffer from fuel poverty, when there are growing concerns about the environmental damage caused by indiscriminate, inefficient consumption of fossil fuels (6.159). There should not, therefore, be a blanket exemption for households from taxation measures aimed at limiting climate change. At the very least, however, the numbers of people suffering fuel poverty should not be allowed to increase when a carbon tax is introduced. We urge the government to adopt a programme with the aim of eliminating fuel poverty over a specified time period (6.160).

45. There is a pressing need for further expansion of government programmes for raising energy efficiency and increasing warmth in low income homes, going beyond the existing Energy Efficiency Standards of Performance and enhanced HEES schemes. This should be integrated with programmes for urban regeneration and for more general renovation or replacement of run-down housing (6.163).

46. We recommend that maximum grant levels in other parts of the UK should be raised to those applying under the new HEES in England (6.71).

#### *ENERGY USE BY INDUSTRY*

47. We recommend that a body with a degree of independence from government, such as the Environment Agency or the new Sustainable Energy Agency we recommend, undertake or audit the monitoring of negotiated agreements to reduce energy use and be given adequate funding to do so. We also endorse the House of Commons Environment, Transport and Regional Affairs Committee's recent recommendation that draft negotiated agreements be made publicly available (6.23).

## *Recommendations*

48. Government must encourage and enable the Environment Agencies to raise industry's baseline standards of energy efficiency in implementing the European Community Integrated Pollution Prevention and Control (IPPC) Directive (6.30).

49. Emissions of carbon dioxide and other greenhouse gases from a site should be considered as pollutants in authorising processes subject to IPPC. As soon as it can be confirmed that disposal of carbon dioxide into deep geological strata is environmentally and legally acceptable, consideration should be given to designating technology for removing carbon dioxide from the emissions from large combustion plants as the best available technique for the purposes of IPPC (6.31).

### *ENERGY USE IN SURFACE TRANSPORT*

50. If road congestion charging and workplace parking charges are to be introduced on a scale that can make a significant national contribution to reducing transport's rising carbon dioxide emissions, local authorities which are considering implementing them will need sustained political and financial support from the UK government and devolved administrations. Progress will also depend on adequate government support for other aspects of local transport plans (6.121).

51. We urge a wide differential in vehicle excise duty between the highest and lowest bands and an increase in the number of bands or a sliding scale. We endorse the House of Commons Environment, Transport and Regional Affairs Committee's proposal for a revenue-neutral graduated purchase tax on new cars, with subsidy for low emission vehicles financed by tax on high emission vehicles (6.122).

52. We welcome the Transport White Paper, which adopted policies in line with much of the Commission's thinking. But we continue to be disappointed at the slow progress in implementing the measures required and the delay in introducing the necessary legislation (6.126).

53. We particularly regret that successive governments have not devoted more of the revenues from the fuel duty escalator to improving alternatives to car use. We welcome the recent increases in public investment in transport and hope these will be further enhanced (6.127).

### *ENERGY USE BY AIRCRAFT*

54. The government should press for an international tax on aircraft fuel while maintaining or increasing its own taxes on aviation. If, as seems likely, global agreement proves impossible in the current decade, then the government should use its best efforts to secure an OECD aviation fuel tax or, if that also proves impossible, a harmonised climate change levy on landing fees. Either of these could be applied solely within the EU if a wider agreement cannot be negotiated (6.131).

### *NUCLEAR POWER*

55. Indefinite storage above ground of high-level and intermediate-level wastes from the existing use of nuclear power has become policy by default. We recommend that action is taken to design and construct an effective long-term repository as soon as practicable (7.19).

56. Considerations of inter-generational equity embedded in the concept of sustainable development demand the solution of the waste management problem, to the satisfaction of both the scientific community and the general public, before new nuclear power stations are constructed (7.19).

*RENEWABLE ENERGY SOURCES*

57. We recommend that the government provide part-funding for demonstration projects for those renewable technologies which have major long-term potential but are unlikely to attract support from electricity suppliers under the new Renewables Obligation; and should use for that purpose some of the £50 million a year for carbon-saving measures that is being made available from the revenue raised by the climate change levy (7.114).

58. We recommend that a full investigation be made of the scope for increasing electricity generation by upgrading existing inland water power schemes and by adapting reservoirs constructed for other reasons which are now redundant or have substantial spare capacity (7.29).

59. In view of the large amounts of energy that would be available, we recommend that construction of tidal barrages be kept under consideration as an option for the long term (7.30).

60. We recommend that, if barrages have to be constructed to prevent flooding, full consideration be given to the possibility of incorporating plant to generate electricity on a significant scale (7.30).

61. We recommend that DTI commission a desk study to determine whether there are credible combinations of estuary barrages that would overcome, at least in part, the problem of intermittency of supply (7.30).

62. We recommend that investigations be carried out to identify brownfield sites which have sufficiently consistent wind speeds to be suitable for wind farms and would be suitable in planning terms (7.35).

63. We recommend that, to facilitate recycling of the materials used and to avoid hazards from their disposal, manufacturers and importers of photovoltaic cells should be required to take back arrays removed from buildings (7.42).

64. We recommend that DTI commission studies of the feasibility of combining different offshore power generation technologies in a single structure so that, if the findings are promising, further development of the technologies can take place on that basis (7.98).

65. We recommend that stronger support be given to wave power and tidal stream technology, which have considerable promise. Support can take the form either of funding research and development or of awarding contracts for electricity generated by these methods (7.100).

*RESEARCH AND DEVELOPMENT*

66. Adequate long-term programmes of research and monitoring are vital to improve scientific understanding of the carbon cycle and the greenhouse effect, the consequences for the climate, and the repercussions those in turn will have, as well as of other environmental impacts of obtaining and using energy (10.54).

## *Recommendations*

67. Research and monitoring are needed to establish that disposal of carbon dioxide into deep geological strata will be effective and not give rise to any new environmental hazards (10.58).

68. We recommend that the government takes responsibility for promoting, and ensuring sufficient funding is available for, research into technologies that solve the problems of controlling electricity networks in which there is a high proportion of embedded and intermittent generation, and into the economic and institutional issues that will need to be resolved (8.54).

69. We recommend that the government promote research and development into new technologies for large-scale energy storage, possibly on a collaborative basis in Europe (8.65).

70. We support the proposal for an international body to fund research, development and design in the energy field (10.65).

### *LAND USE POLICIES AND CONSENT PROCEDURES*

71. We welcome the start the government has made in developing policies to minimise consequential damage in the UK as a result of climate change (10.21).

72. We endorse the impetus to higher densities and greater use of urban brownfield sites given in England by the revised Planning Policy Guidance on housing, and urge the devolved administrations to adopt similar policies (6.106).

73. Renewable energy assessments, and in particular any targets they contain, should give full weight to landscape character and should be subject to a strategic environmental assessment (7.122).

74. We recommend that all proposals for new generating plants and overhead transmission lines should in future be considered under land use planning legislation, and that planning applications for generating plants should be required to cover all the transmission lines and other infrastructure that will be needed for their operation (10.37).

75. We recommend that DETR, in conjunction with the Crown Estates Commissioners, bring forward proposals for giving authorisation to, and regulating the environmental impact of, generating plants using renewable energy sources offshore; and that corresponding arrangements are made in other parts of the UK (7.38).

### *DEVOLVED ADMINISTRATIONS*

**key recommendation 16 and recommendations 25, 46, 50, 72 and 75 are addressed both to the UK government and to the devolved administrations; many other recommendations apply equally to the devolved administrations**

76. We recommend that the devolved administrations should review and improve their arrangements for promoting energy efficiency and renewable energy, taking into account our recommendation that a Sustainable Energy Agency should be established, and if necessary should seek additional powers in this field (10.52).

77. We recommend that, in co-operation with farming organisations and the nature conservation agencies, Agriculture Departments produce a Code of Good Environmental Practice for the growing of energy crops (7.75).

78. We recommend that new arrangements for supporting renewable energy sources should also be introduced in Northern Ireland (7.111).

79. The government should consider introducing to the rest of the UK the energy saving loan schemes which the Energy Saving Trust runs in Northern Ireland and Scotland (6.51).

*ACTION AT EUROPEAN LEVEL*

**see also key recommendations 2, 11 and 18 and recommendations 48, 49, 54 and 69**

80. The government should continue to press for thoroughgoing integration of environmental considerations into EU policies, both in the energy field and in other fields (10.24).

81. The sharing out between Member States of the EU's limit under the Kyoto Protocol must now be given a firm legal basis, and effective mechanisms must be established for monitoring compliance with their respective limits, with sanctions for non-compliance (10.23).

82. It is crucial that manufacturers comply with the agreements negotiated with the European Commission on reducing carbon dioxide emissions from new cars; and that, if they do not do so, mandatory standards are introduced rapidly (6.123).

83. We urge the government to do all it can, through the EU, to ensure further substantial reductions in carbon dioxide emissions from vehicles for the period beyond 2008 (6.128).

84. We recommend that increased efforts should be made to develop and bring into general use methods of reducing substantially emissions of particulates and nitrogen oxides from diesel engines. The European Commission should promote this by setting technology-forcing standards for these pollutants (8.20).

85. We urge the government to take a lead within the EU in pressing for a broader range of household and office appliances to have mandatory labels and minimum energy efficiency standards (6.85).

86. If there is not to be an EU-wide carbon tax, EU law ought to be amended to enable Member States which wish to impose internal carbon taxes to levy reasonable shadow carbon taxes on imported electricity (10.30).

87. We urge the government to press for changes in EU VAT law that would enable VAT to be reduced to 5% for sales of energy saving equipment direct to consumers (6.171).

ALL OF WHICH WE HUMBL Y SUBMIT FOR  
YOUR MAJESTY'S GRACIOUS CONSIDERATION

Tom Blundell *Chairman*  
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