

Where we are now

A review of progress on sustainable development

A support document for *Breakthroughs for the 21st Century*

July 2009

Introduction

When the Sustainable Development Commission decided to launch a project to identify potential breakthroughs in sustainability, we began by taking a look at what has happened since the launch of the UK Government SD strategy, *Securing the Future*, in 2005. Collated mostly from existing published sources - often from within government departments - we identified trends in areas as diverse as housing policy, the environment, health, inequalities and waste. The picture that emerges (see below) is complex, with substantive progress in some areas undermined by stasis or even reversion in others. It could perhaps best be summarised as “winning battles but still losing the war”.

The material we assembled has triggered a lot of interest. We have therefore decided to publish it on our website under the title *Where are we Now?* We do not make any special claims that it is comprehensive, and some of the data sets are by now a little out of date. But the juxtaposition of so many pieces of information has clearly been of value to others and we wanted to share it.

Securing the Future was launched by Tony Blair in 2005, along with a common framework to be used by Whitehall and the three Devolved Administrations in Scotland, Wales, and Northern Ireland. The title of this framework document - *One Future: Different Paths* - turns out to have been accurate. Faced with broadly similar but nationally distinctive sets of issues, each administration has charted its own course on sustainable development. In Wales, sustainable development principles have been at the heart of government since the creation of the Welsh Assembly Government, made substantive through its SD Scheme. In Scotland, the original SD Strategy *Choosing our Future*, produced by the former Labour/Liberal Democrat Coalition Government, has been replaced by the SNP with a national performance framework which puts the achievement of sustainable economic growth as its overarching purpose. In Northern Ireland, the original SD Strategy *First Steps* has struggled to gain any traction.

Embedding sustainable development as the central organising principle of Government is a tough challenge. In addition to *Breakthroughs for the 21st Century* and *Where are we Now?*, the SDC will be publishing a third document, titled *The Standing of Sustainable Development in Government* which provides an overview of how, from our point of view, this challenge has been tackled by the four administrations across the UK.

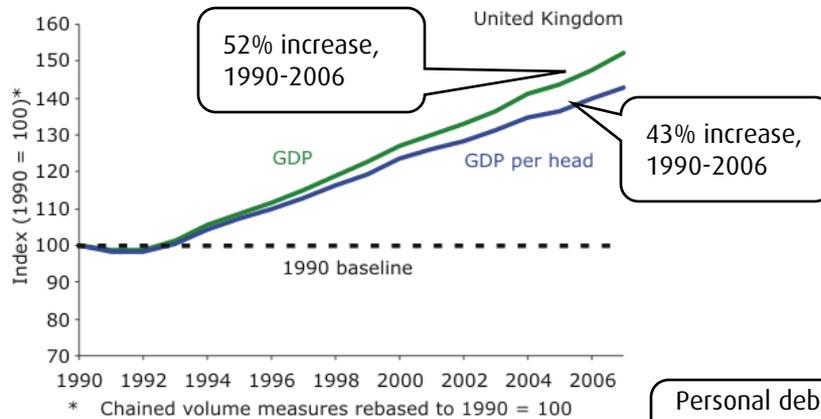
Turning again to Whitehall, the SD programme based upon *Securing the Future* has recently been reviewed by Defra, with the intention of renewing and refreshing it. Any decision to update or replace the strategy itself is likely to be made the other side of a General Election.

In the central part of this document we look in more detail at some of the data sets which sit behind the four priority areas in *Securing the Future*: climate change & energy, sustainable production & consumption, land use & natural resources, and sustainable communities. A brief summary of key trends follows here. Where the data has been disaggregated we have tried to include the relevant figures for, for example, Scotland, but many of the data sets are UK wide.

After 15 years of continuous economic growth, the UK is now experiencing an economic downturn

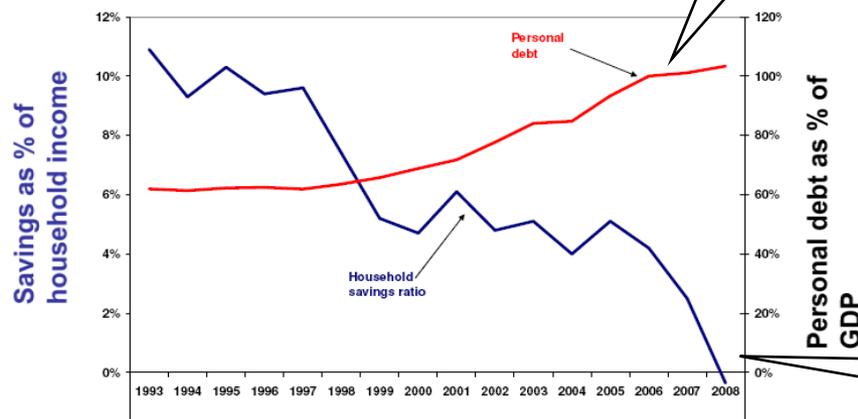
“A time of unprecedented turbulence in the world economy” Alistair Darling, Chancellor of the Exchequer¹

Gross Domestic Product, 1990-2007²



- Until 2008, the British economy experienced 60 consecutive quarters of growth (15 years) and inflation was consistently close to the 2% target.⁴ Since 1997 GDP growth averaged 2.9%, and peaked at 3.3% in 2007⁵
- In 2008 and early 2009, following an increase in energy prices and major problems in financial markets, growth fell sharply
- Prior to the current downturn, GDP and GDP per capita had increased between 1990 and 2007²; and rose faster than the EU15 and OECD averages between 1997 and 2006⁴
- Labour productivity of the UK economy has risen steadily and in 2006 was 38% higher than in 1991. During this period labour productivity in other G7 countries increased on average by 27%²
- Much of the unprecedented growth in consumption has been fuelled by increasing levels of debt. The UK had almost £6 trillion external debt in Q3 2008 compared to £5.3 trillion the previous year.⁶

Consumer debt and household saving 1993 - 2008³



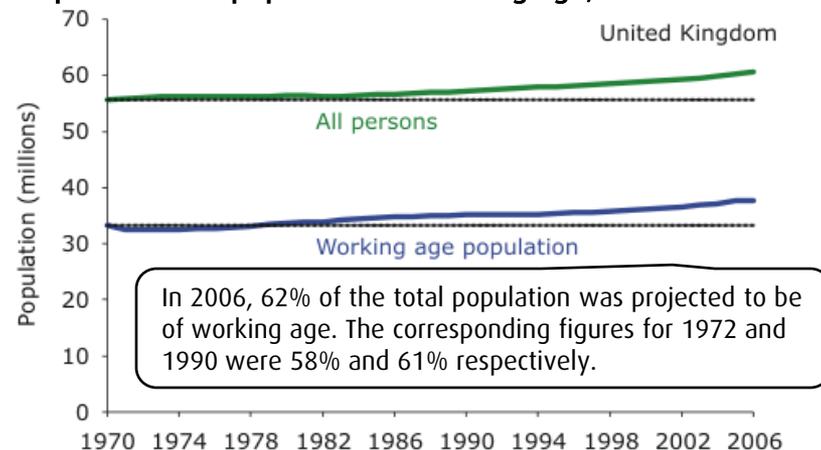
Even as incomes have been rising, people have become more indebted and have saved less. Household savings ratio = savings - borrowing divided by household savings

(1) The Mais Lecture, Oct 2008 by The Chancellor of the Exchequer (2) Defra (2008) SDIYP. (3) Source data from Office of National Statistics. (4) *Realising Britain's Potential: Future Strategic Challenges for Britain* (The Strategy Unit Feb 2008). (5) Measuring the UK economy 2008: the National Statistician's Perspective, Economic and Labour Market Review, Vol 2, No 10, October 2008. (6) ONS <http://www.statistics.gov.uk/imf/> [accessed 19/01/2009].

There is increasing pressure on housing as the population increases and more people live alone or in smaller households

- The British population is projected to increase by six million to around 67 million by 2020 driven largely by people living longer and net migration¹
- The average age of the population is set to increase. The number of those aged over 85 will increase by 50% by 2020 to 1.9 million¹
- An ageing population will bring new challenges, such as greater demand for health and social care (formal and informal), the likely need for more people to work for longer, and the need to meet the increasing expectations of older people.¹

Population and population of working age, 1970 to 2006³



Source: GAD, ONS

- In 2006 there were 24.9 million households in the UK – an increase of 6.2 million from 1971. Approximately 60% of this increase was due to an increasing number of single person households²
- Average household size has fallen from 2.9 people in 1971 to 2.4 in 2006³
- The number of people living alone in Britain more than doubled between 1971 and 2005. This was driven by, amongst other things, increasing numbers of working age people opting to live alone, rising divorce and separation rates, and increasing numbers of old people living alone (following death of a partner).³ This trend is predicted to continue
- In a 2005 survey, 94% of individuals agreed with the statement “It is good to live on your own before you settle down”⁴
- Projections made in February 2008 predicted an increase in households in England between 2004 and 2026 particularly in the South East, London, the East and South West (35,800, 33,400, 29,800, 28,600 extra household per annum).³ However these figures may be reduced in light of the current economic slow down.

(1) ONS (2007) *2006 Based Projections*. (2) Defra (2008) *SDIYP*. (3) DCLG (2008) <http://www.communities.gov.uk/news/corporate/707319> [accessed 23/01/09].

(4) IPPR/Unilever (2005) *Unilever Family Report*.

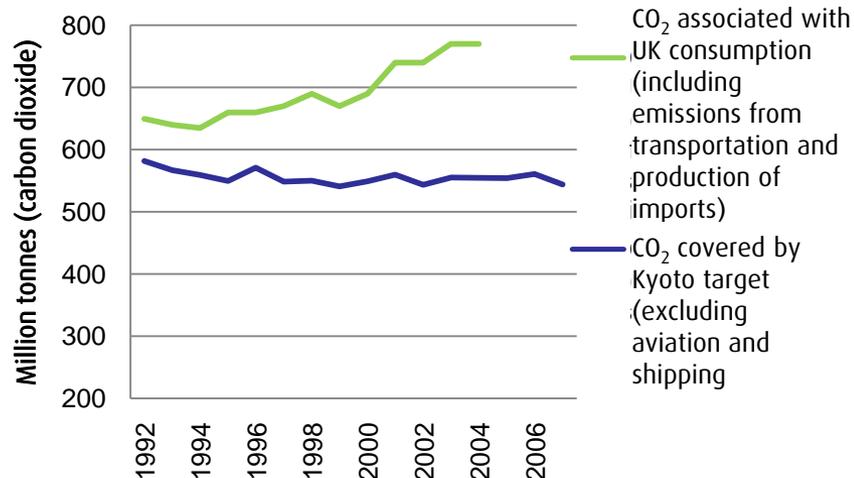
Although the UK is on track to meet Kyoto targets to reduce greenhouse gas emissions, an apparent decrease in CO₂ emissions becomes a significant increase once emissions embedded in trade and travel are considered.

Goals and Targets

- The UK government has committed to Kyoto targets to reduce greenhouse gas emissions (GHG) by 12.5% below 1990 levels by 2012
- The new Climate Change Bill commits the UK to an 80% reduction in GHG by 2050, and the Budget 2009 set an interim target of 34% reduction in GHG by 2020
- The UK has also set itself national targets to reduce CO₂ emissions 20% by 2010 on 1990 levels
- All new public buildings to be zero carbon by 2018
- All new buildings to be zero carbon by 2020
- In Wales, all new buildings to be zero carbon by 2011

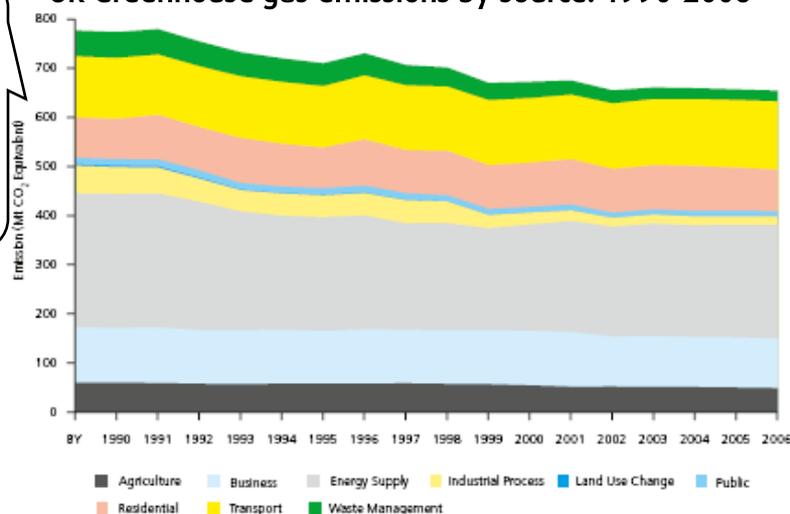
- From a 'basket' of six greenhouse gases (GHG) there has been an 18.4% reduction in emissions below 1990 levels (21.7% taking into account EU Emissions Trading Scheme),¹ exceeding the Kyoto target. However, the UK remains the second largest emitter of GHG in the EU²
- In 2007, CO₂ emissions were 8.5% below 1990 levels meaning that the UK is not on track to meet its national target of 20% reduction even when taking into account the emissions bought through the EU Emissions Trading Scheme (giving a reduction of 12.8%)¹
- There has been an 18% increase in emissions between 1992 and 2004 when imports and international travel are taken into account³
- Total CO₂ emissions per capita were 11 tonnes in 2006. This must be reduced to 2 tonnes by 2050 to achieve an 80% reduction in CO₂ by 2050.³

UK Carbon Dioxide Emissions^{4*}



The biggest reductions in GHG have come from waste management and industrial processes

UK Greenhouse gas emissions by source: 1990-2006¹



*This uses data from Defra, the Stockholm Environment Institute and the ISA. (2) DECC (2009) *UK Climate Change Sustainable Development Indicator: 2007 Greenhouse Gas Emissions, final figures*. (3) European Environment Agency (2008) *Core Set of Indicators*. (4) Defra (2008) *SDIYP*. (5) UK Climate Change Programme (2008) *Annual Report*.

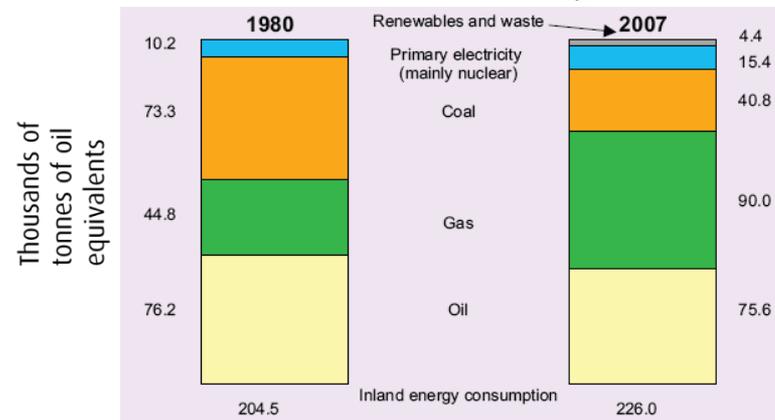
Energy consumption has been gradually decreasing since 2000, but it is still higher than 1990, with transport use continuing to increase. A significant amount of energy is lost in conversion and transmission.

Goals and Targets

- The UK has signed up to the EU Agreement to reduce EU energy consumption 20% by 2020 based on current projections

- Overall energy consumption has increased by 5% since 1990, despite a gradual decrease in levels since 2000,¹ but electricity consumption has increased by 25% between 1990 and 2006²
- Heat accounts for the largest proportion of UK final energy demand at 49% and is responsible for 47% of its carbon emissions. 54% of heat is used by the household sector³
- In 2006 the transport sector accounted for the largest proportion of final energy consumption at 35%, with the residential sector at 27% and industrial at 19%⁴
- Household energy consumption increased by 12% from 1990 to 2006 but CO₂ emissions have decreased over the same period, largely as a result of electricity generators switch from coal to gas.³

Inland energy consumption by energy source.¹ The most significant change in the consumption of energy source since 1980 has been the shift from coal to gas



Inland Energy Consumption by end user.¹ Together, conversion and distribution losses total a higher consumption level than that of transport.

	Million tonnes of oil equivalent					
	1980	1990	2000	2005	2006	2007
Conversion losses			53.8	54.2	55.4	53.2
Distribution losses and energy industry use	62.1	66.4	20.7	20.2	18.9	17.8
Final consumption						
Industry	48.3	38.7	35.4	33.6	32.8	31.7
Domestic sector	39.8	40.8	46.9	47.2	45.7	44.0
Transport	35.5	48.6	55.5	59.1	59.8	59.8
Services ¹	18.7	19.2	21.5	20.2	19.7	19.3
Total final energy consumption	142.4	147.3	159.2	160.2	157.9	154.9
Total inland primary energy consumption²	204.5	213.6	233.7	234.7	232.3	226.0
Temperature corrected Total	206.2	221.6	239.8	239.3	236.1	231.0

¹ Includes agriculture
² Excludes non-energy use

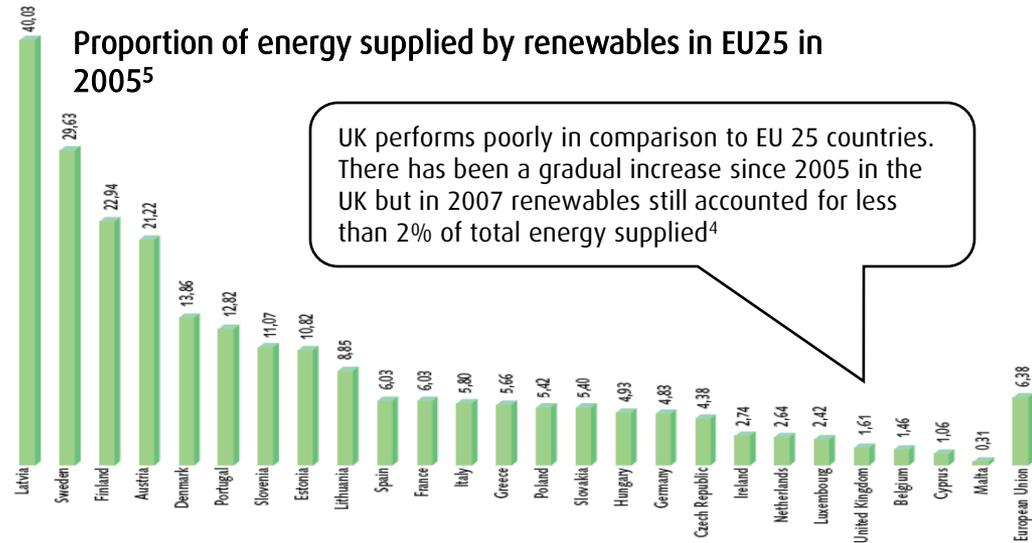
The UK is one of the poorest performers among EU countries in supplying energy from renewables and is not on track to meet national and EU targets.

Goals and Targets

- The Committee on Climate Change (CCC) proposes targets of 40% GHG emission reductions by 2020 on 1990 levels from the power sector
- EU target to ensure 20% of EU energy production is from renewables by 2020
- UK target to supply 10% renewable energy by 2010
- UK to reach at least 10,000 Mwe of CHP electrical capacity by 2010.

- The UK remains well behind most European countries on supplying renewable energy. In 2007, the percentage of final energy consumption derived from renewable sources was 1.78%.¹ Petroleum accounted for 45% of total energy production in 2007, natural gas 39%, coal 6% and primary electricity (nuclear and natural flow hydro) 8%²
- Projections suggest that the share of renewables in the energy mix will merely increase to 5% in the UK by 2020, well below the EU target of 20%³
- The UK has increased the proportion of electricity sourced from renewables from 1.8% in 1990 to 5% in 2007. In Northern Ireland it is only 3%⁴
- Electricity generated from wind more than doubled between 2004 and 2006.² The UK's offshore wind resource has the potential to provide more than the UK's current demand for electricity

Proportion of energy supplied by renewables in EU25 in 2005⁵



UK performs poorly in comparison to EU 25 countries. There has been a gradual increase since 2005 in the UK but in 2007 renewables still accounted for less than 2% of total energy supplied⁴

- In 2004 energy production was outstripped by demand. The UK is currently a 19% net importer of energy⁶
- The UK has an opportunity to significantly decarbonise electricity generation by 2020. Almost one third of electricity generating capacity, largely coal-fired stations, is scheduled to be retired within 15 years⁷
- Between 1995 and 2004 electricity from Combined Heat and Power (CHP) almost doubled, reflecting the liberalisation of the electricity market incentivising electricity recovery from heat generation. Since then it has levelled off due to higher fuel costs, particularly for gas²
- In 2007 CHP capacity was 5,500 MWe (accounting for 7.3% of total UK electricity generation) meaning the proportion needs to double to meet the 2010 target.²

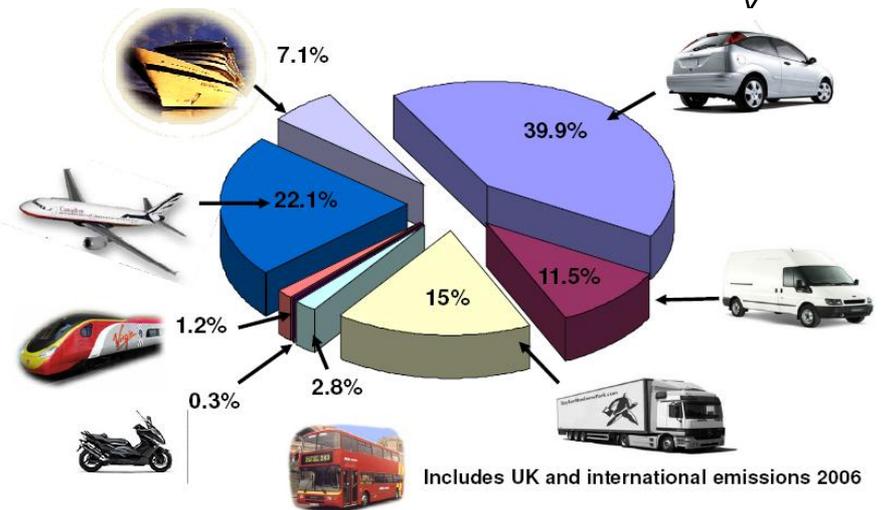
(1) BERR (2008) *Digest of UK Energy Statistics*, p176. (2) BERR (2008) *UK Energy in Brief*, p.12, 24. (3) HM Government (2007) *Energy White Paper*. (4) DETI, http://www.detini.gov.uk/cgi-bin/get_builder_page?page=1322andsite=5andparent=53 (5) European Commission (2005) http://ec.europa.eu/energy/res/index_en.htm. (6) Defra (2008) *SDIYP*, p.38. (7) Committee on Climate Change (2008) *Building a low carbon economy - the UK's contribution to tackling climate change*.

Transport accounts for a quarter of UK CO₂ emissions and is the only major sector of the economy showing a significant increase.

Goals and Targets

- The Committee on Climate Change has recommended that CO₂ emissions from transport reduce by between 18% to 25% on 1990 levels by 2020.
- Transport (excluding international shipping and aviation) currently accounts for around a quarter of total UK CO₂ emissions (or 168Mt CO₂)¹
- Aviation emissions continue to grow. Under DfT projections, aviation will account for over 70% of the UK carbon budget in 2050 under an 80% reduction scenario.² If the current trend for aviation growth continues, the additional emissions will offset more than a quarter of the emissions reductions required by Kyoto³
- The Committee on Climate Change states that while aviation and shipping are not included in the UK's reduction budgets (due to unresolved issues around allocating emissions at the national level), they must be included in the requirements to reduce CO₂ emissions by 80% by 2050 and 34% by 2020¹
- Calculating the global warming impacts of aviation remains problematic as there are additional effects of aviation over and above CO₂ emissions which are poorly understood. The Intergovernmental Panel on Climate Change (IPCC) estimates that aviation's total climate impact is approximately 1.9 times that of its CO₂ emissions

CO₂ emissions from UK transport⁴



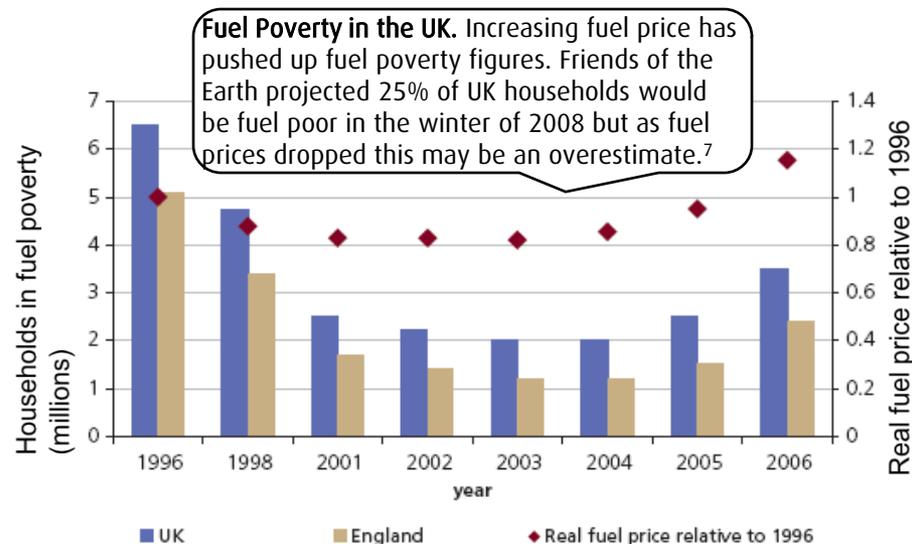
- Demand for transport fuel in the UK has increased from being 41% of total oil demand, in 1980, to 70% in 2007, indicating increasing oil dependence as a result of the growth of transport. Total oil demand saw a small increase over the same period⁵

(1) CCC (2008) *Building a low carbon economy – the UK's contribution to tackling climate change*. (2) DTI (2007) *Energy White Paper*. (3) European Commission (2005) *Communication on reducing the climate change impact of aviation*. (4) Hurwitz, M, DfT. 18 June 2008 Presentation to the UK Business Council for Sustainable Development *Reducing CO₂ emissions from transport*. (5) BERR (2008) *Energy in Brief*.

Despite improvements following government initiatives, the UK housing stock still requires significant energy efficiency improvements to meet climate change targets and combat rising fuel poverty.

Goals and Targets

- The existing drivers come from the Carbon Emissions Reduction Target (CERT), the Energy Efficiency Commitment (EEC) 1 from 2002-2005 and EEC2 from 2005-2008, and Warm Front (2005-2008)
- All administrations in the UK have a target to eliminate fuel poverty in vulnerable* households by 2010 and in all households by 2018. (2016 for England, Scotland and Northern Ireland)^{1,2,3,4}
- Existing homes are responsible for 27% of the total CO₂ emissions of the UK, and of the homes we will inhabit in 2050 around 80% are already standing today⁵
- VAT is applicable for building refurbishment however there is no VAT on new build, even though refurbishment is less carbon intensive
- Cavity wall insulation is one of the most cost effective measures to reduce carbon and although 1.3m cavity wall insulations have been delivered through EEC2, 8.5m UK households (34%) have cavities unfilled⁶
- 7 million homes (28%) in the UK have solid walls which require insulation at higher cost than cavity fill, presenting a significant challenge⁶
- The market share of high efficiency boilers is increasing due to changes in the Building Regulations in 2006, with a steady turnover of 1-1.5m boilers per year⁶



- There is a strong correlation between energy efficiency and fuel poverty. In 2004, the average household in fuel poverty had a Standard Assessment Procedure (SAP) rating of 33 compared to 50 across England
- In 2006, there were approximately 3.5m UK households (14%) in fuel poverty, an increase of 1m since 2005. 2.75m of these were vulnerable households⁷
- Of particular concern, 34% of households in Northern Ireland and 23% in Wales were fuel poor in 2006.⁷ In Scotland, almost one third are fuel poor.⁸ Fuel poverty figures doubled in Northern Ireland between 2004 and 2006 and figures suggest that 50% of households in Northern Ireland would be fuel poor in 2009.⁹

*those that contain the elderly, children or somebody who is disabled or long term sick - Fuel Poverty in England: the Government's plan for action. (1) UK Fuel Poverty Strategy, 2001. (2) Ending Fuel Poverty: A strategy for Northern Ireland. (3) Fuel Poverty Commitment for Wales. (4) Scottish Fuel Poverty Statement, 2002. (5) UK Green Buildings Council (2008) *Low Carbon Existing Homes*, p2. (6) UK GBG (2008) *Low Carbon Existing Homes: App. 3*, p32. (7) BERR (2008) *the UK Fuel Poverty Strategy: 6th Assessment*, p 4, 50. (8) Energy Action Scotland (March 2008) *Estimate of fuel poor households*. (9) Work commissioned by Save the Children, carried out by Professor Liddell, University of Ulster, 2008 <http://www.newsletter.co.uk/news/Half-of-families-39in-fuel.4746820.jp>

The institutional arrangements for adaptation to climate change are only beginning to be put in place and will need far greater resources to implement.

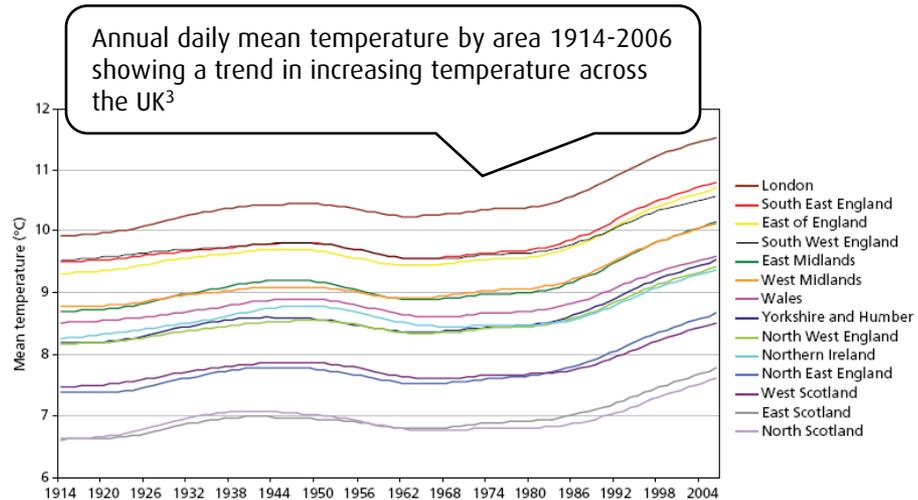
Goals and Targets

- Under the UK Government Climate Change Bill the government will have to assess the risk of climate change every 5 years
- Sustainable Development Action Plans for English government departments will have to include plans for adaptation
- Duty on councils to include mitigation and adaptation to climate change in local development plans

"Given [achieving 2°C above pre-industrial temperatures] is an ambitious target, and we don't know in detail how to how to limit GHG to a 2°C target, we should be prepared to adapt to 4°C"
 - Bob Watson, Chief Scientific Advisor to Defra

- The ten warmest years on record have occurred between 1997 and 2009²
- Over the next 20-30 years we can expect decreased rainfall in the summer leading to droughts and water stress, more frequent periods of heavy rain in the winter increasing chances of flooding, and periods of continuously higher temperatures than we are used to³

- Around 10% of properties in England have been built on floodplains, with 11% of new homes in England being built in flood hazard zones since 2000.⁴
- With coastal flooding likely to increase, those at greatest risk (in England) are households on lower incomes, particularly in the East, Yorkshire and Humber and London regions.⁵
- The Pitt Review of central and local government's response to the 2007 floods recommended better funding of flood resilience measures, with above inflation spending increases each year and pre-planned financial arrangements in place for responding to crises.⁶
- Climate change is likely to impact on the health of the UK population. For instance:
 - Private and surface water supplies could be put under pressure by changes in water flow leading to contamination of water
 - An increase in deaths and hospital admissions associated with ozone pollution of between 15% and 50%.⁷



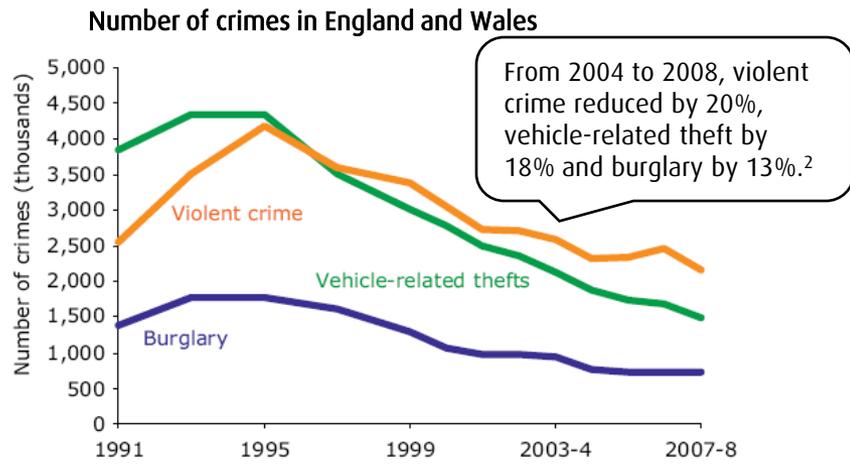
(1) Guardian August 2008 <http://www.guardian.co.uk/environment/2008/aug/06/climatechange.scienceofclimatechange> [Accessed 4/11/08]. (2) Met Office www.metoffice.gov.uk/corporate/pressoffice/2008/pr20081216.html [accessed 9 March 2009] (3) UKCIP (2007) *The climate of the United Kingdom and recent trends: Mean temperature.* (4) House of Commons (2006) Communities and Local Government Committee - Fifth Report. (5) Environment Agency (2006) *Addressing Environmental Inequalities.* (6) Pitt (2007) *Learning the lessons from the 2007 floods.* (7) DH (2008) *Health effects of climate change.*

Despite the fall in crime since 1995, two in three people believe crime has increased in the last two years.¹

Policy Goals and Targets

- According to *Securing the Future*, communities that are active, inclusive and safe should be fair, tolerant and cohesive with a strong culture, low crime and other shared community activities
- Home Office Public Service Agreements (PSAs) from 2004:
 - Making people feel that they belong to their community by building cohesion and improving integration/interaction
 - Reduce crime by 15%, and further in high crime areas, by 2007-08 (on 2004 baseline).

- Perceptions of anti-social behaviour vary: perceptions of drunken behaviour incidence have risen while perceptions of vandalism have decreased²
- Youth crime has remained stable since 2003 but the younger age of some offenders has increased the public's negative perception of youth crime³
- Gun and knife crime can be highly concentrated; more than half of firearms crimes in England and Wales occurred in London, Manchester and West Midlands
- People in deprived areas are more likely to be victims of household crime (burglary, vehicle related theft and vandalism) than their wealthier peers¹
- Children from low-income families are less likely to do well in school, and more likely to suffer ill-health and to face pressures in their lives that help to explain an association with anti-social behaviours and criminality⁴



- Over 60% of people in England feel satisfied with being part of a community.¹ The percentage of people in England and Wales who believe people from different backgrounds get on together has been consistent at around 82% since 2005⁵
- In Northern Ireland, the percentage of people who think relations between Catholics and Protestants have improved increased from 52% in 2005 to 65% in 2007⁶
- Only 29% of children today enjoy most of their adventures in the natural outdoors, compared with 70% of today's adults when they were children. The greatest barrier identified by 8-13 year olds was a lack of safe and clean play areas near their home, followed by concern for their safety, and preference. Difficulty in travelling to play areas is also an issue.⁴

(1) Home Office (2008) *Crime in England and Wales 2007/08* (2) Defra (2008) *SDIYP*. (3) Youth Justice Board (2006) (5) CLG (2008) *Citizenship Survey 2007/08. Crime in England and Wales. 2007/08*. (4) Play England (2008) *Playday Survey. MORI 5-year report: An analysis of youth survey data*. (6) Northern Ireland Life and Times Study 2007

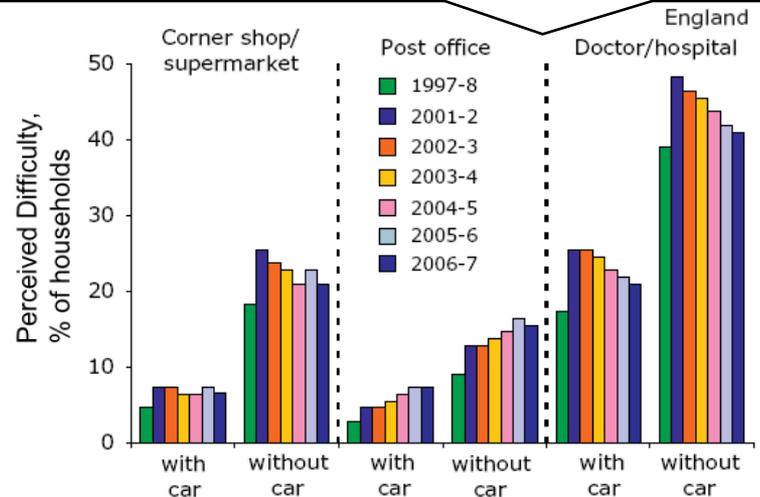
Access to quality green spaces can substantially reduce health problems, but only 50% of children in England rate their local green space as fairly or very good.

Goals and Targets

- According to *Securing the Future* communities should have a sense of place with local distinctiveness, user friendly public and green space, a sufficient range & affordability of housing, high quality durable buildings using sustainable construction materials, buildings and public spaces which promote health and reduce crime, and accessibility of jobs and key services by public transport, walking and cycling
- Increase the number of gross affordable homes provided per annum to 70,000 by 2015 (45,000 social homes)
- The environmental quality and perceived safety of an area has been shown to influence levels of activity in the local population¹
- Research from across Europe found people living in areas with high levels of greenery to be three times more likely to be physically active and 40% less likely to be overweight or obese than those living in areas with low levels of greenery¹
- Over 90% of people in England believe it is important to have green spaces near their homes but only just over 50% of children rate their local green spaces as very/fairly good. Children on Free School Meals are less likely to rate their local green space highly²
- Children in deprived areas take part in fewer organised after-school activities and are less likely to have private gardens, emphasising the need for better public space in these areas³

- In Wales an estimated 90% of respondents felt it was easy to get to and from a park or open space⁴
- Accessibility to jobs and local services by foot and public transport has improved in more communities than it has deteriorated²
- Demand for second homes is pushing up prices in many rural areas; rural house prices are 6.8 times the annual household income, compared to 5.8 times in urban areas.² In Cornwall, one of the poorest counties in the country, it is as high as 12 times the average salary⁵

Those without a car perceive access to key services to be significantly more difficult than those with a car suggesting that access by public transport, walking and cycling to services needs to be improved.²

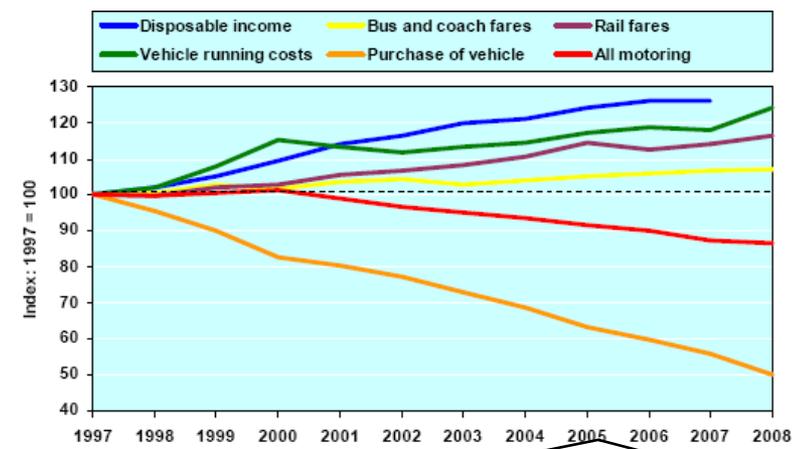


(1) SDC (2008) *Health, place and nature* (2) Defra (2008) *SDIYP*. (3) Family and Parenting Institute (2007) *Families and Neighbourhoods* (4) WAG (2008) *Sustainable Development Indicators for Wales*. (5) nef (2004) *Clone Town Britain*

Road traffic volume has risen by 20% since 1990, and the frequency of car journeys in the UK significantly outranks walking, cycling and public transport.

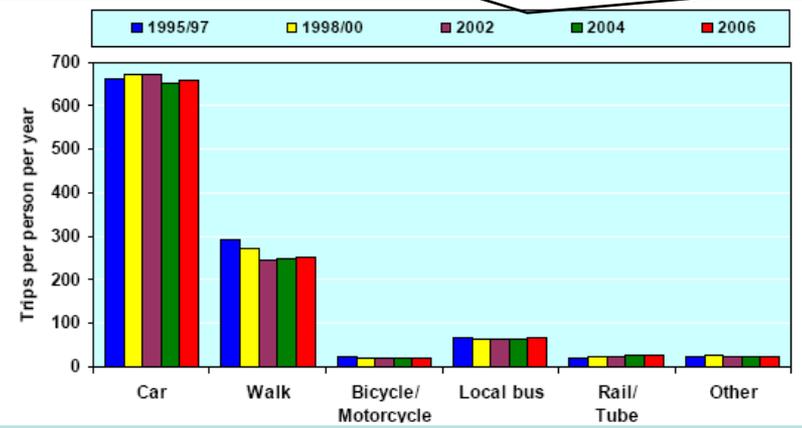
Goals and Targets

- *Securing the Future* aims to create facilities that encourage cycling and walking, enable people to travel within and between communities, reducing dependence on cars
- By 2010, increase public transport by 12% compared with 2000 levels
- 40% reduction in the number of people in Great Britain killed or seriously injured by 2010 on 1994-98 average (50% for children)¹
- Since 1990, road traffic volume in the UK from private vehicles has risen by 20%.² The average number of trips by foot decreased by 30% between 1986 and 2003³
- Many of these car journeys are avoidable; 25% of all car journeys in the UK are under a mile, while two thirds are under 5 miles⁴
- There is a substantial cost to our use of road vehicles. A government review estimated the cost of congestion alone will waste an extra £22billion worth of time in England by 2025 if left unchecked⁵
- There has been a 52% reduction in children killed or seriously injured on roads since the mid-90s; but 3,000 children are killed or seriously injured each year.² Children in the 10% most deprived wards are 3 times more likely to be hit by a car than children in the 10% least deprived wards⁶
- The casualty rate for pedestrians in the most deprived areas in 2007 was 70 per 100,000 compared to 21 per 100,000 in the least deprived⁷



Changes in relative cost of transport in Great Britain⁸: Despite its impact on society, the cost of private car use is decreasing while the cost of public transport has been consistently rising since 1997.

There has not been a shift in passenger trips per mode in Great Britain⁸ away from cars.



(1) DfT (2000) *Tomorrow's road: safer for everyone*. (2) Defra (2008) *SDIYP*. (3) Sustrans http://www.sustrans.org.uk/webfiles/Safe%20Routes/resources/infosheets/SRS_Facts_and_Figures_FS18.pdf (4) Sustrans (2007) *The National Cycle Network: Route User Monitoring Report*. (5) Eddington (2006) *The Eddington Transport Study*. (6) DCSF (2007) *Staying Safe* (7) DfT (2008) *Road Casualties Great Britain: 2007 - Annual Report*. (8) DfT (2008) *Transport Trends*, pp 28, 31

Life expectancy has increased in all areas of the UK, but the pace of change has been slower in poorer areas. Mental health and child well-being have become particular challenges.

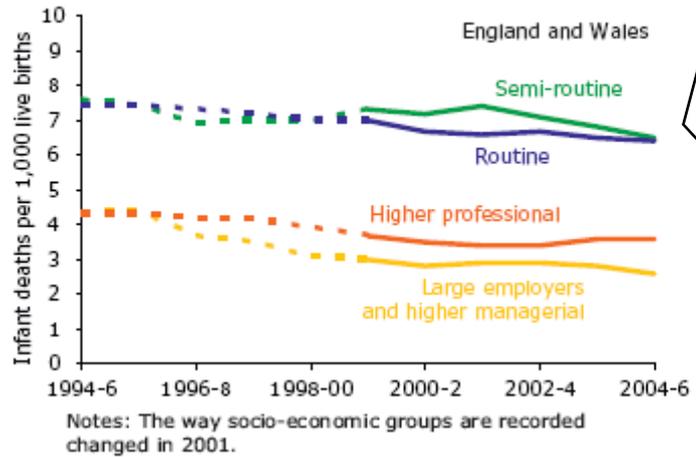
Goals and Targets

- DH targets to substantially reduce mortality rates by 2010 from:
 - heart disease and stroke by 40% with 40% reduction in the inequalities gap
 - cancer by 20% with 6% reduction in inequalities gap
 - suicide and undetermined injury by at least 20%
- DH PSA 18 (2007) to reduce health inequalities by 10% by 2010

- Overall average life expectancy in the UK continues to increase, currently standing at 77.2 years for men and 81.5 years for women.¹ However, self-reported healthy life expectancy has not increased at the same rate, suggesting that people are experiencing more years of ill health²
- But there are widening inequalities in health. Since 1995-97, the relative gap in life expectancy between the England average and the fifth of most deprived areas increased by 4% for males and 11% for females³
- In Scotland life expectancy in deprived areas is as much as **10.1 years** less for men and **9.7 years less** for women than for the population as a whole.⁴ These results suggest that we are not on target to meet the 2010 goal of reducing inequalities by 10%
- In Great Britain, mental health disorders affect one in six of the adult population. Anxiety with depression is the most common disorder⁵
- Mental health illness adds £12billion annually to the cost of health and social care, and £64 billion to the wider economy; £76 billion in total⁶

- In 2004 one in ten 5-16 year olds were clinically diagnosed with a mental disorder⁷
- In a recent report, UNICEF ranked the UK bottom of the OECD nations in overall child well-being. Particularly low results were registered in family and peer relationships, behaviours and risk, and self-reported well-being⁸
- Compared to other OECD countries suicide rates in the UK are significantly lower than average and have fallen since 1993-95.² The exception is Northern Ireland, which has seen a doubling of the suicide rate between 2000/2004 and 2006.

Infant Mortality: Differences between socio-economic groups, 1994-6 to 2004-6²



Although infant mortality rates have fallen for all socio-economic groups, there is still a gap between the lowest and highest groups

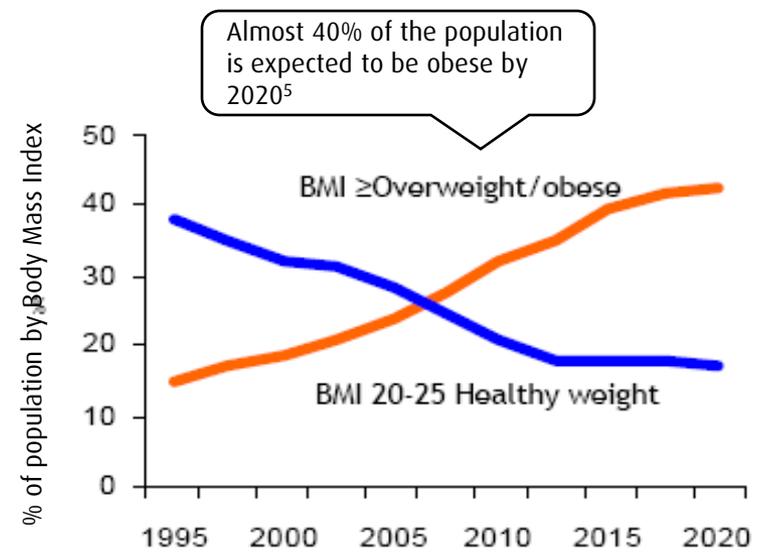
(1) ONS Oct 2008. (2) Defra (2008) SDIYP (3) Department of Health (2007) Tackling health inequalities: 2004/06 data and policy update for the 2010 national target. (4) Scottish Household Survey and Scottish Government Index of Multiple Deprivation (5) ONS (2000) *Psychiatric morbidity among adults living in private households in Great Britain* (6) Sainsbury Centre for Mental Health (2003) *Economic and Social costs of mental health in England*. (7) ONS (2005) <http://www.statistics.gov.uk/pdfdir/cmd0805.pdf> (8) UNICEF (2007) *Child poverty in perspective: An overview of child well-being in rich countries, Innocenti Report Card 7* (9) CIPD (2009) <http://www.cipd.co.uk/news/articles/uks-sickness-absence-rates-are-below-european-average.htm>

The UK has the highest rate of childhood obesity in the EU. Low levels of weekly exercise mean obesity is expected to rise significantly, across both low- and high-income groups.

Goals and Targets

- Department of Health targets to:
 - Halt increase in childhood obesity in under-11s by 2010
 - Reduce proportion of overweight and obese children to 2000 levels by 2020
 - Reduce adult smoking rates by 21%
- 2005 PSA to increase the number of adults and young people who engage in at least 30 minutes of moderate intensity level sport at least three times a week by 3% by 2008

- **The UK has the highest rate of childhood obesity in the EU.** Childhood obesity rose by 50% between 1995 and 2006¹
- Obesity rates in the UK are the third highest in the OECD, after Mexico and the United States. The obesity rate has tripled over the past 20 years to reach one in four of the adult population²
- The groups at risk from obesity include groups from both low income single households and affluent families of all ages. In general, adopting a healthy lifestyle was seen as hard work and strongly linked to 'middle class' values and activities³
- Less than a quarter of adults in England and Wales take the recommended amount of weekly exercise¹
- The NHS 2007 costs attributable to overweight and obesity are projected to double to £10 billion per year by 2050. Wider costs to society and business are estimated to reach £49.9 billion per year⁴



- Smoking rates are declining. In 2006 22% of adults in England smoked – a decline from 25% in 2005.⁶ Levels are higher in 'routine and manual' socio-economic groups at 28%
- There has been a doubling of alcohol-related deaths in the UK between 1991 and 2005.⁷

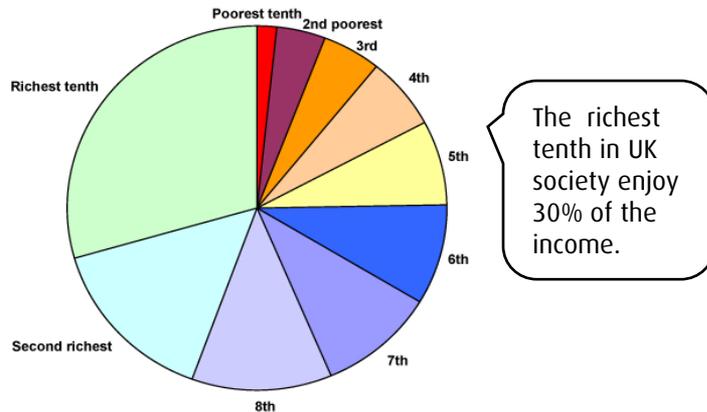
(1) Defra (2008) SDIYP (2) OECD (2009) *Society at a Glance – OECD Social Indicators* (3) DoH (2008) *Healthy Weight, Healthy Lives* (4) Foresight (2007) *Tackling Obesity: Future Choices* (5) Defra International Indicators (6) ONS Oct 2008 (7) Healthcare Commission (2008) *State of the Healthcare 2007*

Some progress has been made on reducing income inequalities, but the gap between the richest and poorest tenths is increasing. The UK is not on track to meet its child poverty target.

Goals and Targets

- According to *Securing the Future*, a fair community is one in which individual's rights are respected and there is due regard for the needs of future generations in current decisions and actions
- Government has committed to:
 - halve the number of children in relatively low-income households between 1999 and 2011 and eradicate child poverty by 2020
 - reduce the proportion of children living in workless households by 5% between 2005 and 2008

Share of UK Total Income, by Income Group ¹



- Excluding the income groups at each end of the scale, households with below-average incomes enjoyed bigger proportional increases in income over the last decade than households with above average incomes¹
- But, households in the poorest income group witnessed the smallest increase in income (8%) between 1996 and 2007, while the richest income group enjoyed the greatest increase (38%)¹

- Between 1997 and 2007 the number of children in low income households decreased from 27% to 22% and the number of children in workless households decreased from 19% to 16%. However, one in five children still live in poverty, and the UK is not on track to meet its 2011 target²
- Childhood poverty costs the Exchequer an estimated £25bn per year: £12bn on service provision (social services etc) and £13bn annual cost of below-average employment rates and earnings levels among adults who grew up in poverty (benefits, lost taxes etc)³
- A Defra survey found that 9% of low income households described themselves as “food insecure”, meaning they do not have access at all times to enough food that is sufficiently varied and culturally appropriate to sustain an active, healthy life⁴
- In 2007/8, the average gross annual earnings were £27,500 for full-time men and £21,400 for full-time women. There is still a gender gap in hourly earnings, with men typically paid 12.8% more, up from 12.5% in 2007⁵
- However, a Fawcett Society survey puts the difference higher at 17%, and at 36% for women working part-time
- In 2009, 79.0% of white people in the UK are considered economically active, compared to 68.9% of ethnic minority groups.⁶ The proportion of people from ethnic minority groups living in low-income households reduced from 50% to 40% between 1997 and 2007, but is still twice as high as the rate for white people.⁷

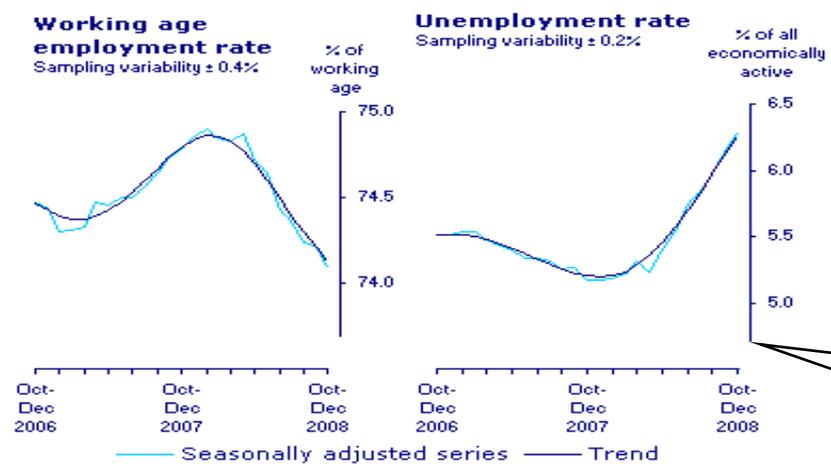
(1) DWP data quoted by Joseph Rowntree Foundation www.poverty.org.uk/09/index.shtml [Accessed 31/10/08]. (2) Defra (2008) SDIYP (3) Joseph Rowntree Foundation (2008) *Estimating the costs of child poverty* (5) ONS, Annual Survey of Hours and Earnings 2008. (4) Defra (2006) *Food Security and the UK: An evidence and analysis paper*. (6) ONS (2009) (7) DWP quoted by Joseph Rowntree Foundation <http://www.poverty.org.uk/06/index.shtml?2> [Accessed 10/06/09]

While employment levels had previously remained high, the economic downturn has caused increases in unemployment. Unemployment is not distributed evenly across the UK, and basic and intermediate skills need improving.

Goals and Targets

- According to *Securing the Future* a thriving community has a wide range of jobs, job and business creation with benefits for the community, and town centres that are economically viable and attractive
- The EU Lisbon Strategy (2005) sets a goal of 70% employment rate by 2010
- DWP long-term target to reach an overall employment rate of 80% in the UK
- Treasury 2007 PSA - By 2012 GVA per head trend growth rates should improve in every region, while narrowing the gap in trend growth rates between those regions with above and below average GVA.
- There are more than 55,000 social enterprises in Britain generating more than £27bn turnover¹
- Of the G7, the UK leads continental Europe in total entrepreneurial activity rates but lags behind North America and Australasia²

- Over the last decade the UK has had high rates of employment but this has been falling over the last year to 74.1% in December 2008³
- Across the UK, unemployment in Q4 of 2008 was highest in Wales (7.0%). Scotland and Northern Ireland each had unemployment rates of 5.1%. The total number of people unemployed in the UK stood at 1,971 million⁴
- Unemployment is not distributed evenly throughout England. It is highest in the North East (8.4%) and lowest in the South West (4.7%), and stands at 6.4% overall⁴
- The North West saw the greatest change on quarter in Q4 of 2008, with a 0.9% increase in unemployment⁴
- 7.1% of white people of working age are unemployed, compared to 11.5% of ethnic minority groups, the highest of which are black/black British, at 15.5%⁴
- A European Commission report recommended that the UK needs to improve basic and intermediate skills and improve employment prospects⁵
- UK sickness absence rates are the second lowest in Europe at 5.5 days per year, with the European average at 7.4.⁶



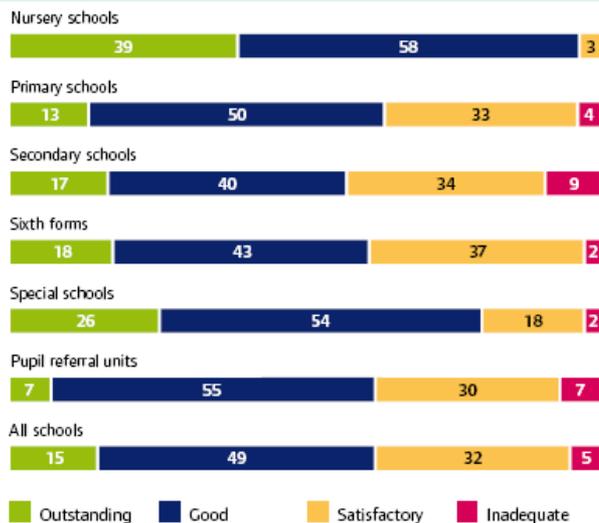
UK wide employment figures showing a significant rise in unemployment over the past year³

(1) PMSU (2008) *Strategic Challenges for the UK* (2) London Business School (2006) *Global Entrepreneurship Monitor* (3) ONS (2008) <http://www.statistics.gov.uk/CCI/nugget.asp?ID=12> [Accessed 3/03/09]. (4) ONS (2009) Labour Market Statistics February 2009, p36. (5) European Commission (2007) Annual Progress Report. (6) CIPD (2009) <http://www.cipd.co.uk/news/articles/uks-sickness-absence-rates-are-below-european-average.htm>

School-leavers are achieving increasingly high levels of qualifications, and the quality of education provision is generally good. However, children in public care and low-income groups still fall significantly behind their peers

Policy Goals and Targets

- DCSF target to increase proportion of young people in England achieving Level 2 (achievement of 5 GCSEs of A* to C, NVQ2 or equivalent) at age 19 to 82% by 2011
- Year 2000 PSA to increase participation in higher education by 2010 towards 50% of those aged 18 to 30



The trend in the quality of education provision is generally good, though Ofsted views secondary schools as a recurring problem with service provision of one in ten schools considered inadequate¹

Provision of Education

- The percentage of 19 year olds in England with Level 2 qualifications and above increased from **66%** to **74%** between 2004 and 2007, a significant improvement which appears to be on track to meet the 2011 target.² In Northern Ireland the equivalent figure is 64.7%

- The percentage of people with tertiary qualifications has almost doubled from **16%** in 1991 to **30%** in 2005. Thus, the UK has gone from being 2 percentage points below average in 1991 to 4 percentage points above average when compared with other OECD countries – a significant improvement³
- However, only 12% of 16-year-olds in public care achieved Level 2 in 2006, compared with 59% of all 16-year-olds. **It was found that children in public care have poorer career opportunities and life chances as a result⁴**
- Similarly, there is still a significant gap between children eligible for Free School Meals and their peers. In 2006, only **33%** of children on Free School Meals achieved level 2 qualifications compared to **61%** in the non-eligible group. In 2007 this gap fell by only 0.2 percentage points
- Over one third of UK adults do not have a basic school-leaving qualification, and approximately one in twelve have no qualifications at all⁵

Sustainability in Schools

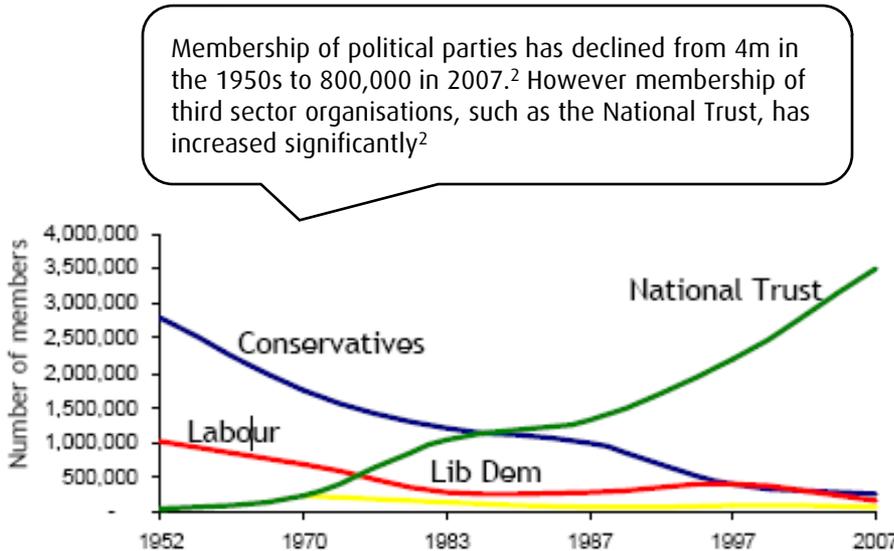
- The UK school estate is responsible for 15% of carbon emissions of the public sector, 2% overall⁶
- English schools place little emphasis on teaching sustainable development although primary schools were found to be better than secondary schools⁷
- In the small number of schools that emphasised sustainable development, teaching was good and students contributed to the sustainability of their school and community.⁷

(1) Ofsted Annual Report 2006-7, p12. (2) Defra (2008) *SDIYP*. (3) Defra International Indicators (4) Ofsted Annual Report 2006-07, p64-65. (5) PMSU (2008) *Strategic Challenges for the UK* (Department of Education, www.deni.gov.uk/compendium_07.pdf) (6) SDC (2008) *Carbon Emissions from Schools: Where they arise and how to reduce them* (7) Ofsted (2008) *Schools and Sustainability*.

People feel less able to influence decisions affecting their local area and Great Britain than before, but more than 75% are in favour of greater involvement at the local level

Policy Goals and Targets

- According to *Securing the Future*, a well-run community has accountable governance systems, effective engagement with the community and a sense of civic values, responsibility and pride
- Increasing voluntary engagement and improving participation in sport or cultural activities.
- Civic participation in the UK is low compared other countries. For example, half as many people participate in voluntary organisations as they do in Canada¹



- People in Great Britain feel less able to influence government decisions. Between 2001 and 2007-8 the proportion of people who felt able to influence decisions at a local level decreased from 44% to 38% and from 25% to 20% on a national level³
- However, there is appetite for increased participation. More than 75% are in favour of local communities having more say in the decisions that affect them⁴
- White people are less likely than people from minority ethnic groups to feel they can influence decisions affecting their local area and Great Britain⁵
- While black and ethnic minority groups were considerably less likely to have voted at the 2005 general election than white people, there is significant variation between the ethnic minority communities. Indians, Pakistanis and Bangladeshis were more likely and black Africans and Caribbeans were less likely to vote than white people⁶
- Young people were only half as likely to vote as older age groups at the 2005 general election, and estimated turnout among young people dropped to 37% from 39% in 2001⁷
- There is consensus amongst citizens that making a positive contribution to society is important to being a good British citizen. The Strategy Unit notes "by appealing to this sense of civic duty, demographic processes can engage citizens and provide them with political influence."⁸

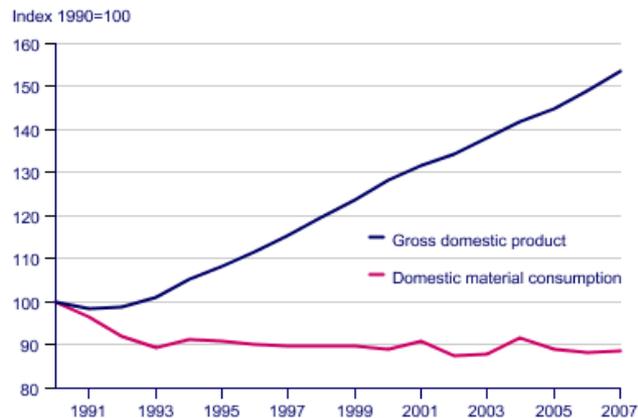
(1) British Social Attitudes. Quoted in Strategy Unit (2008) *Realising Britain's Potential*, p16. (2) Electoral Commission and National trust. Taken from Strategy Unit (2008) *Realising Britain's Potential*. (3) Defra (2008) SDIYP. (4) Ipsos Mori (2007) (5) DCLG (2007) Citizenship Survey (6) Ipsos MORI (2005) <http://www.ipsos-mori.com/content/voter-turnout-amongst-black-and-minority-ethnic-vo.ashx> (7) Electoral Commission (2005) *Election 2005: Turnout - How Many, Who and Why?* (8) Strategy Unit (2008) *Realising Britain's Potential: Future Strategic Challenges for Britain*.

There is some evidence of relative decoupling of material use from economic growth, but the UK's global footprint is almost double the world average

Goals and Targets

- *Securing the Future* highlighted SCP as a priority area for immediate action, to be taken forward through a number of measures including: better products and services; cleaner, more efficient production processes, which strengthen competitiveness; and shifts in consumption towards goods and services with lower impacts.

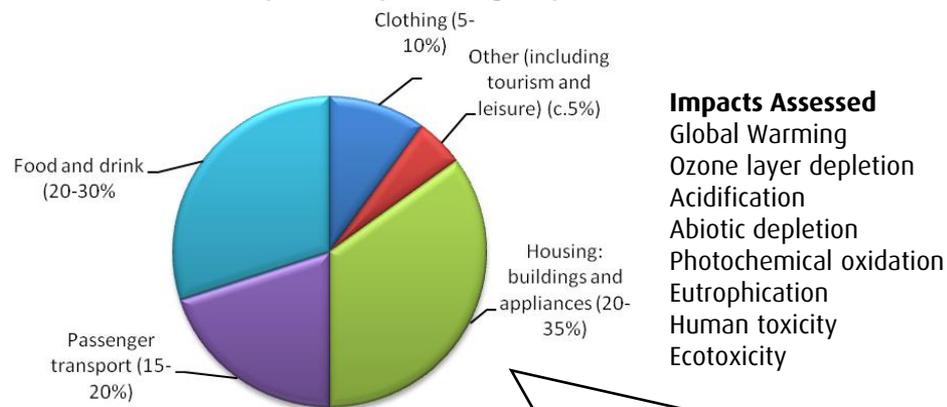
UK Domestic Material Consumption and Gross Domestic Product 1990 to 2006¹



There is some evidence of relative decoupling of the amount of material consumed by the economy from economic growth. But this omits resource use and waste from importing finished and semi-finished products from abroad, thus underestimating the resource requirements of the UK

- Energy intensity per unit of GDP in the US and UK is some 40% lower in today than it was in 1980²

Environmental impacts of product groups across the EU25³



The environmental impact of buildings and appliances (including heating, food and drink, and passenger transport) contribute 70-80% of the total environmental impact of private consumption

- If everyone in the world consumed natural resources and generated carbon dioxide at the rate we do in the UK, we'd need more than three planets to support us⁴
- The ecological footprint of the average UK person is 5.3 global hectares (gha) per person, almost double the world average of 2.69 gha, and higher than the EU average of 4.69 gha⁵
- Between 1961 and 2005, UK population increased by 15% but the ecological footprint per person increased 78%.⁶ In a global economy, the UK is increasingly dependent on the resources of other countries.

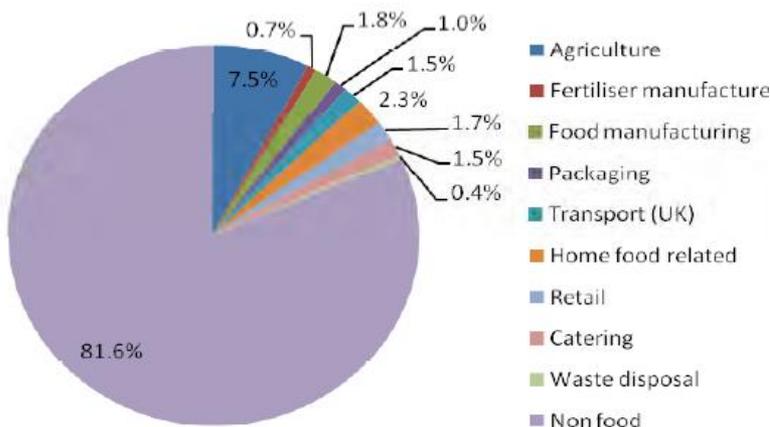
(1) ONS (2008) <http://www.statistics.gov.uk/cci/nugget.asp?id=158> [Accessed 14/01/08]. (2) Data from the US Annual Energy Outlook 2008 (early release) Figure 4 (online at: <http://www.eia.doe.gov/oiaf/aeo/energy.html>. Data for UK from Table E1G in International Energy Annual. (3) European Commission (2006) *Environmental Impacts of Products (EIPRO): Analysis of the lifecycle environmental impacts related to the final consumption of the EU*. (4) WWF (5) WWF (2008) *Living Planet Report* (6) Global Footprint Network (2008) *Ecological Footprint Atlas*, p14.

Food is a significant contributor to climate change and waste consumption.

Goals and Targets

- The Government's vision for the food system is one that is more sustainable. This means a more environmentally sustainable food chain, fair prices, choice, access to food and food security; continuous improvement in food safety; transition to healthier diets¹

Food and its contribution to UK GHG emissions – a production-oriented perspective²



The UK's greenhouse gas emissions from food account for approximately a fifth of total emissions³

- Food transport alone has a direct cost of £9 billion each year, of which congestion is the biggest contributor⁴
- Overall retail value of food waste that goes to landfill is calculated to be £6 billion per year, wasting 6.7 million tonnes⁵
- In Scotland £800 million worth of food is wasted by consumers every year. Eliminating this waste would have the same impact as taking a quarter of Scotland's cars off the road⁶
- UK farmers' share of the retail food basket has declined since the 1990s⁷
- An investigation into the Indian cashew nut industry found that for every £1 spent by UK consumers, just 1p went to Indian workers and 77p was shared by importers, roasters and supermarkets in the UK⁸
- Food security is affected by food prices. Food price inflation in 2008 is largely attributed to three factors: rising oil prices; supply pressures from emerging economies such as India and China where meat consumption is rising, leading to a multiplier effect in the consumption of grain for animal feed; and the rapid rise of biofuel production.⁹

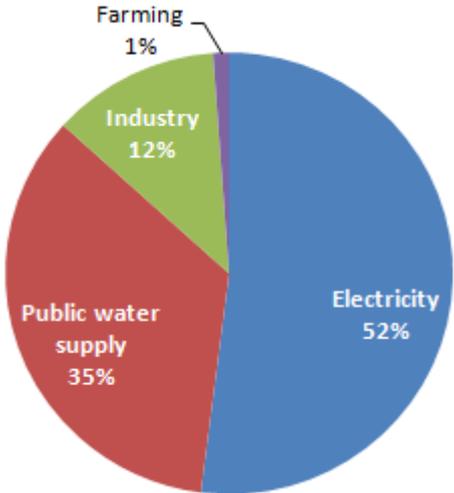
(1) Cabinet Office (2008) *Food Matters: Towards a Strategy for the 21st Century*. (2) FCRN (2008) *Cooking up a Storm: Food, greenhouse gas emissions and our changing climate*. (3) Tukker et al. (2006) *Environmental Impact of Products (EIPRO): Analysis of the life cycle environmental impacts related to the final consumption of the EU-25*. (4) AEA Technology (2005) *The validity of food miles as an indicator of sustainable development*. (5) WRAP (2007) (6) <http://www.wasteawarelovefood.org.uk/> (7) Defra (2007) *Agriculture in the UK*. (8) Action Aid (2007) *Who pays? How British supermarkets are keeping women workers in poverty*. (9) Chatham House (2008), *UK Food Supply: Storm Clouds on the Horizon?*

Over 50% of UK public water supply is used in the home – a third of which is flushed down the toilet. The average person in England and Wales uses 150 litres per day, and the total water footprint of the average UK citizen is 4,645 litres per day.

Goals and Targets

- The Code for Sustainable Homes specifies three minimum performance levels for water use. As of April 2007 all housing built on English Partnerships’ land, and from April 2008 all social housing funded through the Housing Corporation, has to be built to Code level 3 (105 litres per day (l/p/d))
- As of April 2009, the Building Regulations include a requirement for a minimum standard of water efficiency in new homes of 125 l/p/d.
- According to WWF, the average UK citizen consumes 4,645 litres of water per day.¹ This includes domestic water use and the embedded water used in the production of agricultural and industrial products. WWF’s figure is 1,245 litres higher than that from a Waterwise report from 2006²

Public water supply in England. Of the 18 billion tonnes of water drawn from reservoirs, rivers, and underground aquifers in England, over half is used for electricity generation³



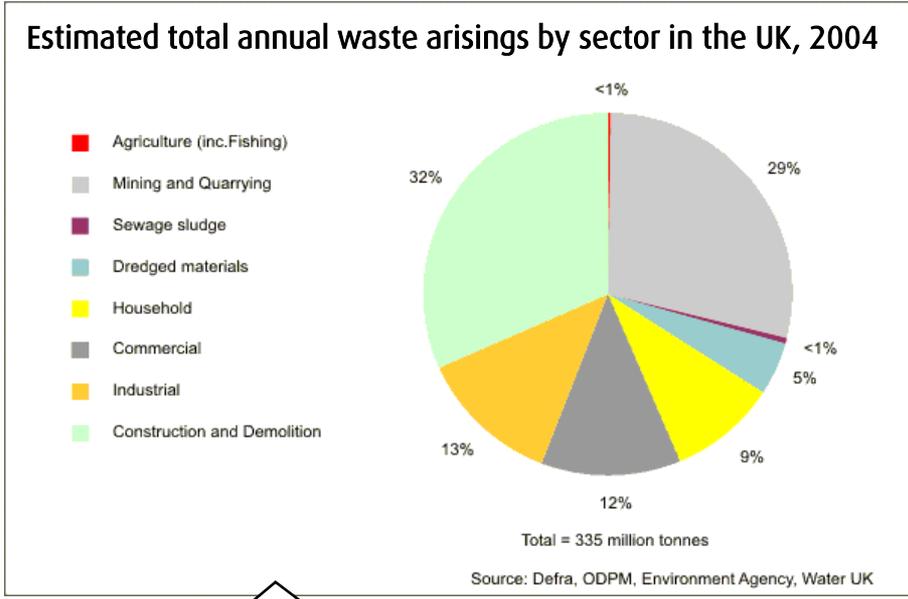
- Households in England and Wales consumed an average of 150 litres per person each day in 2006.² This is higher than the 125 litres per day that will be required for new homes from April 2009; and is approximately average for the EU
- Almost one third of public water supply - after being treated to high drinking water quality standards at significant financial and environmental cost - is used to flush our toilets. Around 7% of the water used in our homes is used for drinking and cooking⁴
- Metered households consume less water per person per day (134 litres), on average, than those in non-metered homes (152 litres)⁵
- According to the Environment Agency, over the last 25 years water consumption in England and Wales has increased by almost 50%, partly due to an increase in water-using appliances. Scotland has seen a slower rise in demand, but per capita consumption has still risen by 6% in the past two decades, and consumption is projected to rise to 150 litres per person per day by 2015.⁶ However, Defra considers there to be no clear underlying increase in per person consumption rates from 1995 to 2006 and that annual changes are largely due to summer weather⁷
- Since total water company leakage peaked in 1994/95, it has been reduced by 33% in England and Wales, and rates are comparable to some of the lowest in Europe. Last year only one water company failed to meet its targets. However, almost one quarter of all public water supplied is still lost through leakage (water company and customer).³

(1) WWF (2008) *UK Water Footprint: the impact of the UK’s food and fibre consumption on global resources. Volume One.* (2) WaterWise, reproduced in Defra (2008) *Future Water.* (3) Future Water (2008) Based on Ofwat 2007 data. (4) WaterWise www.waterwise.org.uk/reducing_water_wastage_in_the_uk/the_facts?the_facts_about_saving_water.html (5) Defra SD regional indicators (6) WaterWise. (7) Defra (2008) SDIYP.

The UK produces 335 million tonnes of waste per year and overall levels are increasing. Inconsistencies in data availability and quality need to be addressed

Goals and Targets

- EU Waste Framework Directive (WFD) requires Member States to encourage prevention or reduction of waste production and its harmfulness, and waste recovery*
 - England’s target is to reduce GHG emissions from waste management by 9.3m tonnes CO₂ equivalent (per year) by 2020 compared to 2006¹
 - England’s Construction Strategy target is to halve construction waste to landfill by 2012, compared to 2008.²
 - **Scotland has made a commitment to ‘Zero Waste’ and aims to cut waste to landfill to 5% by 2025, with 70% recycled and 25% waste to energy.**
-
- The construction sector is the largest single source of waste arisings in England. The largest component of this is 90 million tonnes of inert waste suitable for reprocessing into aggregates. The sector also accounts for a third of hazardous waste – 1.7 million tonnes, the largest contributor¹
 - England alone produces an average of 272 million tonnes of waste per year, a figure which is continually increasing. However, the increase in waste is not growing as fast as economic growth¹
 - There are inconsistencies in data availability and quality. The House of Lords has recommended that the Government undertakes comprehensive surveys to collect data on the various waste streams in the UK thus enabling the formation of an overall strategic direction and policies³



In 2004 the UK produced 335 million tonnes of waste. This included nearly 100 million tonnes of minerals waste from mining and quarrying, which is not subject to control under the EU WFD, and 220 million tonnes of controlled wastes from households, commerce and industry (including construction and demolition wastes).⁴

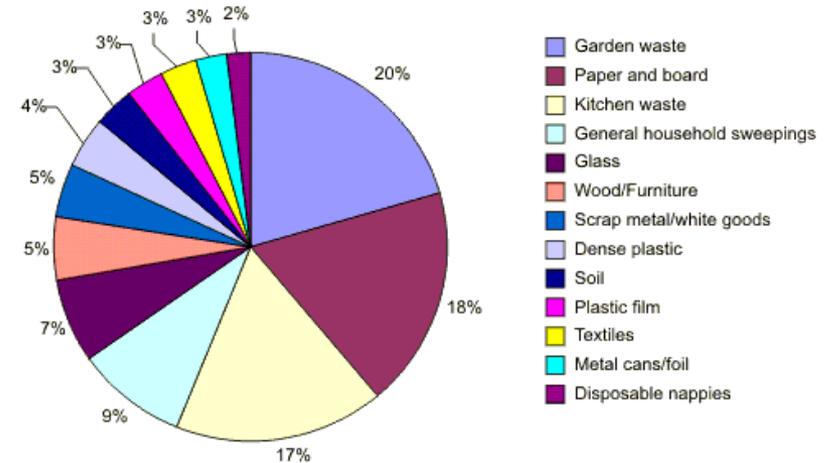
*Recovery is defined as any waste management operation that diverts a waste stream and which results in a certain product with a potential economic or ecological benefit (EU Framework on Waste). (1) Defra (2007) *Waste Strategy for England and Wales*. (2) BERR (2008) *Strategy for Sustainable Construction* (3) (Science and Technology Committee – House of Lords 2008) *Waste Reduction. Volume 1: Report*, p13. (4) Defra: <http://www.defra.gov.uk/environment/statistics/waste/kf/wrkf02.htm> [Accessed 5/3/09].

Households are recycling more of their waste, but most of that which is not recycled still goes to landfill. A third of the food we buy goes to waste

Goals and Targets (England)

- Defra 2004 PSA to enable at least 25% of household waste to be recycled or composted by 2005-06, with further improvements by 2008
- Waste Strategy for England:
 - Reduce household residual waste from 2000 figures by 29% in 2010, and 45% in 2020
 - Targets for municipal waste recovery (recycling, composting and energy recovery) are 53% of total municipal waste in 2010, 67% in 2015 and 75% in 2020
 - Recycle or compost 40% of household waste by 2010.
 - Reduce non recovered household waste from 22.2m tonnes in 2000 to 15.8m tonnes in 2010
- EU 5th Environmental Action Programme target to reduce municipal waste generation to 300kg per capita by year 2000 (not achieved, no new target set).

Composition of Household Waste in England⁶

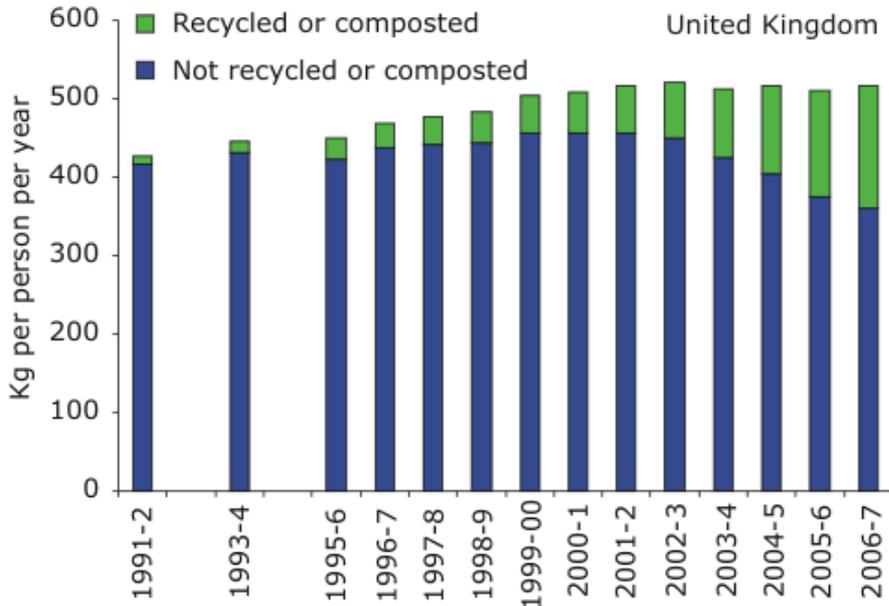


- Household waste represents around 9% of total UK arisings¹
- In 2006-7 the average UK citizen produced around half a tonne of waste per year – this was 20% more than in 1991-2¹
- In 2005, the average UK person produced more waste than the average OECD citizen (0.58t in the UK versus 0.53t OECD)²
- More recent estimates for England show a decrease in total household waste of 2% between 2006/07 and 2007/08, an increase in the national household recycling rate to **34.5%**, a decrease in household waste to landfill, and a decrease in residual waste³
- In Wales the total amount of household waste produced **increased** from 522kg per person in 2005-06 to 530kg per person in 2006-07⁴
- 6.7 million tonnes of food is thrown away by households in the UK every year - or around a third of all the food we buy ends up being thrown away, when half of it could have been eaten.⁵

(1) Defra (2008) *SDIYP* (summary and data sets). (2) Defra international indicators. (3) Defra (Nov 2008) Municipal Waste Management Statistics 2007/08 : 352/08 , based on data submitted by all local authorities to WasteDataFlow. (4) Welsh Assembly Government (2008) Sustainable Development Indicators. (5) WRAP: http://www.lovefoodhatewaste.com/about_food_waste. (5) DEFRA <http://defraweb/environment/statistics/waste/kf/wrkf18.htm>.

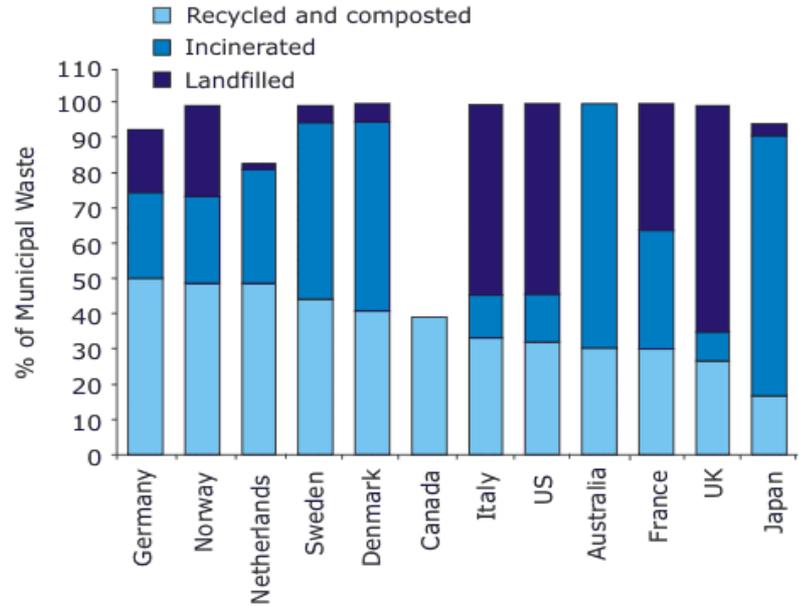
The proportion of waste recycled or composted in the UK has increased, but the UK is still amongst the lowest domestic recycling rates in the OECD

UK household waste (a) arisings (b) recycled or composted, 1991-2 to 2006-7¹



Source: Defra, EH, SEPA, WAG

UK municipal waste management in comparison to a selection of other OECD countries, 2005²



Source: OECD

The UK recycling rate has increased significantly, but it is still some way from the 40% 2010 target, and is among the lowest rates in the OECD. The UK is also still heavily reliant on landfill.

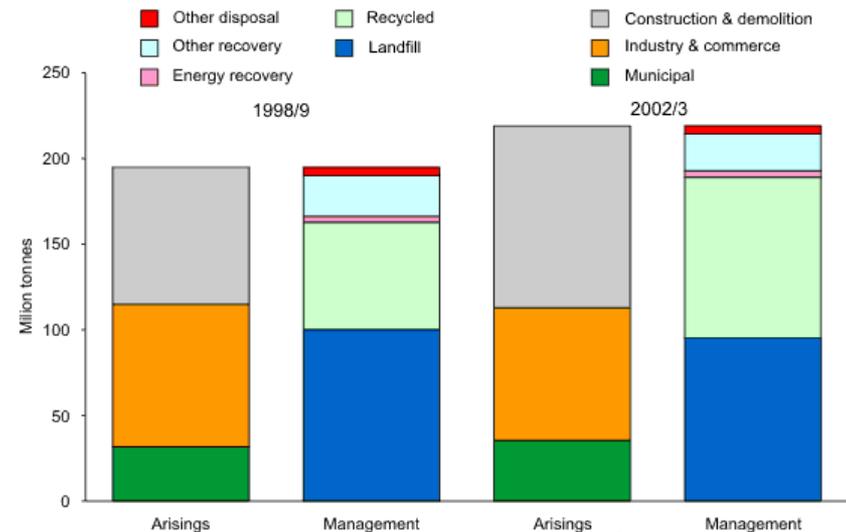
(1) Defra (2008) SDIYP. (2) OECD (2005).

Waste to landfill rates are declining, but a heavy reliance on this waste management option means there is only around seven years of tipping space left.

Goals and Targets

- European Directives on waste for specific waste streams and management include demanding targets:
 - Reduce the amount of biodegradable municipal waste sent to landfill to 75% of 1995 levels by 2010; 50% by 2013 and 35% by 2020
 - Recover 60% and recycle 55% of packaging waste by 2008, and set material specific targets. The UK has set targets to achieve this through businesses: 72% and 92% respectively for 2008
- Waste Strategy (England) targets include: decouple waste growth (in all sectors) from economic growth and put more emphasis on waste prevention and re-use.
- Waste to landfill rates are declining. In 2006 in the UK, around 78 million tonnes of waste were disposed of in landfill sites (from households, commerce, industry and construction and demolition). This is a decrease of 16% since 1998.¹ However, it still remains the dominant waste management option for domestic waste
- On average there is only seven years of landfill tipping space left for England and Wales.² For London, South East and East of England it is only five years.³ The Landfill tax escalator and the introduction of the Landfill Allowance Trading Scheme have created incentives to divert waste from landfill⁴
- The amount of energy recovered from waste has been steadily increasing, producing 3.6mt of oil equivalent in 2006. This includes landfill gas, sewage sludge digestion, municipal waste combustion, wood combustion, straw combustion, co-firing with fossil fuels and other⁵

UK Waste arisings and management 1998/9 and 2002/3⁶



In 2002/3, the proportion of waste that was recycled was equal to that sent to landfill

- Methane emissions from biodegradable waste in landfill account for 40% of all UK methane emissions and 3% of all UK GHG emissions⁵
- Current UK recycling of paper, glass, plastics, aluminium and steel is estimated to save more than 18 million tonnes of carbon dioxide a year through avoided primary material production (equivalent to annual use of five million cars or 14% of UK transport sector emissions).⁵

(1) Defra (2008) *SDIYP*. (2) Environment Agency: <http://www.environment-agency.gov.uk/research/library/data/97783.aspx> [Accessed 02/06/09] (3) Environment Agency <http://www.environment-agency.gov.uk/static/documents/Research/EWLfillLifeMapFinal.pdf> [Accessed 02/06/09] (4) Defra (2008) *Waste Strategy Annual Progress Report 2007/08*. (5) Defra Waste Strategy for England 2007. (6) Defra <http://www.defra.gov.uk/environment/statistics/waste/kf/wrkf14.htm>

Government has responded positively to the SDC's recommendations on sustainable procurement . While there is still much to do, it has demonstrated a renewed commitment to embedding it across departments

Goals and Targets

- In *Securing the Future* government accepted that it must lead by example on sustainable consumption through the way that it procures goods and services, and set itself the aim 'to be amongst the EU leaders on sustainable procurement by 2009'
- The Sustainable Procurement Action Plan (SPAP) 2007 reinforced this goal, and placed a number of requirements on government departments. These related to leadership and accountability; budgeting and accounting practice; building capacity; and raising standards
- All relevant contracts to meet 'Quick Wins' minimum product standards
- Government departments actively to seek to purchase legal and sustainable timber and wood derived products (tighter standards apply from April 2009).
- UK government and the wider public sector has a combined spend of around £150bn per year on goods and services; £60 billion of which is from central government alone¹
- Recent carbon footprinting studies in the NHS and schools have shown procurement to account for 60% of their total carbon impact²
- Part of the government's response to Sustainable Development in Government (SDiG)³ 2007 was to announce the formation of the Centre of Expertise in Sustainable Procurement (CESP) in the Office of Government Commerce (OGC), to ensure action and delivery on sustainable procurement operations

- The government's Delivery Plan (December 2008) accepted all of the SDC's recommendations on sustainable procurement
- All Departments (except for the Forestry Commission) reported to have engaged with key suppliers on sustainable development³
- Following the recommendations of SDiG 2007, all 21 Departments' Permanent Secretaries (or equivalent) now have the Sustainable Operations on the Government Estate (SOGE) targets incorporated into their performance agreements³
- 14 of the 21 departments included clauses for Quick Wins/extended mandatory product standards in all relevant contracts. This is up from 12 departments in the previous year, but is still very disappointing³
- MOD's expenditure is significant - all five of its 'top five contracts' appeared in the list of 10 highest value contracts across government, with a combined value of £16.7 billion. Only one was reported to include a sustainability clause⁴
- Only 3.1% of the total spend on catering contracts is covered by sustainability clauses. This is despite sustainable food procurement being a pan-government initiative for a number of years.⁴

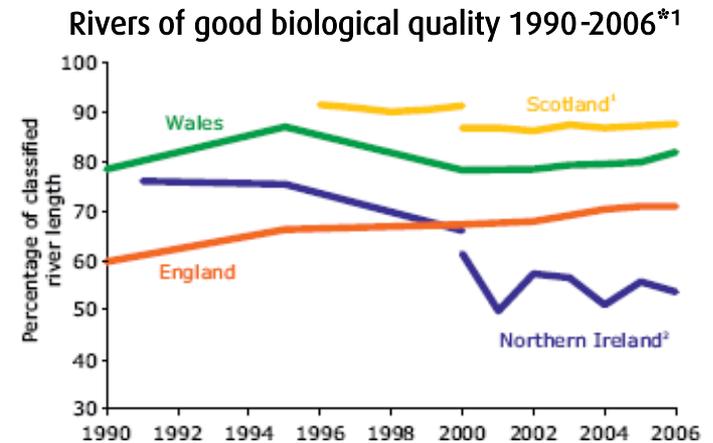
(1) Prime Minister's Delivery Unit (2007) *Improving the delivery of the Sustainable Procurement Action Plan, Summary Report*. (2) OGC (2008) *Sustainable Procurement and Operations on the Government Estate* (3) SDC (2008) *Sustainable Development in Government, Annual Assessment 2008*. (4) SDC (2008) *Sustainable Development in Government, Annual Report 2007*.

River water quality has improved, however a significant proportion of groundwater bodies are at risk of missing pollution targets

Goals and Targets

- Under the EU Water Framework Directive (WFD), all inland and coastal waters are to achieve good ecological and chemical status by 2015 and all groundwater bodies to achieve good chemical status by 2015. It was also intended to promote the sustainable use of water and prevent deterioration of aquatic ecosystems
- 2004 PSA target to deliver 95% of Sites of Special Scientific Interest (SSSIs) by area into favourable or recovering condition by 2010.

- There has been a clear improvement in the biological and chemical quality of English river water since 1990. Biological quality improved from 60% to 70% and chemical quality from 43% to 66%¹
- Northern Ireland saw a deterioration of rivers in good biological quality from 76% in 1991 to 54% in 2006, although chemical quality has improved from 44% to 74% over the same period.¹ Scotland and Wales both have remained relatively stable at good levels¹
- Nitrate pollution remains a significant problem. While concentrations in surface waters have stabilised in line with decline in fertiliser inputs, many areas in England have high nitrate levels despite nitrate vulnerable zone designations.² The principle cause of pollution is diffuse pollution from agriculture²
- The most widespread pressure on lakes is that resulting from the enrichment of water by nitrogen and phosphorous,³ predominantly from human and animal waste
- More than one third of England and Wales' most ecologically valuable lakes are in need of rehabilitation. Of 1,047 lakes of SSSI or Biodiversity Action Plan (BAP) status, 379 were rated as significantly degraded³



- About 27% of national public water supply is from groundwater
- Around 81% of groundwater bodies in England and 35% in Wales are at risk of not meeting WFD targets due to diffuse pollution⁴
- Over 25% of the groundwater bodies in England are at risk of failing environmental targets because of abstraction pressures⁴
- Hydrocarbons from poorly maintained petrol stations often disperse and are transported long distances in water.⁴ Emergency response to accidents creates pollution which can find its way to groundwaters.⁴

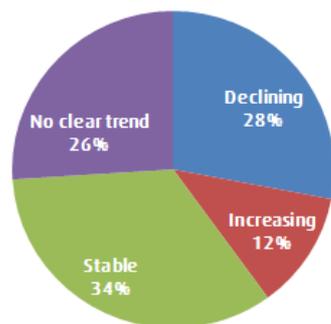
* Northern Ireland classified network significantly expanded in 2000. Scottish is based on a combined biological, chemical and aesthetic assessment that is not directly comparable with other countries. The classification changed in 2000. (1) Defra (2008) *SDIYP*. (2) Defra (2007) *Nitrates in water - the current status in England (2006)*. (3) EA: <http://www.environment-agency.gov.uk/homeandleisure/wildlife/37847.aspx> [Accessed 7/1/09]. (4) Environment Agency (2006) *Underground, Under Threat*.

The UK is not on target to halt biodiversity loss by 2010. Protected area arrangements appear to be working but the lack of cross-government action means non-protected areas are particularly vulnerable.

Goals and Targets

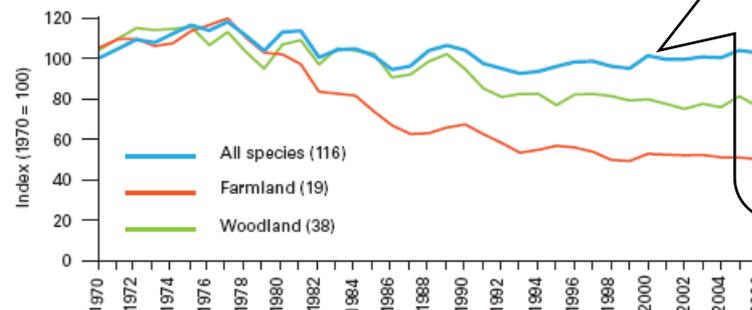
- EU Habitats Directive requires the UK to halt biodiversity loss by 2010.
- 2008 PSA to secure a healthy natural environment for today and for the future
- 2004 PSA to deliver 95% of SSSIs by area into 'favourable' or 'recovering' condition by 2010.

- The UK is unlikely to meet its target of halting biodiversity loss by 2010.¹
- However, the overall condition of Sites of Special Scientific Interest (SSSIs) is improving.² Some 80% of SSSIs which cover 7% of the country are in 'favourable' or 'unfavourable recovering' condition¹, but this is still 15% below the SSSI target for 2010.
- Habitats outside protected areas are doing less well, and are much less rich than 50 years ago. Only 3% of farm grasslands remain rich in native species.²
- There is a lack of cross-government action with many departments failing to consider biodiversity in their policy decisions.¹



Trends in abundance of Biodiversity Action Plan (BAP) species. 12% are increasing compared to 28% decreasing.

- There have been some real improvements: major increases in heathland birds and some wetland birds, continued recovery of the otter, and four bat species have increased significantly.²
- Around 86% of England's woodland and wood pasture SSSIs are now in 'favourable or recovering' condition up from 73% in 2003. No comparable assessment exists for the majority of woodland not designated as SSSI.²
- Wetland and freshwater habitats are in the worst condition of all habitats, including those with legal protection, and wetland species are suffering. Eels have declined by 90% since the mid-80s. Wetlands are the one habitat group of SSSIs that are not on target to meet the 2010 goal.²
- Sustainable development issues, including biodiversity, risk being sidelined by Rural Development Agencies, due to an overriding focus on economic growth.¹



UK Bird Populations. While overall bird numbers have remained constant since 2000, farmland and woodland species have declined.³

(1) Environmental Audit Committee (2008) Thirteenth Report. (2) Natural England, (2008) *State of the Natural Environment 2008*. (3) RSPB (2008) *State of the Nation's Birds*

80% of global fish stocks are either fully or over exploited. In the UK, target and by-catch species have reduced to less than 10% of expected abundance.

Goals and Targets

- The World Summit on Sustainable Development 2002 commits to:
 - restoring depleted fish stocks by 2015; and
 - establishing a coherent network of marine protected areas by 2012¹
- The UK aims to have an 'ecologically coherent network' of well managed marine protected areas by 2012; to promote international action to tackle illegal, unreported and unregulated fishing
- One of the indicators for PSA 28 is "Clean, healthy, safe, productive and biologically diverse oceans and seas as indicated by proxy measures of fish stocks, sea pollution and plankton status."
- The UN FAO estimates that over one quarter of global fish stocks have been overexploited, depleted or are recovering from depletion (19%, 8% and 1% respectively). 52% are already fully exploited and producing catches at or close to their maximum sustainable levels²
- The northeast Atlantic and Mediterranean have some of the largest numbers of depleted stocks³
- By-catch and modern fishing methods are causing a huge risk to marine biodiversity. Many target and by-catch species in the North and Irish Seas have been reduced to less than 10% their expected abundance without fishing⁴
- There has been an improvement in the percentage of fish stocks considered to be harvested sustainably in the UK. In the 1990s it was no more than 10%, but by 2006 it has risen to 30%⁵
- The seas around the British Isles provide habitats for over 10,000 species
- In England, surface feeding bird species are declining and are currently 19% below 1986 baseline levels, while subsurface feeding bird species have increased by 35%.⁶ In Scotland, levels of surface feeding bird species in 2004 were 57% below those of 1986, while subsurface bird species showed positive, or at least stable trends in population⁷
- Research predicts that the North Sea trawl fleet will have reduced the biomass of small bottom dwelling animals by about half.⁸ Bottom trawling has particularly unsustainable effects on the quantity and diversity of species in some locations, suggesting that trawling should be spatially limited
- There is evidence that marine ecosystems are being altered by climate change. Sea temperature is rising and the distribution of plankton species is changing⁹
- Evidence suggests significant reductions in the amount of hazardous substances, nutrients, and faecal bacteria being released into the sea, largely due to regulatory pressure⁹
- 2% of the UK sea area is protected for marine conservation¹⁰, however only 0.001% of the total sea area is 'fully' protected with no fishing activity permitted.¹¹ Observers have recommended that a network of sites covering around 30% of UK waters might be necessary in order to protect important species and habitats.¹¹

(1) Plan of Implementation of the World Summit on Sustainable Development, 2002, accessible at <http://www.unep.org/wssd/> (2) FAO (2009) *The State of World Fisheries and Aquaculture 2008*. (3) Beddington (2007) Current problems in the Management of Marine Fisheries, *Science*, **316**, p1713. (4) MEMG [on behalf of Defra] (2005) *Charting progress – an integrated assessment of the seas. 1: Marine Quality. Environment*. (5) Defra (2008) *SDIYP*. (6) NE (2008) *State of the Environment*. (7) SNH (2006) *Natural heritage trends: abundance of breeding seabirds in Scotland* p.18 and 20 (8) Defra Marine Fisheries Science Yearbook 2006/07. (9) Defra (2005) *Charting Progress: An integrated assessment of the state of the UK seas*. (10) JNCC <http://www.jncc.gov.uk/page-1445> [Accessed 19/2/2009]. (11) RSPB (2008) *Safeguarding our seabirds: Marine Protected Areas for our seabirds*, p8.

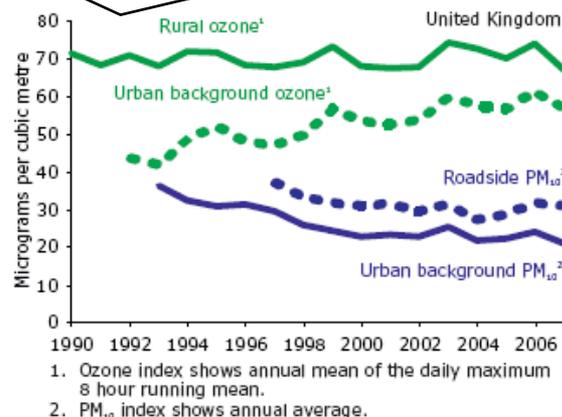
Despite decreases in overall emissions of air pollutants, 20 cities fail to meet EU legislation for particulates, and the UK is at risk of missing targets for nitrogen dioxide levels.

Goals and Targets

- EU Air Quality Directive sets standards for major pollutants, including:
 - Annual mean particulates (PM_{10}) concentration no greater than $40 \mu\text{g m}^{-3}$ and daily mean concentrations not to exceed $50 \mu\text{g m}^{-3}$ more than 35 times per year
 - Annual nitrogen dioxide (NO_2) concentrations no greater than $40 \mu\text{g m}^{-3}$ and hourly mean concentrations no greater than $200 \mu\text{g m}^{-3}$ *
 - Maximum daily eight hour mean for ozone no greater than $120 \mu\text{g m}^{-3}$ **

- Overall emissions of nitrogen oxides, PM_{10} and sulphur dioxide have been steadily decreasing since 1990. Emissions in 2006 had reduced to 46%, 50% and 82% of 1990 levels respectively¹
- Despite reductions in emissions, air pollution in 2005 was estimated to reduce life expectancy by seven to eight months and cost up to £20.2 billion per annum²
- Motor vehicles emit a range of pollutants, in the form of carbon monoxide, nitrous oxides, volatile organic compounds and particulates. Some of these substances, once emitted, react with sunlight to form ozone. This has a particular impact in rural and suburban areas as it is often transported by wind by the time the reaction is complete²
- Emissions from individual vehicles have fallen by about 50% in the last decade² as legislation leads to more efficient engines, but the number of vehicles on the road is increasing

Annual levels of particulates and ozone showing urban ozone rising.¹ Although levels decline from 2006 to 2007, recent figures show that rural and urban background ozone levels have increased again in 2008.³



- The UK Government is being prosecuted by the EU Commission for failing to enforce PM_{10} standards. These have been exceeded in 20 UK cities,⁴ principally as a result of road vehicles
- In addition, urgent action is needed if the UK is to avoid breaching health based air quality standards for NO_2 by 2010⁴
- More than 225 local authorities have declared an Air Quality Management Zone, the vast majority of which are for exceeding nitrogen dioxide emissions. Many of these have associated exceeded levels of particulate matter.

* enters into force 1 January 2010. (1) Defra (2008) *SDIYP*. (2) Defra (2007) *The Air Quality Strategy for England, Scotland, Wales and Northern Ireland: Vol 1*. (3) <http://www.defra.gov.uk/news/2009/090129a.htm> (4) Campaign for Clean Air London www.cleanairinlondon.org/ [accessed 10/3/09].

Land management is poorly covered by indicators, resulting in insufficient information on overall land quality and adaptation to climate change. Far greater understanding is required on soil processes and their contribution to GHG emissions

Goals and Targets

- There are a number of goals and targets for land use that cut across a wide range of responsible organisations and policy areas
- Agricultural practice is determined by goals and targets set out in the EU Common Agricultural Policy.
- Expected increases in population will create new and competing demands for land to be used for housing, infrastructure and food production. Climate change will affect patterns of agriculture and biodiversity and require land to be considered in different ways, for example for carbon storage
- Defra's indicator set shows the percentage of all new development occurring on previously developed land has increased from 47% in 1990 to 61% in 2005¹
- In the agricultural sector, fertiliser use has decreased by 44% since 1990, and emissions in methane and ammonia have fallen by 12% and 19% respectively.¹ This fall is a result of a combination of falling livestock numbers and uptakes of lower emission technologies^{2,3}
- More than half of the farmland of England - over 5 million hectares - receives payments from the Environmental Stewardship Scheme, and the benefits of previous schemes are beginning to be realised¹
- There is considerable uncertainty around the quality of soils in the UK as representative measurements are not reflected in Defra's indicators
- Soil should be seen as a non-renewable resource as its renewal is very slow. It provides a variety of functions, but is currently suffering from erosion, compaction and a decline in organic content, of which carbon is a key component
- Soils are a major reservoir of carbon, with the order of 10 billion tonnes of carbon being stored in UK soils⁴
- However, there is major uncertainty as to how much the release of carbon from soils contributes to GHG emissions. Some estimates place this effect at as high as 13 million tonnes per year from England and Wales.⁵ This is significantly higher than the estimate in the submission for the UK GHG Inventory of 3.7 million tonnes emitted by UK soils and 1.5 million tonnes added to soils, highlighting the need to improve our understanding of soil processes.⁶ Other studies suggest that emissions from soil are lower than those reported.⁷

(1) Defra (2008) *SDIYP*. (2) UK GHG Inventory, p439. (3) Defra (2007) *Inventory of Ammonia Emissions from UK Agriculture*. (4) EA (2004) *The state of soils in England and Wales* (5) Bellamy *et al.* (2005) *Carbon losses from all soils from England and Wales 1978 - 2003*. (6) Baggott *et al.* (2005) UK Greenhouse Gas Inventory 1990 to 2003: Annual Report for submission under the Framework Convention on Climate Change. (7) Smith *et al.* (2007) *Climate Change cannot be entirely responsible for soil carbon loss observed in England and Wales, 1978-2003*.