A National Statistics Publication

DEPARTMENT OF ENERGY & CLIMATE CHANGE

UK ENERGY IN BRIEF 2009

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This booklet summarises the latest statistics on energy production, consumption and prices in the United Kingdom. Figures are taken from the 2009 edition of the "Digest of UK Energy Statistics", published on 30 July 2009. Details of the Digest and other Department of Energy and Climate Change (DECC) energy publications can be found on pages 37 and 38 of this booklet and are available on the Internet at:
www.decc.gov.uk/en/content/cms/statistics/publications/publications.aspx

This booklet is also available on the Internet at:
www.decc.gov.uk/en/content/cms/statistics/publications/brief/brief.aspx

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Contents

The first four charts in this booklet are four key indicators that have been used since 2003 to monitor progress in implementing our energy policy. The four indicators cover:

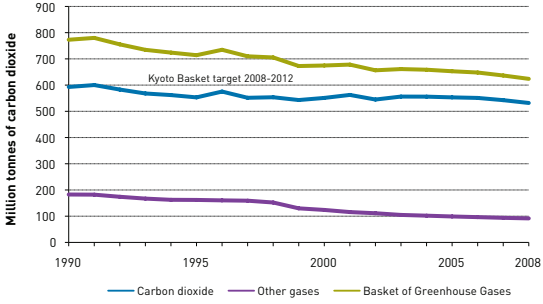
- Cutting emissions;
- Maintaining secure energy supplies;
- Maximising economic opportunities; and
- Protecting the most vulnerable.

These key indicators and 28 further supporting indicators are published in UK Energy Sector Indicators 2009. These indicators along with a full set of background indicators, can be accessed on the Internet at:
www.decc.gov.uk/en/content/cms/statistics/publications/indicators/indicators.aspx

The remainder of this booklet deals with separate sections of the energy industry; the economics of the energy industry, overall energy production and consumption and trends in production and consumption of the major fuel sources are covered. Also discussed are developments in combined heat and power and renewable energy. Information is also given on energy prices, energy expenditure and energy efficiency.

The detailed background data can be found in the Digest of UK Energy Statistics 2009 available from The Stationery Office, priced £52, but also available free of charge on the Internet at:
www.decc.gov.uk/en/content/cms/statistics/publications/dukes/dukes.aspx

1 Low carbon – greenhouse gas and carbon dioxide emissions, 1990 to 2008



Source: Department of Energy and Climate Change

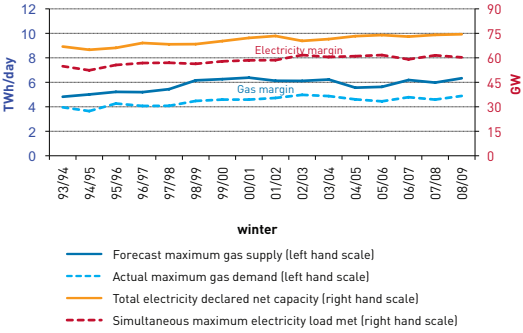
Million tonnes of carbon dioxide

	1990	1995	2000	2006	2007	2008(p)
Carbon dioxide	592.9	553.1	551.1	551.1	542.6	531.8
Methane	104.3	91.0	69.7	50.4	48.9	..
Nitrous oxide	64.6	53.7	41.9	34.9	34.2	..
HFC	11.4	15.6	10.0	10.0	9.6	..
PFC	1.4	0.5	0.5	0.3	0.2	..
SF_6	1.0	1.2	1.8	0.9	0.8	..
'Basket' of greenhouse gases	**773.0**	**714.1**	**674.7**	**647.9**	**636.6**	**623.8**

Source: Department for Environment, Food and Rural Affairs; DECC (2008 provisional figures)

Naturally occurring greenhouse gases maintain the earth's surface at a temperature 33°C warmer than it would be in their absence. At present greenhouse gas concentrations in the atmosphere are increasing as a result of human activities. Greenhouse gas emissions fell by about 19% between 1990 and 2008. Carbon dioxide emissions contribute about 70% of the potential global warming effect of anthropogenic emissions of greenhouse gases and are created when fossil fuels are burned. Estimates based on energy production and consumption in 2008 indicate that carbon emissions were 2% lower than the previous year, and 10.3% lower than in 1990.

2 Reliability – gas and electricity capacity margins – maximum supply and maximum demand 1993/94 to 2008/09



Source: National Grid and DECC

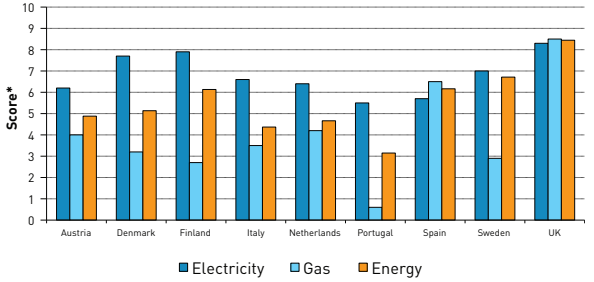
Target is to ensure that the market provides sufficient capacity to meet maximum gas and electricity demand in each year.

In response to higher electricity prices, more previously mothballed capacity was back in service for winter 2005/06 and has remained in service since. There was a small increase in capacity in 2007/08 arising from a new plant and the inclusion of wind farm capacity[1]. A decrease in the peak demand in 2008/09 compared to 2007/08 meant that the capacity margin increased from 20% to 23%.

For gas, the cold winter of 2008/09 led to an increase in peak demand, but an increase in storage capacity and imports meant there was no change to the overall margin compared to 2007/08, which remained at 30%.

(1) Wind farms owned by major power producers are included from 2007/08 onwards, wind capacity has been de-rated by 0.43 to account for the intermittent nature of this energy source.

3 Competitiveness – overall competitiveness score for selected EU energy markets (2006 data)



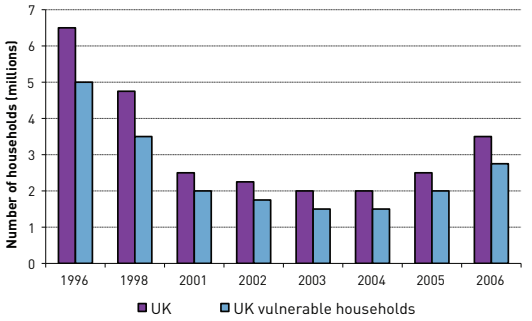
***** A higher number indicates a more competitive market.
Source: Study undertaken by OXERA on behalf of DECC.
Overall energy index derived by DECC.

The competitiveness of energy markets is measured using a methodology developed by OXERA on behalf of DECC, based on indicators of energy market liberalisation at each stage of the supply chain (upstream, wholesale markets, network and retail) and applied to energy markets in the EU and G7. The report sets out the methodology in more detail, and can be found at: **www.decc.gov.uk/en/content/cms/what_we_do/uk_supply/markets/competitive/competitive.aspx**

In 2006, the latest year studied by OXERA, the UK ranked the highest out of all the EU and G7 countries in both electricity and gas markets, and therefore also has the most competitive energy market overall, as it has done in each of the five previous years.

Note: No further studies by OXERA have been funded, so this indicator has not been updated in the past year; it will be replaced in future editions of this publication.

4 Fuel poverty – number of UK households in fuel poverty



Source: Department of Energy and Climate Change.

More information can be found at
www.decc.gov.uk/en/content/cms/what_we_do/consumers/fuel_poverty/fuel_poverty.aspx

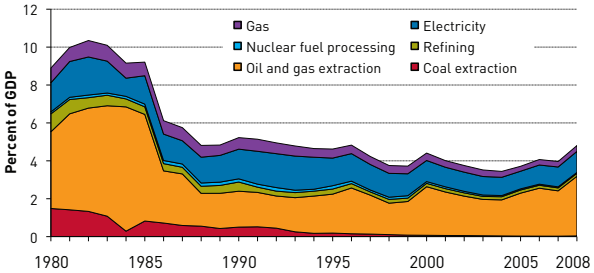
Households are considered fuel poor if, in order to maintain a satisfactory heating regime, they would need to spend more than 10 per cent of their income on all household fuel use. In broad terms it is estimated that the number of fuel poor households in the UK has fallen from about 6½ million in 1996 to about 3½ million in 2006. The 2006 figure is an increase of approximately 1million households since 2005 and continues the upward trend since 2004. This rise is attributable to the higher energy prices experienced in recent years.

The number of vulnerable (those that contain children, elderly people, or those with disabilities or long-term illness) fuel poor households in the UK is estimated to have fallen from about 5million to about 2¾ million between 1996 and 2006.

THE ENERGY INDUSTRIES' CONTRIBUTION TO THE UK ECONOMY

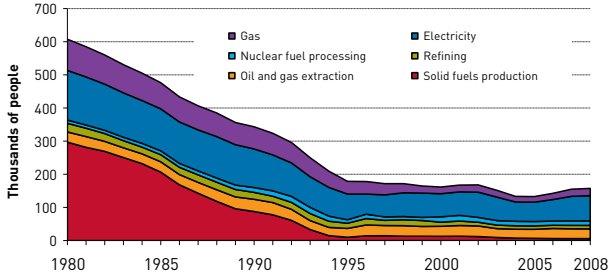
- 4.8% of GDP
- 7.1% of total investment
- 41.0% of industrial investment
- 2.3% of annual business expenditure on research and development
- 157,700 people directly employed in 2008 (5% of industrial employment) and more indirectly e.g. an estimated 230,000 in support of UK Continental Shelf production.

Contribution to GDP by the energy industries, 1980 to 2008



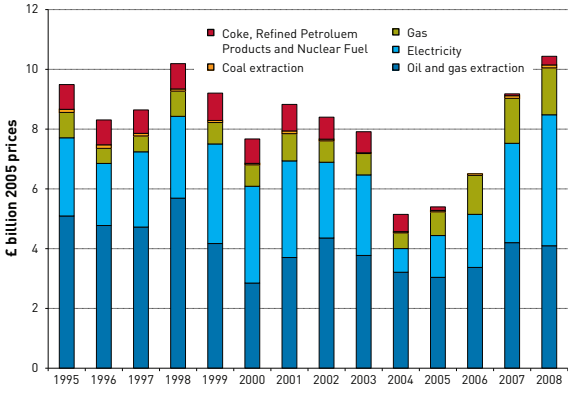
Source: Office for National Statistics
DECC estimate for 2008

Trends in employment in the energy industries, 1980 to 2008



Source: Office for National Statistics

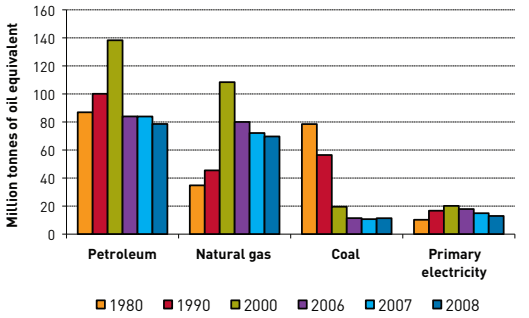
Investment in the energy industries, 1995 to 2008



Source: Office for National Statistics

Overall energy

Production of primary fuels, 1980 to 2008



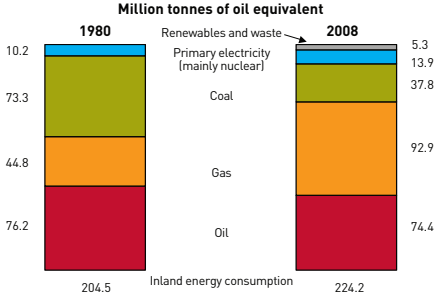
Million tonnes of oil equivalent

	1980	1990	2000	2006	2007	2008
Petroleum	86.9	100.1	138.3	84.0	83.9	78.6
Natural gas	34.8	45.5	108.4	80.0	72.1	69.7
Coal	78.5	56.4	19.6	11.4	10.7	11.4
Primary electricity	10.2	16.7	20.2	17.9	14.9	13.0
Total	**210.5**	**219.4**	**288.7**	**197.2**	**186.0**	**176.9**

Total production of primary fuels, when expressed in terms of their energy content, fell by 4.9% in 2008 compared to 2007. Petroleum accounts for 44% of total production, natural gas 39%, coal 6% and primary electricity (nuclear and natural flow hydro) 7%. Renewables and waste (not shown), account for the remaining 4.0 million tonnes of oil equivalent.

Total production increased rapidly between 1980 and 2000, primarily due to the growth of oil and gas. Since 2000 production has started to decline and is now 16% lower than in 1980. Production in 2000 was at record levels for natural gas, whilst in 1999 it was at record levels for overall energy and petroleum.

Inland energy consumption, 1980 to 2008



Million tonnes of oil equivalent

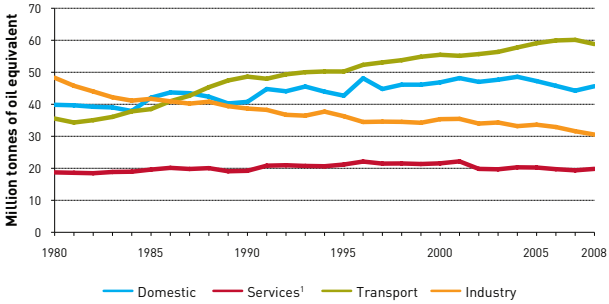
	1980	1990	2000	2006	2007	2008
Conversion losses			53.8	55.5	53.0	51.6
Distribution losses and energy industry use	(62.1	66.4)	20.7	18.7	18.0	17.7
Final consumption						
Industry	48.3	38.7	35.4	32.9	31.6	30.5
Domestic sector	39.8	40.8	46.9	45.8	44.2	45.6
Transport	35.5	48.6	55.5	59.9	60.1	58.8
Services[1]	18.7	19.2	21.5	19.7	19.4	19.8
Total final energy consumption	**142.4**	**147.3**	**159.2**	**158.3**	**155.3**	**154.8**
Total inland primary energy consumption[2]	**204.5**	**213.7**	**233.7**	**232.6**	**226.5**	**224.2**
Temperature corrected Total	*206.2*	*221.6*	*239.6*	*236.5*	*231.6*	*225.3*

(1) Includes agriculture
(2) Excludes non-energy use

Primary energy consumption was 1.0% lower in 2008 than 2007. Since 1980 consumption of natural gas and primary electricity has risen considerably, whilst consumption of oil has remained around the same and coal has fallen. Energy industry use, losses during conversion to secondary fuels and losses during distribution accounted for 30.9% of inland energy consumption in 2008.

Overall energy

Final energy consumption, 1980 to 2008



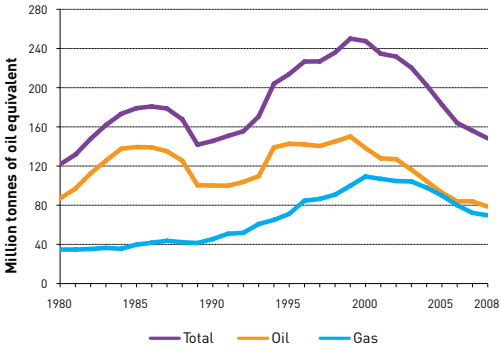
2008 **Million tonnes of oil equivalent**

	Industry	Domestic	Transport	Services[1]	Total
Coal & manufactured fuels	1.9	0.8	-	0.0	2.7
Gas	11.4	31.2	-	9.1	51.7
Oil	6.4	3.0	57.3	1.4	68.1
Electricity	9.8	10.1	0.7	8.7	29.4
Renewables and heat	1.0	0.5	0.8	0.6	2.9
Total	**30.5**	**45.6**	**58.8**	**19.8**	**154.8**

(1) Includes agriculture

Final energy consumption (excluding non-energy use) was 0.3% lower in 2008 than in 2007. Since 1980 energy consumption by individual sectors has changed substantially: there have been rises of 65% for transport, 15% for the domestic sector and 6% for the service sector, whilst consumption by industry has fallen by 37%.

UK Continental Shelf production, 1980 to 2008



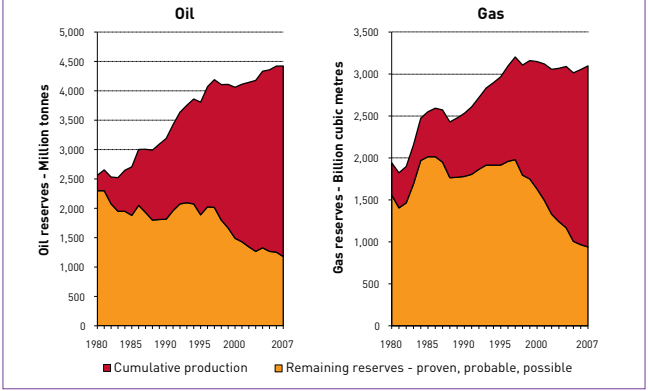
Million tonnes of oil equivalent

	1980	1990	2000	2006	2007	2008
Oil	86.9	100.1	138.3	84.0	83.9	78.6
Gas	34.8	45.5	109.3	80.0	72.1	69.7
Total	**121.7**	**145.6**	**247.6**	**164.0**	**156.0**	**148.3**

Oil production in 2008 was 48% lower than the record 150.2 million tonnes in 1999, and a 6% fall on 2007 production. Ten new fields started production in 2008, although these are all relatively small. As with oil, UK gas production is also declining as UK Continental Shelf reserves deplete. Gas production in 2008 was 3% lower than in 2007 and 36% lower than the record level seen in 2000.

Oil and gas production

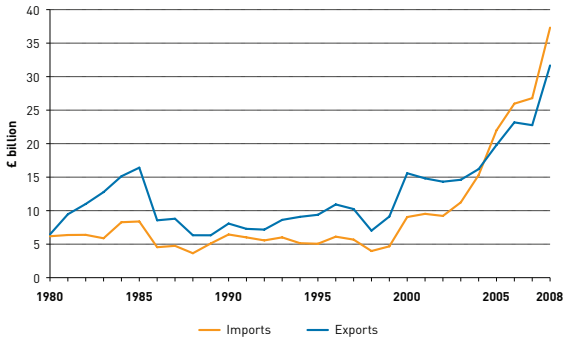
Remaining oil and gas reserves



	1980	1990	2000	2005	2006	2007
Oil						**Million tonnes**
Cumulative production	263	1,374	2,570	3,090	3,167	3,243
Estimate of remaining reserves in present discoveries	2,300	1,815	1,490	1,267	1,254	1,179
Total reserves in present discoveries	**2,565**	**3,190**	**4,060**	**4,357**	**4,421**	**4,422**
Gas						**Billion cubic metres**
Cumulative production	382	752	1,518	2,008	2,086	2,157
Estimate of remaining reserves in present discoveries	1,560	1,785	1,630	1,006	967	940
Total reserves in present discoveries	**1,940**	**2,535**	**3,150**	**3,013**	**3,053**	**3,097**

Since 1980 estimates of reserves in present discoveries has increased by 72% for oil and 59% for gas by 2007. This reflects increased production at new discoveries and new technology allowing exploitation of discoveries that were previously regarded as unviable.

Foreign trade in crude oil and petroleum products, 1980 to 2008



Crude oil and petroleum products **£ billion**

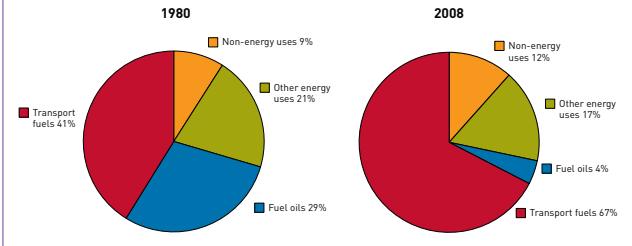
	1980	1990	2000	2006	2007	2008
Exports	6.5	8.1	15.6	23.2	22.8	31.7
Imports	6.2	6.4	9.0	26.0	26.8	37.3
Net Imports	**-0.3**	**-1.6**	**-6.5**	**2.8**	**4.0**	**5.6**

Source: Office for National Statistics

Since the first 'surplus' on oil trade (£0.3 billion) which occurred in 1980, oil trade has contributed £80 billion to the UK balance of payments. The largest 'surplus' (£8 billion) in 1985 reflected high crude oil production and prices. In 1990 the 'surplus' fell from this peak due to lower prices but managed to peak again in 2000 (£6.5 billion). Since 2000 the surplus has steadily declined and in 2005 the UK became a net importer of oil (-£2.2 billion). In 2008 the deficit increased to -£5.6 billion.

Petroleum

Demand by product, 1980 to 2008



Million tonnes

	1980	1990	2000	2006	2007	2008
Energy uses [1]						
Motor spirit (Petrol)	19.2	24.3	21.4	18.1	17.6	16.7
DERV fuel	5.9	10.7	15.6	20.1	21.1	20.6
Aviation turbine fuel	4.7	6.6	10.8	12.6	12.6	12.1
Burning oil	2.1	2.1	3.8	4.0	3.6	3.7
Gas oil	11.6	8.0	6.8	6.3	6.0	5.9
Fuel oil	22.7	14.0	3.3	3.1	3.2	3.3
Other	4.3	4.9	5.3	5.6	4.9	5.0
Total energy uses	**70.5**	**70.6**	**67.1**	**70.0**	**69.1**	**67.4**
Of which:						
Transport fuels	31.9	43.5	49.5	53.5	53.5	51.9
Non-energy uses	**7.0**	**9.2**	**10.1**	**10.0**	**8.6**	**8.5**
Total deliveries	**77.5**	**79.8**	**77.2**	**80.0**	**77.7**	**75.9**

(1) Energy uses includes uses for transformation (e.g. electricity generation) and energy industry own use (e.g. refinery fuels)

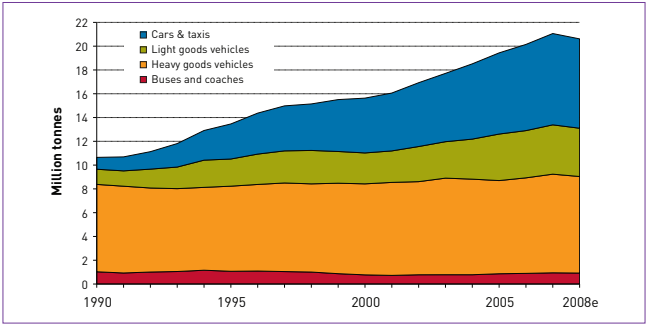
In 2008, transport fuels decreased their share of overall oil demand when compared with 2007. Deliveries of motor spirit, ATF and DERV have all decreased. This is the first year that hydro carbon DERV deliveries have fallen since 1981 reflecting higher prices, the impact of the economic slowdown and an increase in the use of biodiesel. Fuel oil remains at 4% of total deliveries, compared with 29% in 1980.

Demand for road fuels, 1990 to 2008

Petrol Demand — **Thousand tonnes**

	1990	1995	2000	2006	2007	2008
Total	24,310	21,950	21,403	18,144	17,594	16,678

DERV fuel



DERV fuel demand — **Thousand tonnes**

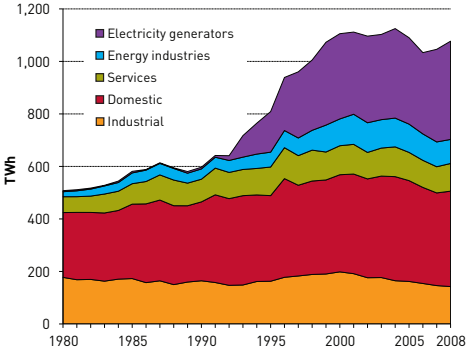
	1990	1995	2000	2006	2007	2008
Cars & taxis	997	2,946	4,608	7,245	7,676	7,512 estimated
Light goods vehicles	1,276	2,284	2,599	3,972	4,148	4,060 estimated
Heavy goods vehicles	7,347	7,157	7,654	8,033	8,295	8,118 estimated
Buses & coaches	1,031	1,073	771	896	944	923 estimated
Total	**10,643**	**13,447**	**15,623**	**20,146**	**21,065**	**20,614**

UK motor spirit (petrol) consumption peaked in 1990 and has gradually declined ever since. Demand for DERV fuel however has increased, primarily due to DERV's gradual replacement of petrol in car use.

The breakdown in use of DERV fuel given above is based upon modelled fuel consumption produced by AEA when deriving the UK emissions inventory. Figures for 2008 have been estimated using the 2007 ratios which have been uplifted by a revised methodology that has been applied to the entire time series.

Natural gas

Natural gas consumption, 1980 to 2008

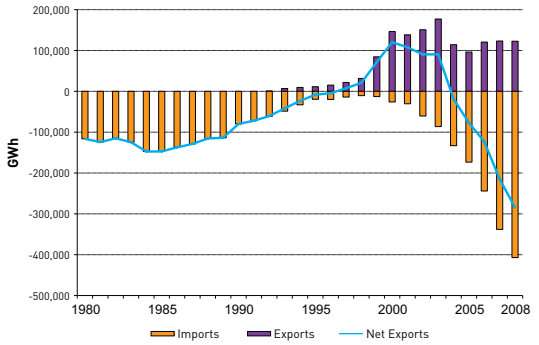


TWh

	1980	1990	2000	2006	2007	2008
Electricity generators	4.0	6.5	324.6	309.5	352.7	374.1
Energy Industries	19.1	39.2	102.1	100.7	94.5	91.6
Industry	177.5	164.6	198.5	154.3	146.2	142.4
Domestic	246.8	300.4	369.9	365.9	352.9	363.3
Services	60.4	86.4	110.5	103.2	99.7	105.5
Total	**507.8**	**597.0**	**1,105.5**	**1,033.4**	**1,046.1**	**1,077.0**

In the early 1970s, following the advent of UK production of natural gas, gas consumption grew rapidly. Industrial consumption peaked in 2000 but has fallen since then by around 28%. There was steady growth in all other sectors until around 2004. Consumption then declined until 2007, mostly as a result of higher prices and also to a lesser extent, as a result of warmer than average temperatures, before rising in some sectors in 2008. After falling to an eight year low in 2006, gas consumption by electricity generators rose by 14% to a record high level in 2007 and by a further 6% in 2008.

UK trade in natural gas, 1980 to 2008

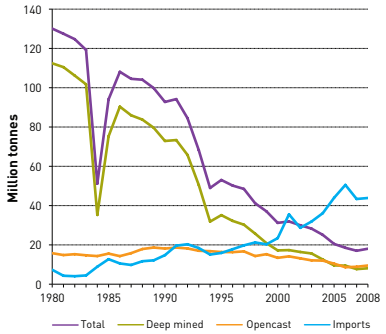


GWh

	1980	1990	2000	2006	2007	2008
Natural gas production	404,800	528,843	1,260,168	927,784	838,092	809,649
Imports	116,291	79,833	26,032	244,029	338,027	407,054
Exports	-	-	146,343	120,591	123,158	122,670
Net imports (-) or exports (+)	-116,291	-79,833	+120,311	-123,439	-214,869	-284,384

The UK began exporting natural gas in 1993 but did not become a net exporter of gas until 1997. Exports grew rapidly with the opening of the Bacton-Zeebrugge interconnector in 1998 with its use for exports peaking in 2003, although net exports peaked earlier in 2000. Declining UK indigenous production allied to increasing demand led to the UK becoming a net importer of gas once more in 2004. The UK has been a net importer in each year since 2004. In 2008, imports rose by 20% whilst exports were similar to those in 2007.

Coal production and imports, 1980 to 2008

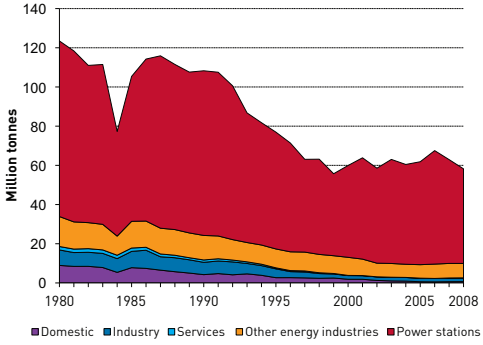


Million tonnes

	1980	1990	2000	2006	2007	2008
Deep mined	112.4	72.9	17.2	9.4	7.7	8.1
Opencast	15.8	18.1	13.4	8.6	8.9	9.5
Total (including slurry)	**130.1**	**92.8**	**31.2**	**18.5**	**17.0**	**18.1**
Coal imports	7.3	14.8	23.4	50.5	43.4	43.9

Coal production was 6% higher in 2008 than in 2007; deep mined production rose by 6%, while opencast production increased by 7%. Imports, initially of coal types in short supply in this country, started in 1970 and then grew steadily to reach the 20 million tonnes a year mark by the late 1990s. The very rapid expansion of imports in 2001 meant that imports exceeded the level of UK production for the first time. Since 2002 imports have been rising at 15% a year on average and in 2006 imports were at a record 50 million tonnes to meet strong demand from generators and the steel industry. In 2008, imports were similar to the levels seen in 2007, increasing by only 1%.

Coal consumption, 1980 to 2008



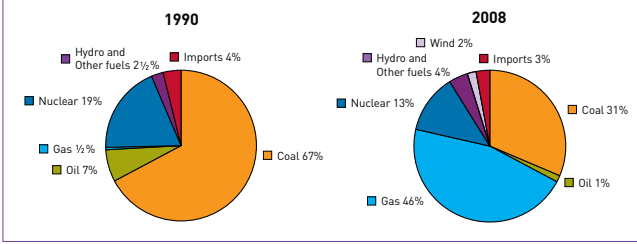
Million tonnes

	1980	1990	2000	2006	2007	2008
Power stations	89.6	84.0	46.8	57.9	53.0	48.3
Domestic	8.9	4.2	1.9	0.6	0.6	0.7
Industry	7.9	6.3	1.9	1.7	1.9	1.9
Services	1.8	1.2	0.1	‹ 0.1	‹ 0.1	‹ 0.1
Other energy industries	15.3	12.5	9.2	7.3	7.4	7.4
Total consumption	**123.5**	**108.3**	**59.9**	**67.5**	**62.9**	**58.2**

The proportion of coal consumed by power stations increased steadily from the 1970s to reach 86% in 2006 before falling back to 83% in 2008. The decline in coal consumption at power stations bottomed out at 41.8 million tonnes in 1999 climbing to 57.9 million tonnes in 2006. Since then it has declined in both 2007 and 2008. Coal consumption as a whole declined sharply during the 1990s, at an average annual rate of 6% compared with just a 1% annual decline over the previous 20 years. Between 1999 and 2006 coal consumption grew by nearly 3% per year on average but in 2007 it fell back by 7% and by a further 8% in 2008 because of lower coal demand in power stations, as the gap between gas and coal prices narrowed.

Electricity

Electricity supplied by fuel type, 1990 to 2008

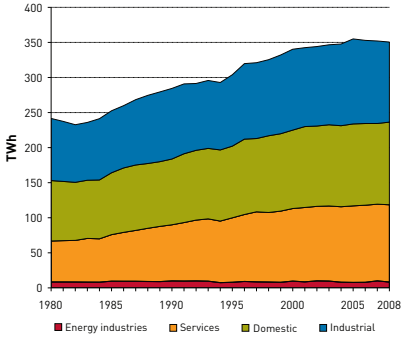


TWh

	1980	1990	2000	2006	2007	2008
Coal	190.0	208.0	114.7	141.8	129.6	118.9
Oil	33.9	21.1	5.9	5.1	4.2	5.3
Gas	1.6	1.6	144.9	137.8	162.4	173.5
Nuclear	32.3	58.7	78.3	69.2	57.2	47.7
Hydro	7.3	7.9	4.2	3.4	3.8	3.8
Wind	-	-	0.9	4.2	5.3	7.1
Other fuels	-	-	8.3	12.4	11.8	11.6
Net Imports	-	11.9	14.2	7.5	5.2	11.0
Total electricity available for supply	**265.1**	**309.4**	**371.4**	**381.4**	**379.5**	**379.0**

The mix of fuels used to generate electricity continues to evolve. Since 1990, the decline of coal and oil and the rise of gas have been the most marked features, but none of these fuels have followed a smooth path. Gas rose most markedly over this period from 1.6 TWh in 1980 to 153.7 TWh in 2004 before falling back to 137.8 TWh in 2006 and then rising again to new peaks in both 2007 and 2008. Nuclear grew to a peak in 1998 before falling back. Recently, coal has made up for the reduced availability of nuclear stations and as a substitute for high priced gas and thus recorded its highest level for 10 years in 2006. It fell back again in 2007 and 2008. Wind has followed a sharp upward trend since 2000 to its current level of 7.1 TWh. Electricity available for supply fell by almost 1% in 2006, the first such fall since 1997 and fell again in the last two years and is now at 379.0 TWh.

Electricity consumption, 1980 to 2008



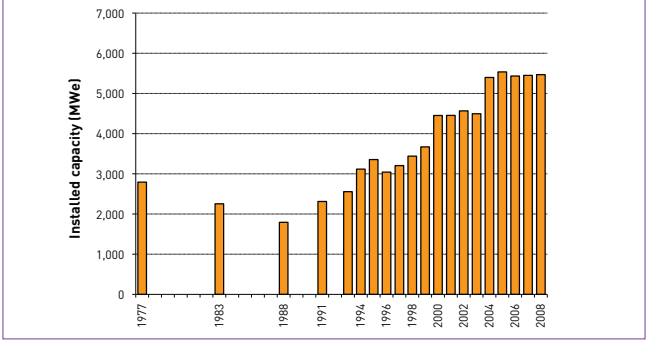
TWh

	1980	1990	2000	2006	2007	2008
Industrial	88.6	100.6	115.3	118.6	117.6	114.6
Domestic	86.1	93.8	111.8	116.4	115.1	117.8
Services	58.4	80.0	103.5	109.9	109.3	110.2
Energy industries	8.5	10.0	9.7	8.0	10.1	8.4
Total	**241.6**	**284.4**	**340.3**	**352.9**	**352.0**	**350.5**

In the 5 years to 2005 electricity consumption in the domestic and services sectors grew in total by 4½% and 5½% respectively. However, in 2006 and 2007 mild winter weather and high electricity prices resulted in domestic consumption falling in both years to be 1½% below the 2005 level in 2007. In 2008 the cold winter led to domestic consumption rising again by 2½%. Services electricity rose every year from 1999 to 2005. Since 2005 it has remained steady. Industrial consumption has varied more: it rose every year between 1994 and 2000, fell back by 2½% in 2001 but subsequent growth meant that by 2004 it had exceeded the 2000 level and continued to grow in 2005. In the last two years industrial consumption has levelled before falling by 3% between 2007 and 2008. Increased energy efficiency within the industrial sector will also have contributed to lower growth over this period.

Combined heat and power

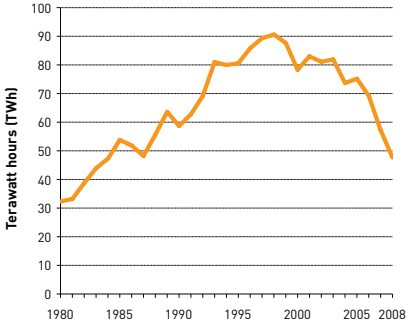
Combined heat and power, 1977 to 2008



	1995	2000	2006	2007	2008
CHP electrical capacity (MWe)	3,355	4,452	5,434	5,450	5,469
CHP electrical generation (GWh)	14,778	25,250	28,738	27,851	27,911
CHP heat generation (GWh)	56,833	54,884	53,418	51,323	52,197
Number of CHP sites					
Less than 100 kWe	619	560	467	463	462
100 kWe to 999 kWe	398	534	653	699	707
1 MWe to 9.9 MWe	139	182	187	203	200
10 MWe and greater	68	70	71	70	70
Total	**1,224**	**1,346**	**1,378**	**1,435**	**1,439**

CHP electrical capacity and electrical generation have been broadly unchanged over the last 3 years. Electricity generation in 2008 was 3% lower than in 2006. A similar picture is seen for CHP heat generation, which was 2% lower in 2008 compared to 2006. However, both electricity and heat generation in 2008 were up on 2007. A third of the CHP installations in the UK are small schemes with an electrical capacity of less than 100 kWe, however schemes larger than 10 MWe account for 83% of the total CHP installed electrical capacity. In 2008, just over 7% of the total electricity generated in the UK came from CHP plants. The Government has a target of reaching at least 10,000 MWe of good quality CHP electrical capacity by 2010, as part of its Climate Change Programme.

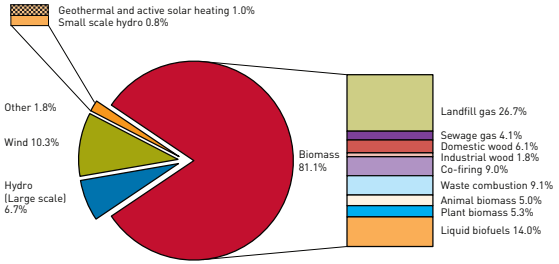
Gross electricity supplied by nuclear generation, 1980 to 2008



	1990	2000	2006	2007	2008
Electricity supplied by nuclear generation (gross) (TWh)	59	78	69	57	48
Nuclear as a percentage of electricity generation in the UK (%)	21	23	19	16	13

Output from nuclear generation peaked towards the end of the 1990's, however due to maintenance it had fallen to below 20% of total electricity supplied in 2006. In 2007 and 2008 further unplanned outages and the closure of two Magnox stations at the end of their life saw electricity supplied from nuclear fall to its lowest level since 1984. Nuclear represented just over an eighth of the total volume of electricity generated in the UK in 2008.

Renewable energy sources, 2008



Total renewables used = 5.90 million tonnes of oil equivalent (mtoe)

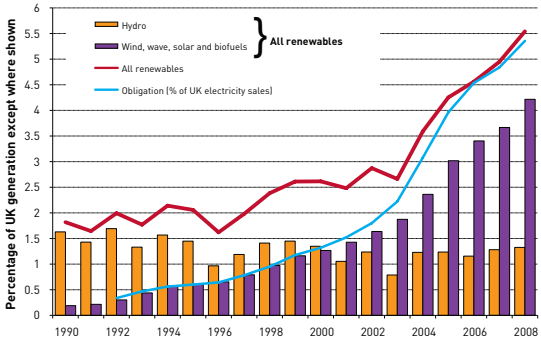
Total use of renewables — **Thousand tonnes of oil equivalent**

	1995	2000	2006	2007	2008
Geothermal and active solar heating	7.2	12.0	38.0	46.9	58.0
Wind and wave	0.8	81.3	363.3	453.5	610.3
Hydro (small and large-scale)	447.7	437.3	394.9	437.5	444.4
Landfill gas	79.8	731.1	1,464.7	1,547.5	1,573.9
Sewage gas	138.2	168.7	195.2	212.5	244.7
Wood (domestic and industrial)	174.1	458.4	395.8	433.2	466.1
Municipal waste combustion	100.8	374.8	512.7	520.5	538.2
Liquid biofuels	-	-	187.8	361.7	825.5
Other biomass	71.9	265.0	1,208.7	1,143.2	1,138.5
Total	**1,020.5**	**2,528.5**	**4,761.1**	**5,156.4**	**5,899.5**

In 2008, biomass accounted for 81% of renewable energy sources used, with most of the remainder coming from large-scale hydro and wind generation. For the second consecutive year, wind (with a 10.3% share) accounted for more than large scale hydro (6.7%) in primary input terms.

Of the 5.9 million tonnes of oil equivalent of primary energy use accounted for by renewables, 4.28 million tonnes was used to generate electricity, 0.82 million tonnes was used for road transport, and 0.80 million tonnes to generate heat. Renewable energy use grew by 14.4% between 2007 and 2008 and is now more than twice the level it was at in 2000.

Electricity generation from renewable sources



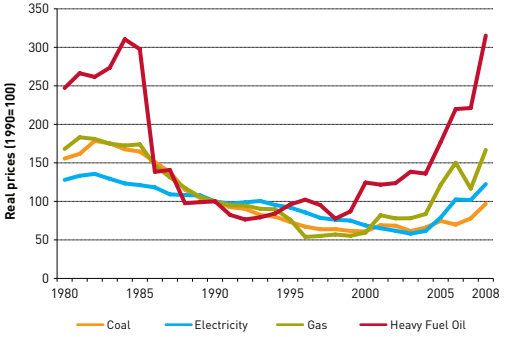
Percentage of UK generation except where shown

	1990	2000	2006	2007	2008
Wind, wave, solar and biomass	0.2	1.3	3.4	3.7	4.2
Hydro	1.6	1.3	1.2	1.3	1.3
Total Renewables	**1.8**	**2.6**	**4.6**	**4.9**	**5.5**
Obligation (% of UK electricity sales)	-	1.3	4.5	4.8	5.4

Renewables accounted for 5.5% of electricity generated in the UK in 2008, up from 4.9% in 2007. Continuing growth in wind and biomass was aided by the recovery of hydro levels which had been affected by decreased water flow in 2006.

Renewables accounted for 5.4% of UK electricity sales on a Renewables Obligation basis, up from 4.8% in 2007.

Fuel price indices for the industrial sector, 1980 to 2008



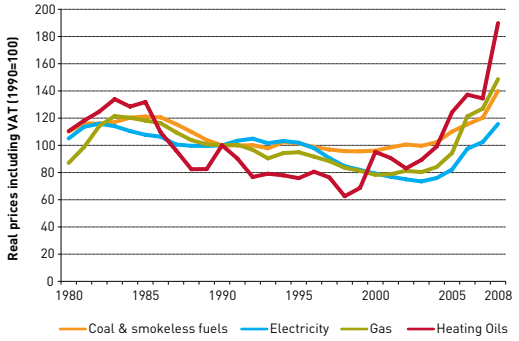
Real prices, 1990 = 100

	1980	1990	2000	2006[1]	2007[1]	2008[1]
Coal	155.6	100	61.0	69.9	77.9	96.9
Electricity	128.0	100	68.8	102.5	101.8	122.4
Gas	168.1	100	59.5	150.2	116.6	166.8
Heavy fuel oil	247.3	100	124.5	219.8	221.2	315.2
Industrial prices	175.7	100	77.9	136.5	129.1	171.2

(1) Includes the Climate Change Levy that came into effect in April 2001.

Industrial coal prices increased in 2008 by 24% in real terms, and were 52% higher than 10 years earlier in 1998. Electricity prices increased in 2008 by 20% in real terms, and were 61% higher than 10 years earlier in 1998. Gas prices increased by 43% in 2008, and were nearly three times higher than in 1998. Heavy fuel oil prices increased by 42% in the year to 2008, and were four times higher than in 1998.

Fuel price indices for the domestic sector, 1980 to 2008



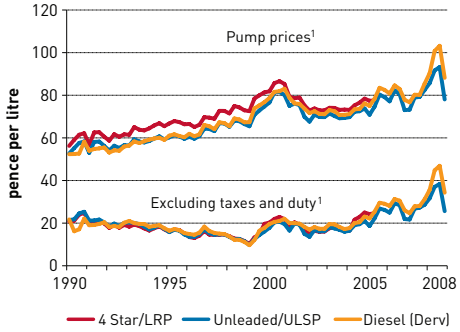
Real prices including VAT, 1990 = 100

	1980	1990	2000	2006	2007	2008
Coal and smokeless fuels.	110.1	100	96.1	115.4	120.3	140.0
Electricity	105.0	100	79.2	97.5	102.4	115.7
Gas	87.1	100	78.3	121.3	127.0	148.7
Heating oils	110.5	100	95.1	137.2	134.5	189.9
Domestic prices (fuel & light)	**99.8**	**100**	**80.2**	**110.4**	**115.0**	**133.7**

Source: Retail Price Index, Office for National Statistics

Total domestic energy prices in 2008 increased in real terms by 16%. Within the overall movement, heating oils increased at a much higher rate of 41%, reflecting the sharp rise in the price of crude oil. Electricity prices increased by 13%, whilst gas prices increased by 17%. Over the last ten years, between 1998 and 2008, real prices for domestic energy have risen by 60%, with the real price of electricity increasing by 37% and the real price of gas increasing by 78%, whilst the price of heating oils has increased by three times in real terms.

Petrol and diesel prices, 1990 to 2008



(1) Deflated using GDP (market prices) deflator (2000 = 100).

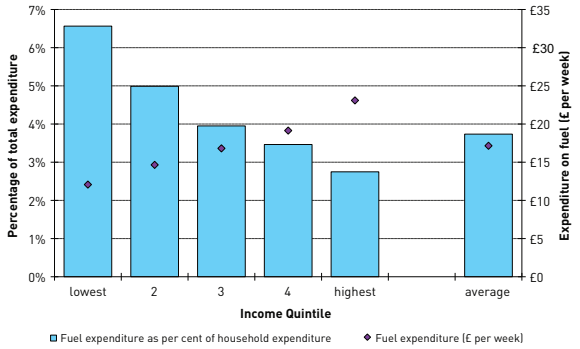
Current retail prices **Pence/litre**

	4 star/LRP	Unleaded	Diesel
1990	44.9	42.0	40.5
1995	59.7	53.8	54.2
2000	84.9	79.9	81.3
2001	79.7	75.7	77.8
2002	77.0	73.2	75.5
2003	79.9	76.0	77.9
2004	84.4	80.2	81.9
2005	*	86.8	90.9
2006	*	91.3	95.2
2007	*	94.2	96.9
2008	*	107.1	117.5

* The LRP series has been discontinued from September 2005 due to the low volume of sales.

In real terms the price of Ultra Low Sulphur Petrol (ULSP) rose by 11% between 2007 and 2008, whilst the price of diesel increased by 19%. In cash terms, a litre of ULSP cost 12.8 pence more on average in 2008 than a year earlier, whilst diesel increased by 20.7 pence per litre.

Fuel expenditure of households[1], 2007



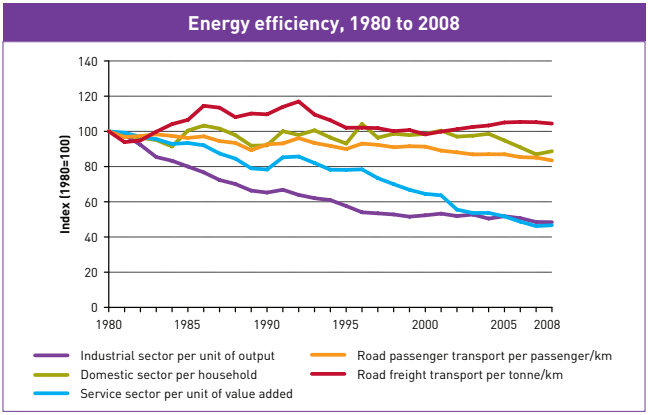
Fuel expenditure as a percentage of total household expenditure, 1980 to 2007

Fuel type	1980	1990	2000/01	2004/05	2005/06	2006	2007
Gas	1.5%	1.7%	1.2%	1.3%	1.4%	1.5%	1.8%
Electricity	2.7%	2.3%	1.6%	1.4%	1.5%	1.6%	1.7%
Coal and Heating oil	0.9% 0.4%	0.3% 0.2%	0.3%	0.2%	0.2%	0.3%	0.2%
Total	**5.6%**	**4.5%**	**3.1%**	**2.9%**	**3.1%**	**3.5%**	**3.7%**

Source: Expenditure & Food Survey 2007, Office for National Statistics
(1) includes non-consuming households

Households in the lowest income quintile (i.e. the 20% of households with the lowest income) spend around half as much on fuel per week compared to households in the highest income quintile (£12 compared to £23 per week). However, when comparing expenditure on fuels as a proportion of total expenditure, then those in the lowest income quintile spend more (7%) than those in the highest income quintile (3%). Since 2004/05, the proportion of household expenditure spent on fuel has been increasing.

Energy efficiency



Tonnes of oil equivalent

	1980	1990	2000	2006	2007	2008p
Industrial energy consumption per million units of GVA	362.8	236.5	189.7	183.8	175.9	175.5
Domestic energy consumption per household	2.0	1.8	1.9	1.8	1.7	1.7
Service sector energy consumption per million units of GVA	83.0	65.0	53.6	40.5	38.3	38.8
Road passenger energy consumption per million passenger-kilometres	45.1	41.8	41.2	38.5	38.4	37.6
Road freight energy consumption per million freight-kilometres	79.5	87.2	78.2	83.8	83.7	83.0

Energy consumption per unit of output, known as energy intensity, gives a broad indication of how efficiently energy is being used over time. Changes in energy intensity can occur for a number of reasons: process change, technological change and structural change (in the case of industry and the service sector) as well as efficiency change. The largest falls in energy intensity over the last thirty years have occurred in the industrial sector mainly due to structural change, and in the service sector due to general energy efficiency improvements.

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In addition, there is a general enquiry number, which the deaf and hard of hearing can use to contact DECC: 0300 060 4000

Conversation factors and Definitions

To convert from the units on the left hand side to the units across the top multiply by the value in the table.

		to: **Thousand toe**	**TJ**	**GWh**	**Million therms**
		multiple by			
from:	**Thousand toe**	1	41.868	11.630	0.39683
	TJ	0.023885	1	0.27778	0.0094778
	GWh	0.085985	3.6000	1	0.034121
	Million therms	2.5200	105.51	29.307	1

Data relating to the energy content of fuels are on a gross calorific value basis.

Prices are presented in real terms i.e. the effect of inflation has been removed by adjusting each series using the GDP deflator.

The symbol '-' is used in the tables where the figure is zero or less than half the final digit shown, and '..' is used to indicate 'not available'.

The Department of Energy and Climate Change is the source of all data except where stated.

All figures are for the United Kingdom, except for page 9.

The Department of Energy and Climate Change (DECC) also produces the following statistics publications:

The Digest of United Kingdom Energy Statistics is the annual energy statistics publication of DECC. With extensive tables, charts and commentary covering all the major aspects of energy, it provides a detailed and comprehensive picture of the last three years and a detailed picture for the last five years. It includes detailed information on the production and consumption of individual fuels and of energy as a whole. The 2009 edition was published by The Stationery Office on 30 July 2009 and costs £52. It can also be accessed on the Internet at: www.decc.gov.uk/en/content/cms/statistics/publications/dukes/dukes.aspx

The **Energy Flow Chart** is an annual publication illustrating the flow of primary fuels from home production and imports to their eventual final uses. They are shown in their original state and after being converted into different kinds of energy by the secondary fuel producers. The 2009 edition of the chart, published on 30 July 2009, shows the flows for 2008 and can be accessed on the Internet at: www.decc.gov.uk/en/content/cms/statistics/publications/flow/flow.aspx Free copies are available from the Publications Orderline 0845 015 0010.

Energy Trends is a quarterly publication of statistics on energy in the United Kingdom. It includes tables, charts and commentary covering all major aspects of energy. It provides a comprehensive picture of energy production and use, to allow readers to monitor trends during the year. It is available on annual subscription together with Quarterly Energy Prices, or material can be accessed on the Internet at: www.decc.gov.uk/en/content/cms/statistics/publications/trends/trends.aspx Single copies are available from the Publications Orderline 0845 015 0010 priced £6. Monthly updates to tables in Energy Trends are split by fuel source and can be accessed on the Internet at: www.decc.gov.uk/en/content/cms/statistics/source/source.aspx

Quarterly Energy Prices is a quarterly publication that contains tables, charts and commentary covering energy prices, to domestic and industrial consumers, for all the major fuels. It also presents comparisons of fuel prices in the European Union and G7 countries. It is available on annual subscription together with Energy Trends, or material can be accessed on the Internet at: www.decc.gov.uk/en/content/cms/statistics/publications/prices/prices.aspx Single copies are available from the Publications Orderline 0845 015 0010 priced £8.

References

UK Energy Sector Indicators is an annual publication designed to show in headline form the progress that has been made in implementing the four key indicators of energy policy. The 4 key indicators and 28 further supporting indicators were published on 30 July 2009 and are available free from DECC (0300 068 5056) or they can be accessed on the Internet at: www.decc.gov.uk/en/content/cms/statistics/publications/indicators/indicators.aspx A further set of background indicators (charts and tables) will be available on the Internet (web address as above) in October 2009.

Energy Consumption in the United Kingdom brings together statistics from a variety of sources to produce a comprehensive review of energy consumption in the UK since the 1970s. The information is presented in five sections covering overall energy consumption and energy consumption in the transport, domestic, industrial and service sectors. It includes an analysis of the factors driving the changes in energy consumption, the impact of increasing activity, increased efficiency, and structural change in the economy. It can be accessed on the Internet at: www.decc.gov.uk/en/content/cms/statistics/publications/ecuk/ecuk.aspx

The UK Fuel Poverty Strategy, Annual Progress Report is produced by DECC in association with the Devolved Administrations. The report sets out the progress that has been made on tackling fuel poverty. The report is available on the Internet at: www.decc.gov.uk/en/content/cms/what_we_do/consumers/fuel_poverty/strategy/strategy.aspx. Free copies are available from the Publications Orderline 0845 015 0010

Regional Energy Consumption statistics are produced by DECC to emphasise the importance of local and regional decision making for energy policy in delivering a number of national energy policy objectives. Data can be accessed on the Internet at: www.decc.gov.uk/en/content/cms/statistics/regional/regional.aspx

UK Greenhouse Gas Emissions statistics are produced by DECC to show progress against the UK's goals, both international and domestic, for reducing greenhouse gas emissions. Data can be accessed on the Internet at: www.defra.gov.uk/environment/statistics/globatmos/index.htm

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