DEPARTMENT FOR BUSINESS
ENTERPRISE & REGULATORY REFORM

UK ENERGY IN BRIEF JULY 2007

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UK ENERGY IN BRIEF JULY 2007

This booklet summarises the latest statistics on energy production, consumption and prices in the United Kingdom. Figures are taken from the 2007 edition of the "Digest of UK Energy Statistics", published on 26 July 2007. Details of the Digest and other Department for Business, Enterprise and Regulatory Reform (BERR) energy publications can be found on pages 37 and 38 of this booklet and are available on the Internet (http://www.berr.gov.uk/energy/statistics/publications/ index.html).

This booklet is also available on the Internet at: http://www.berr.gov.uk/energy/statistics/publications/in-brief/page17222.html

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CONTENTS

INTRODUCTION TO THE CHARTS AND TABLES

The first four charts in this booklet are the four key indicators that are used to monitor progress in implementing the four goals for our energy policy as reiterated in the 2007 Energy White Paper. The four goals are:

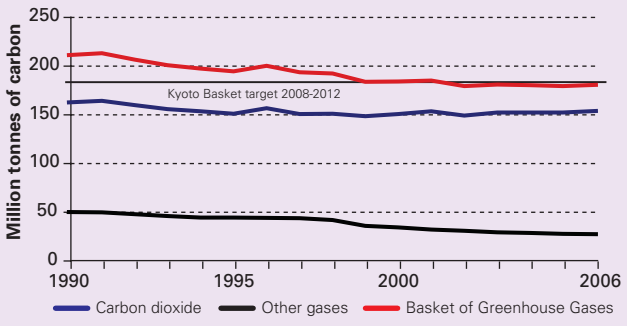
- To put ourselves on a path to cut the UK's carbon dioxide emissions by some 60% by about 2050, with real progress by 2020;
- To maintain the reliability of energy supplies;
- To promote competitive markets in the UK and beyond, helping to raise the rate of sustainable economic growth and to improve our productivity; and
- To ensure that every home is adequately and affordably heated.

These key indicators and 28 further supporting indicators are published in UK Energy Sector Indicators 2007. These indicators along with a full set of background indicators, can be accessed on the BERR website at: http://www.berr.gov.uk/energy/statistics/publications/indicators/page39558.html

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 2007 available from The Stationery Office at £40 but also available free of charge on the BERR energy website: http://www.berr.gov.uk/energy/statistics/publications/dukes/page39771.html

1. Low carbon – greenhouse gas and carbon dioxide emissions, 1990 to 2006



Source: Department for Environment, Food and Rural Affairs

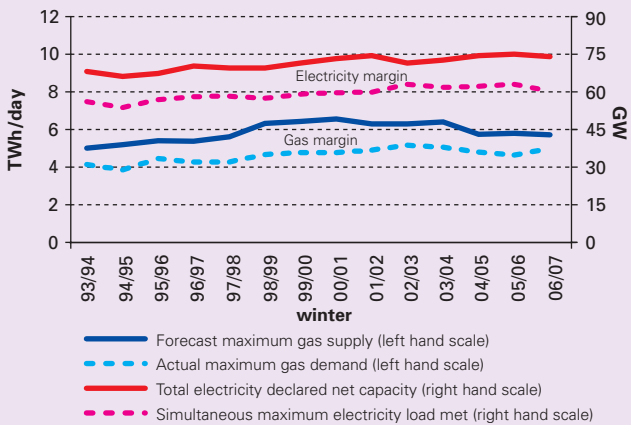
Million tonnes of carbon

	1990	1995	2000	2004	2005	2006(p)
Carbon dioxide	161.5	149.9	149.7	151.3	151.1	152.9
Methane	28.2	24.6	18.6	14.1	13.4	..
Nitrous oxide	17.3	14.4	11.9	11.0	10.8	..
HFC	3.1	4.2	2.5	2.4	2.5	..
PFC	0.4	0.1	0.1	0.1	0.1	..
SF6	0.3	0.3	0.5	0.3	0.3	..
'Basket' of greenhouse gases	**210.1**	**193.3**	**183.2**	**179.3**	**178.4**	**179.5**

Source: Department for Environment, Food and Rural Affairs; BERR (2006 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 15% between 1990 and 2006. 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. Emissions of carbon dioxide fell by 6.4% between 1990 and 2005. Estimates based on energy production and consumption in 2006 indicate that emissions rose by 1.2% during 2006, thus the total change from 1990 is a fall of 5.3%.

2. Reliability – gas and electricity capacity margins – maximum supply and maximum demand 1993/94 to 2006/07



Source: National Grid and BERR

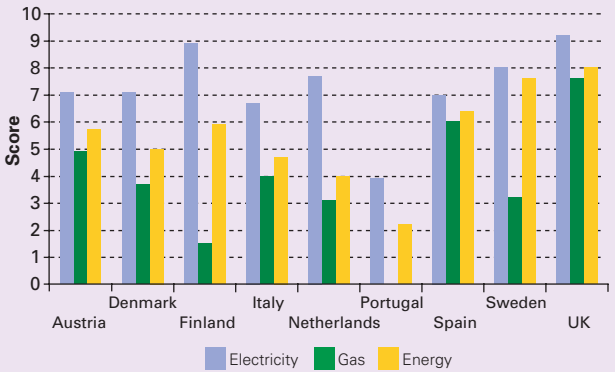
Note that the aim is not to maximise the gap between supply and demand in each case but that demand is always lower than maximum supply

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 remained for the mild winter 2006/07. One new plant began to operate in Northern Ireland in 2005/06. In Great Britain, the plant margin rose from around 20% in 2004/05 to 23% for the winter period in 2006/07.

For gas, Liquefied Natural Gas (LNG) imports and two new pipeline routes almost balanced the reduction in indigenous supply in 2006/07 and will further increase supply in 2007/08. As gas prices eased back, maximum gas demand was higher than each of the two previous years.

3. Competitiveness – overall competitiveness score for selected EU energy markets (using preliminary 2004 data)



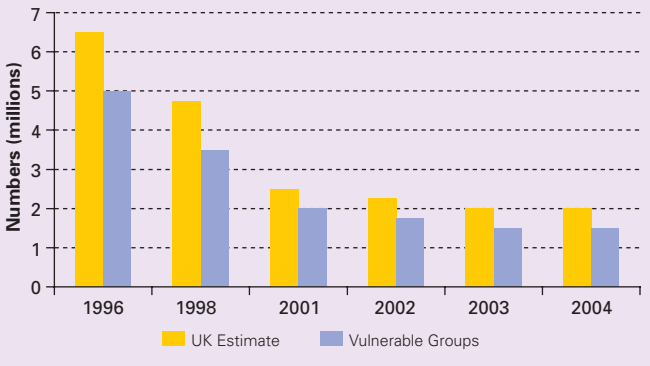
Source: Study undertaken by OXERA on behalf of BERR

The competitiveness of energy markets is measured using a methodology developed by OXERA on behalf of BERR, 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:

http://www.berr.gov.uk/energy/markets/competitiveness/page28432.html

In 2004, the UK ranks 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 three previous years.

4. Fuel poverty – number of UK households in fuel poverty[1]



Source: Various[2]

Numbers in Fuel Poverty in England[3]	Total number of households (millions)						Number of vulnerable households (millions)[4]					
	1996	1998	2001	2002	2003	2004	1996	1998	2001	2002	2003	2004
Including HB/ISMI	5.1	3.4[5]	1.7	1.4[5]	1.2	1.2	4.0	2.8[5]	1.4	1.2[5]	1.0	1.0
Excluding HB/ISMI	5.5	4.0[5]	2.3	2.0[5]	1.5	1.4	4.3	3.2[5]	1.9	1.6[5]	1.2	1.1

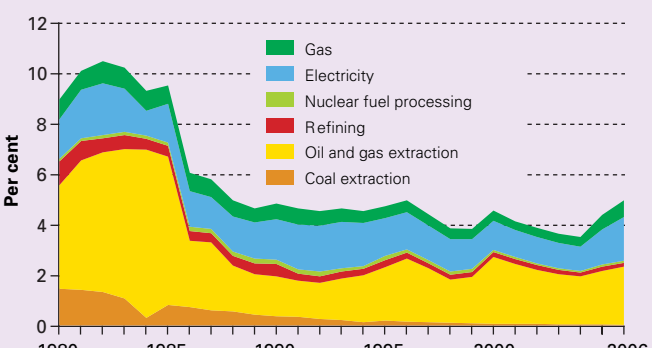
(1) The chart above shows the incidence of fuel poverty in the UK when Housing Benefit and Interest for Mortgage relief payments (HB/ISMI) are included as household income.
(2) Source: Department for Business, Enterprise and Regulatory Reform drawing on data from Communities and Local Government, Scottish Executive, National Assembly for Wales and the Department for Social Development in Northern Ireland.
(3) The table shows the incidence of fuel poverty on the two commonly used definitions of fuel poverty, when HB/ISMI are included as income and when they are excluded from income. Further details about the fuel poverty methodology are available at http://www.berr.gov.uk/files/file29694.pdf.
(4) Vulnerable households are households that contain children, elderly people, or those with disabilities or long-term illness.
(5) Based on estimated modelled data.

The number of households in fuel poverty fell between 1996 and 2004, as did the number of vulnerable fuel poor. In broad terms, it is estimated that the number of fuel poor households in the UK fell from about 6½ million in 1996 to about 2 million in 2004. The number of vulnerable fuel poor is estimated to have fallen from about 5 million to about 1½ million in the same period. Since 2003, prices have begun to rise. Analysis suggests that the total number of vulnerable households in fuel poverty is likely to rise by around one million households in England between 2004 and 2006, with a proportional rise in figures for the Devolved Administrations.

THE ENERGY INDUSTRIES' CONTRIBUTION TO THE UK ECONOMY

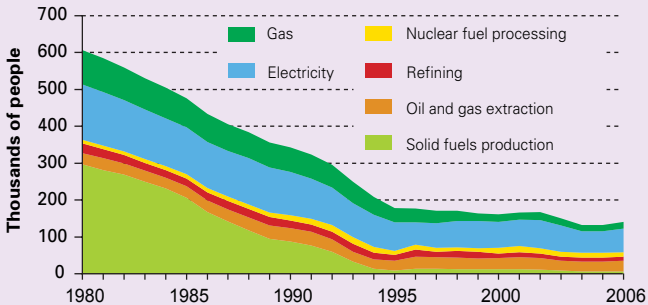
- 5.0% of GDP
- 8.0% of total investment
- 40.6% of industrial investment
- 2.4% of annual business expenditure on research and development
- 141,800 people directly employed in 2006 (5% of industrial employment) and more indirectly e.g. an estimated 290,000 in support of UK Continental Shelf production

Contribution to GDP by the energy industries, 1980 to 2006



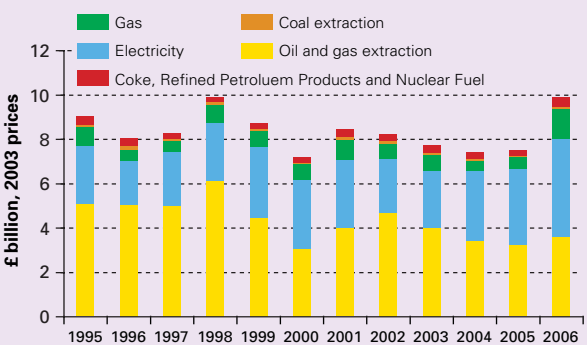
Source: Office for National Statistics

Trends in employment in the energy industries, 1980 to 2006



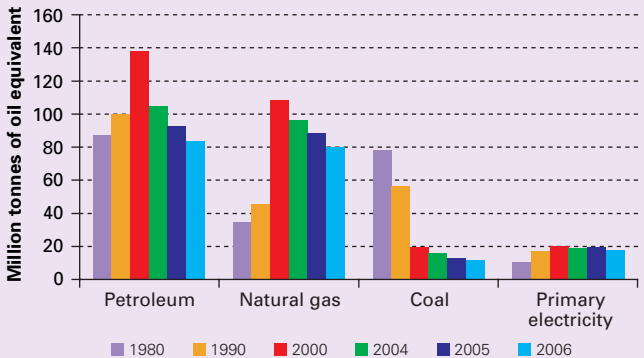
Source: Office for National Statistics

Investment in the energy industries, 1995 to 2006



Source: Office for National Statistics

Production of primary fuels, 1980 to 2006



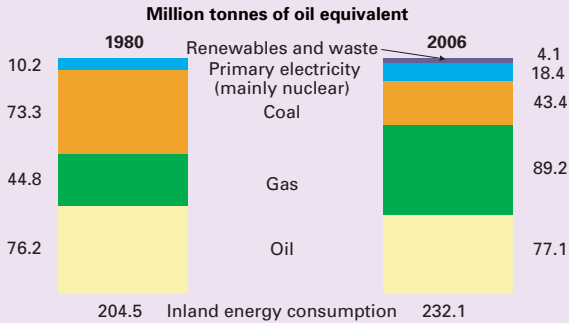
Million tonnes of oil equivalent

	1980	1990	2000	2004	2005	2006
Petroleum	86.9	100.1	138.3	104.5	92.9	84.0
Natural gas	34.8	45.5	108.4	96.4	88.2	80.0
Coal	78.5	56.4	19.6	15.6	12.7	11.4
Primary electricity	10.2	16.7	20.2	18.7	19.0	17.7
Total	**210.5**	**219.4**	**288.7**	**238.4**	**216.4**	**196.7**

Total production of primary fuels, when expressed in terms of their energy content, fell by 9.1% in 2006 compared to 2005. Petroleum accounts for 43% of total production, natural gas 41%, coal 6% and primary electricity (nuclear and natural flow hydro) 9%. Renewables and waste (not shown) account for the remaining 3.6 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 6.5% 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 2006



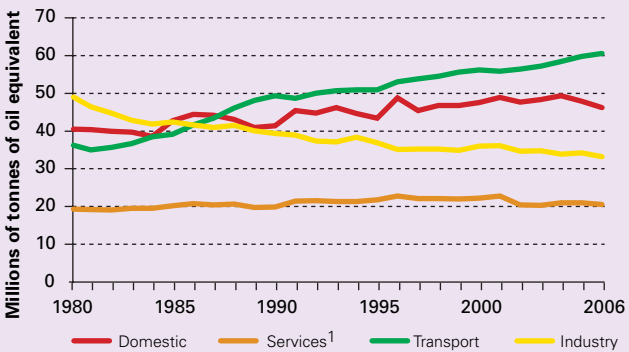
Million tonnes of oil equivalent

	1980	1990	2000	2004	2005	2006
Conversion losses	62.1	66.4	53.8	53.4	54.2	55.2
Distribution losses and energy industry use			20.7	20.1	20.4	19.1
Final consumption						
Industry	48.3	38.7	35.4	33.2	33.6	32.6
Domestic sector	39.8	40.8	46.9	48.6	47.2	45.6
Transport	35.5	48.6	55.5	57.8	59.1	59.8
Services [1]	18.7	19.2	21.5	20.3	20.3	19.9
Total final energy consumption	**142.4**	**147.3**	**159.2**	**159.8**	**160.1**	**157.8**
Total inland primary energy Consumption [2]	**204.5**	**213.6**	**233.7**	**233.5**	**234.9**	**232.1**
Temperature corrected Total	*206.2*	*221.6*	*238.7*	*237.7*	*236.0*	234.1

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

Primary energy consumption was 1.2% lower in 2006 than 2005. 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 32% of inland energy consumption in 2006.

Final energy consumption, 1980 to 2006



2006 — **Million tonnes of oil equivalent**

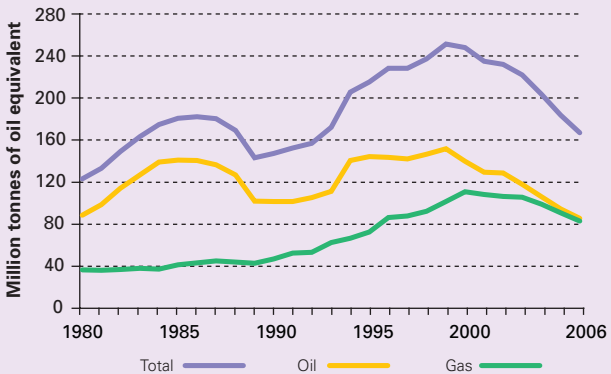
	Industry	Domestic	Transport	Services[1]	Total
Coal & manufactured fuels	1.9	0.6	-	0.0	2.6
Gas	12.4	31.3	-	9.0	52.8
Oil	7.2	3.3	59.0	1.5	71.0
Electricity	10.0	10.0	0.7	8.7	29.5
Renewables and heat	1.0	0.3	-	0.6	1.9
Total	**32.6**	**45.6**	**59.8**	**19.9**	**157.8**

(1) Includes agriculture

Final energy consumption (excluding non-energy use) was 1.4% lower in 2006 than in 2005. Since 1980 energy consumption by individual sectors has changed substantially: there have been rises of 68% for transport, 14% for the domestic sector and 6% for the service sector, whilst consumption by industry has fallen by 33%.

OIL AND GAS PRODUCTION

UK Continental Shelf production, 1980 to 2006



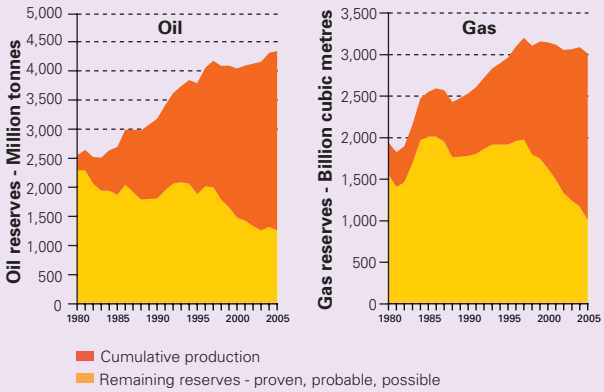
Million tonnes of oil equivalent

	1980	1990	2000	2004	2005	2006
Oil	86.9	100.1	138.3	104.5	92.9	84.0
Gas	34.8	45.5	109.3	97.5	89.2	81.6
Total	**121.7**	**145.6**	**247.6**	**202.1**	**182.1**	**165.6**

Oil production in 2006 was 44% lower than the record level seen in 1999 and 10% lower than in 2005. Two new fields started production in 2006, but production from these fields was insufficient to make up the general decline in production from older established fields. Gas production in 2006 was 9% lower than in 2005 and 25% lower than the record level seen in 2000. As with oil, UK gas production is also declining as UK Continental Shelf reserves deplete.

OIL AND GAS PRODUCTION

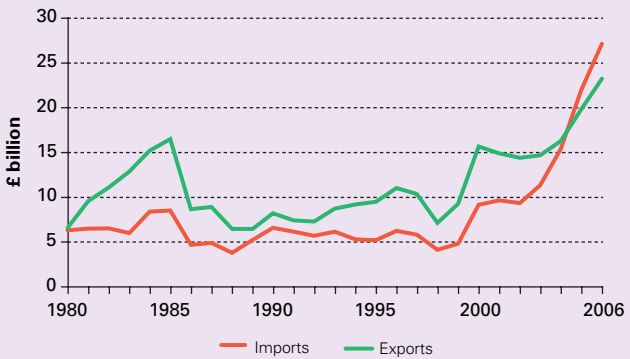
Remaining oil and gas reserves



	1980	1990	2000	2003	2004	2005
Oil						**Million tonnes**
Cumulative production	263	1,374	2,570	2,910	3,005	3,090
Estimate of remaining reserves in present discoveries	2,300	1,815	1,490	1,267	1,328	1,267
Total reserves in present discoveries	**2,565**	**3,190**	**4,060**	**4,177**	**4,333**	**4,357**
Gas						**Billion cubic meters**
Cumulative production	382	752	1,518	1,828	1,921	2,007
Estimate of remaining reserves in present discoveries	1,560	1,785	1,630	1,241	1,169	1,006
Total reserves in present discoveries	**1,940**	**2,535**	**3,150**	**3,070**	**3,090**	**3,013**

In earlier years estimates of remaining reserves in present discoveries stayed at broadly similar levels despite the large increase in oil and gas extracted. This was due to newfound discoveries and new technology allowing exploitation of discoveries being made and new technology allowing exploitation of discoveries that were previously regarded as not viable.

Foreign trade in crude oil and petroleum products, 1980 to 2006



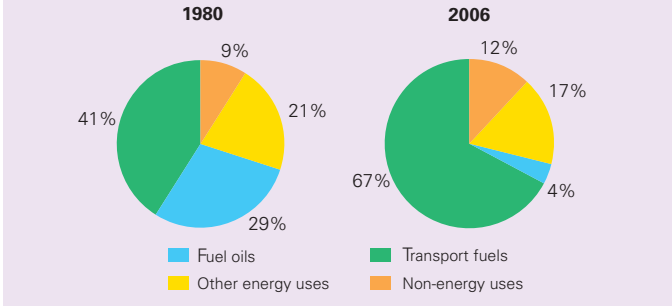
Crude oil and petroleum products **£ billion**

	1980	1990	2000	2004	2005	2006
Exports	6.5	8.1	15.6	16.2	19.8	23.2
Imports	6.2	6.4	9.0	15.3	22.0	27.1
Net exports	**0.3**	**1.6**	**6.5**	**0.9**	**-2.2**	**-3.9**

Source: Office for National Statistics

Since the first 'surplus' on oil trade (£0.3 billion) in 1980, oil trade has contributed £98 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 has become a net importer of oil (-£2.2 billion). In 2006 the deficit increased (£3.9 billion).

Demand by product, 1980 to 2006



Million tonnes

	1980	1990	2000	2004	2005	2006
Energy uses[1]						
Petrol	19.2	24.3	21.4	19.5	18.7	18.1
DERV fuel	5.9	10.7	15.6	18.5	19.4	20.1
Aviation turbine fuel	4.7	6.6	10.8	11.6	12.5	12.6
Burning oil	2.1	2.1	3.8	4.0	3.9	4.0
Gas oil	11.6	8.0	6.8	6.0	6.8	6.3
Fuel oil	22.7	14.0	3.3	3.7	3.5	3.1
Other	4.3	4.9	5.3	5.2	5.5	5.6
Total energy uses	**70.5**	**70.6**	**67.1**	**68.7**	**70.3**	**70.0**
Of which:						
Transport fuels	31.9	43.5	49.5	51.5	52.8	53.5
Non-energy uses	**7.0**	**9.2**	**10.1**	**10.6**	**10.7**	**10.0**
Total deliveries	**77.5**	**79.8**	**77.2**	**79.3**	**81.0**	**80.0**

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

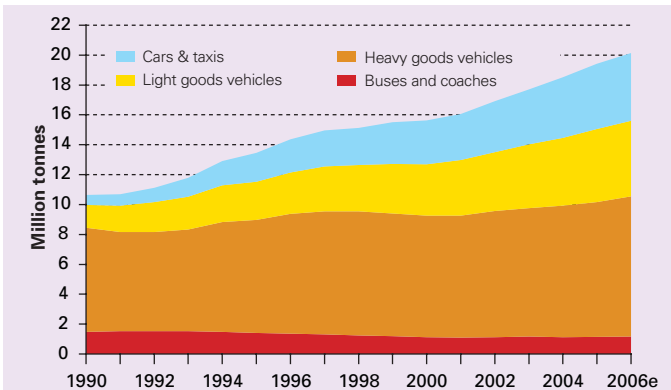
In 2006 transport fuels increased their share of overall oil demand with increases in consumption for air and road transport. Deliveries of motor spirit decreased but were offset by an increase in DERV fuel. The move to natural gas by electricity generators and industry as the preferred energy source explains the fall in demand for fuel oil. There has been a decrease in Non-energy use since 2005 and the level is now similar to that in 2000.

Demand for road fuels, 1990 to 2006

Petrol Demand — Thousand tonnes

	1990	1995	2000	2004	2005	2006
Total	24,310	21,950	21,403	19,484	18,731	18,144

DERV fuel



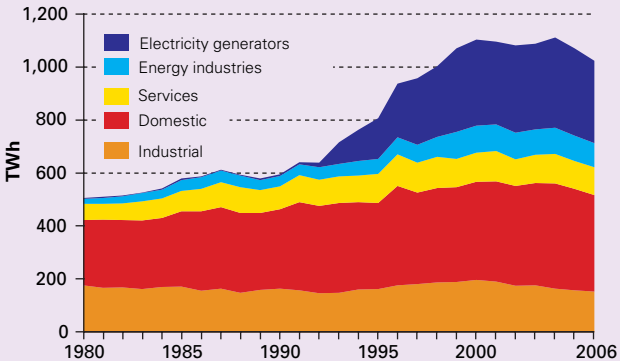
DERV fuel demand — Thousand tonnes

	1990	1995	2000	2004	2005	2006
Cars & taxis	660	1,913	2,922	4,047	4,380	4,542 estimated
Light goods vehicles	1,542	2,559	3,448	4,526	4,874	5,055 estimated
Heavy goods vehicles	6,956	7,567	8,142	8,820	9,036	9,371 estimated
Buses & coaches	1,485	1,409	1,110	1,112	1,136	1,178 estimated
Total	**10,643**	**13,447**	**15,622**	**18,504**	**19,426**	**20,146**

UK motor spirit consumption peaked in 1990 and has gradually declined ever since.

The breakdown in use of DERV fuel given above is based upon modelled fuel consumption produced by AEA Energy and Environment when deriving the UK emissions inventory. Figures for 2006 have been estimated using the 2005 ratios. Since 1990, demand for DERV fuel has increased largely for use in cars supplanting petrol (see p18).

Natural gas consumption, 1980 to 2006

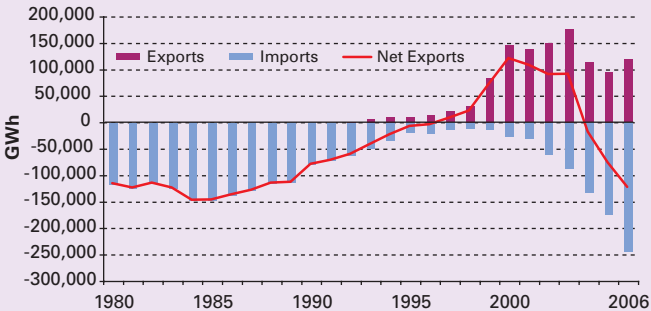


TWh

	1980	1990	2000	2004	2005	2006
Electricity generators	4.0	6.5	324.6	340.2	328.5	309.8
Energy Industries	19.1	39.2	102.1	98.7	95.7	91.7
Industry	177.5	164.6	198.5	165.4	159.3	153.9
Domestic	246.8	300.4	369.9	396.4	384.0	364.6
Services	60.4	86.4	110.5	113.5	107.9	105.2
Total	**507.8**	**597.0**	**1,105.5**	**1,132.3**	**1,102.4**	**1,046.3**

In the early 1970s, following the advent of natural gas, gas consumption grew rapidly. Industrial consumption peaked in 2000 and has fallen since then by around 22%. There was steady growth in all other sectors until around 2004. Since then consumption has declined, mostly as a result of higher prices and also to a lesser extent, as a result of warmer than average temperatures.

UK trade in natural gas, 1980 to 2006

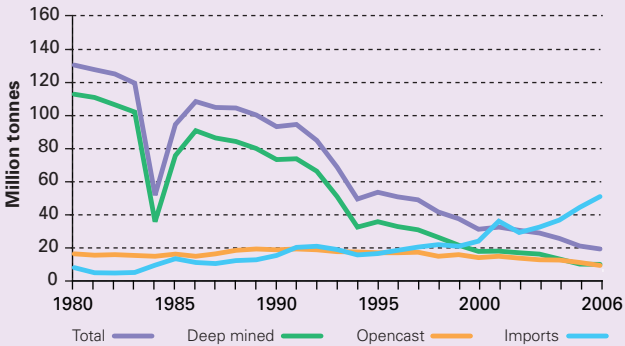


GWh

	1980	1990	2000	2004	2005	2006
Natural gas production	404,800	528,843	1,260,656	1,121,257	1,025,989	930,549
Imports	116,291	79,833	26,032	133,035	173,328	244,029
Exports	-	-	146,342	114,112	96,181	120,591
Net imports (-) or exports (+)	-116,291	-79,833	+120,310	-18,923	-77,147	-123,438

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 to peak 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. This trend continued in 2005 with exports falling by 16 per cent compared to 2004 and imports increasing by 30 per cent. In 2006 imports rose by a further 41 per cent and outstripped a rise in exports.

Coal production and imports, 1980 to 2006

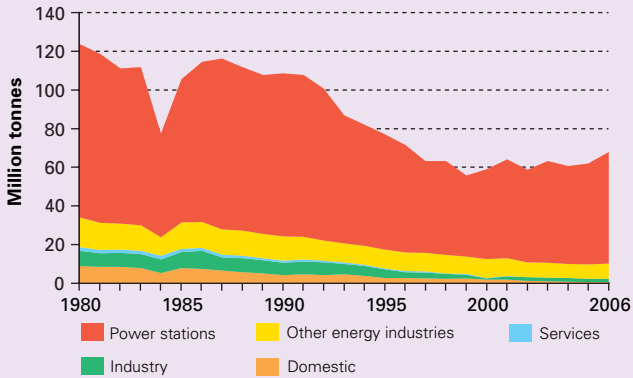


Million tonnes

	1980	1990	2000	2004	2005	2006
Deep mined	112.4	72.9	17.2	12.5	9.6	9.4
Opencast	15.8	18.1	13.4	12.0	10.4	8.6
Total (including slurry)	**130.1**	**92.8**	**31.2**	**25.1**	**20.5**	**18.5**
Coal imports	7.3	14.8	23.4	36.2	44.0	50.5

Coal production was 9% lower in 2006 than in 2005; deep mined production fell by 1½%, while opencast production fell by 17½%. 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 per cent 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.

Coal consumption, 1980 to 2006

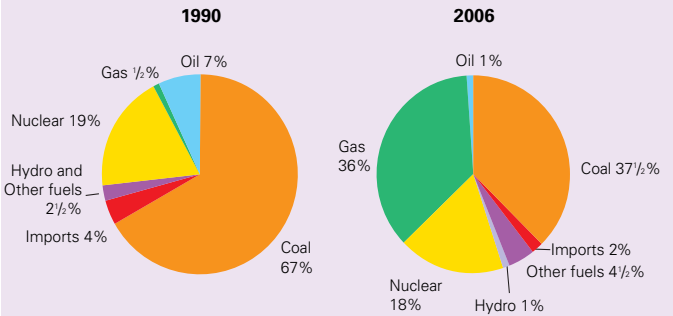


Million tonnes

	1980	1990	2000	2004	2005	2006
Power stations	89.6	84.0	46.2	50.4	52.1	57.3
Domestic	8.9	4.2	1.9	0.9	0.6	0.5
Industry	7.9	6.3	0.7	1.8	1.8	1.7
Services	1.8	1.2	0.1	<0.1	<0.1	<0.1
Other energy industries	15.3	12.5	10.0	7.2	7.3	7.8
Total consumption	**123.5**	**108.3**	**58.9**	**60.5**	**61.9**	**67.4**

The proportion of coal consumed by power stations has increased steadily since the 1970s, reaching a level of around 85% in 2006. The decline in coal consumption at power stations has reversed in recent years and has climbed back to 57½ million tonnes in 2006. Coal consumption as a whole declined sharply during the 1990s, at an average annual rate of 7% compared with just a 2% annual decline over the previous 20 years. In the last 6 years, coal consumption has grown by over 2¼% per year on average. Last year coal use grew by 9%, driven largely by coal demand in power stations, as high gas prices made coal fired generation more competitive, notwithstanding the EU Emissions Trading Scheme.

Electricity supplied by fuel type, 1980 to 2006

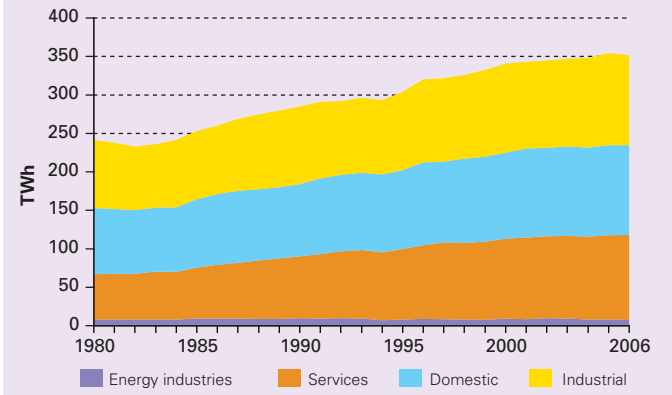


TWh

	1980	1990	2000	2004	2005	2006
Coal	190.0	208.0	114.7	125.7	128.6	142.7
Oil	33.9	21.1	5.9	4.0	4.4	4.3
Gas	1.6	1.6	145.0	153.7	149.3	138.3
Nuclear	32.3	58.7	78.3	73.7	75.2	69.2
Hydro	7.3	7.9	4.2	4.0	4.0	3.4
Other fuels	-	-	9.2	12.3	15.5	17.0
Net Imports	-	11.9	14.2	7.5	8.3	7.5
Total electricity available for supply	**265.1**	**309.4**	**371.5**	**380.9**	**385.3**	**382.4**

The mix of fuels used to generate electricity continues to evolve. Since 1990, the use of coal, oil, and hydro in electricity generation has fallen, while gas, nuclear and renewables other than hydro have risen. Gas has risen most markedly over this period from 1.6 to 153.7 TWh before falling back to 138.3 TWh. Net import levels averaged over 16 TWh in the mid 1990s but are now less than half that level. Since 2000 coal has been called upon to make up for reduced availability of nuclear stations and as a substitute for high priced gas. This trend was more pronounced in 2006 with gas use down by 7½% and coal use up by 12%, making coal once again the dominant fuel for electricity generation. Electricity supplied fell by almost 1% in 2006, the first such fall since 1997.

Electricity consumption, 1980 to 2006



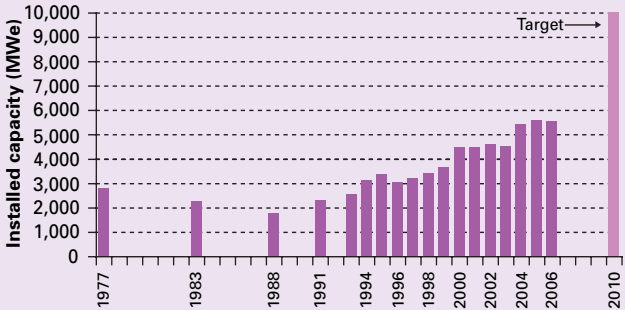
TWh

	1980	1990	2000	2004	2005	2006
Industrial	88.6	100.6	115.3	116.5	119.2	117.0
Domestic	86.1	93.8	111.8	115.5	116.8	116.5
Services	58.4	80.0	103.5	107.6	109.5	110.0
Energy industries	8.5	10.0	9.7	8.1	8.3	7.9
Total	**241.6**	**284.4**	**340.3**	**347.7**	**353.8**	**351.4**

In the 5 years to 2005 electricity consumption in the domestic and services sectors grew in total by 4½% and 6% respectively. However, in 2006 mild winter weather and high electricity prices resulted in domestic consumption recording a ½% fall and services just a ½% rise. Industrial consumption varies with business activity: 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. However, in 2006 industrial consumption fell back by 2%.

COMBINED HEAT AND POWER

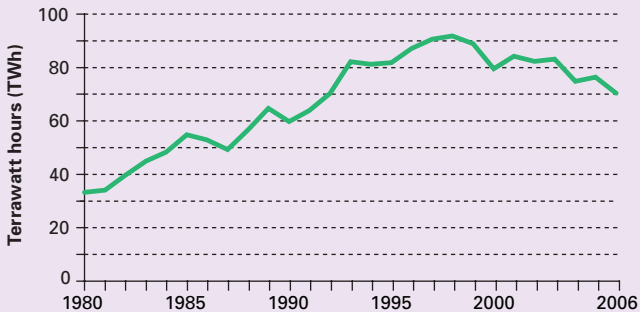
Combined heat and power, 1977 – 2006



	1995	2000	2004	2005	2006
CHP electrical capacity (MWe)	3,355	4,476	5,427	5,571	5,549
CHP electrical generation (GWh)	14,778	25,339	26,391	28,938	27,973
CHP heat generation (GWh)	56,833	55,201	56,829	56,839	53,631
Number of CHP sites					
Less than 100 kWe	619	662	588	578	581
100 kWe to 999 kWe	398	580	650	694	691
1 MWe to 9.9 MWe	139	186	188	195	192
10 MWe and greater	68	70	73	75	75
Total	**1,224**	**1,498**	**1,499**	**1,542**	**1,539**

Electrical capacity fell by ½% in 2006 and generation of electricity fell by 3%. Thirty eight per cent 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 over 83% of the total CHP installed electrical capacity. In 2006, 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 CHP electrical capacity by 2010, as part of its Climate Change Programme.

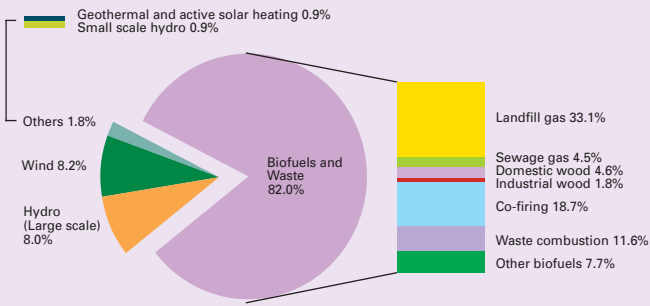
Gross electricity supplied by nuclear generation, 1980 to 2006



	1990	2000	2004	2005	2006
Electricity supplied (gross) (TWh)	59	78	74	75	69
% of electricity generation in the UK	21	22	19	19	17

During 2005 nuclear generators increased their output from the low levels of 2004 caused by unplanned outages due to emergency maintenance and safety concerns and electricity output was up by 2%, but in 2006 further unplanned outages saw electricity supplied from nuclear fall to its lowest level since 1992. It represented just over a sixth of the total volume of electricity generated in the UK in 2006.

Renewable energy sources, 2006



Total renewables used= 4.43 million tonnes of oil equivalent

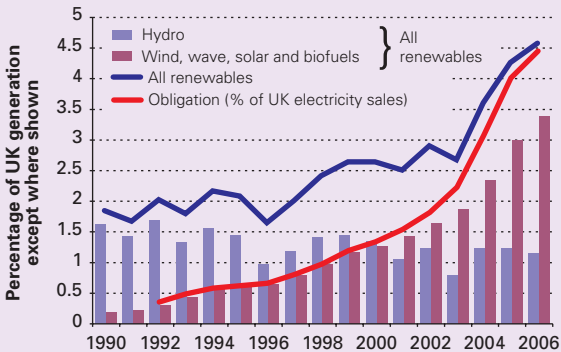
Total use of renewables — **Thousand tonnes of oil equivalent**

	1990	2000	2004	2005	2006
Geothermal and active solar heating	7.2	12.0	25.7	30.9	37.8
Wind and wave	0.8	81.3	166.4	249.7	363.3
Hydro (small and large-scale)	447.7	437.3	416.5	423.2	395.9
Landfill gas	79.8	731.2	1,326.7	1,420.8	1,464.7
Sewage gas	138.2	168.7	176.6	179.1	200.3
Wood (domestic and industrial)	174.1	425.0	399.8	285.1	285.1
Waste combustion	100.8	374.8	463.2	460.0	512.7
Other biofuels	71.9	265.0	710.1	1,191.3	1,170.4
Total	**1,020.5**	**2,495.2**	**3,685.1**	**4,240.0**	**4,430.1**

In 2006, biofuels accounted for 82% of renewable energy sources used with most of the remainder coming from large-scale hydro and wind generation. For the first time wind (with an 8% share) accounted for as much as hydro in primary input terms.

Of the 4.43 million tonnes of oil equivalent of primary energy use accounted for by renewables, 3.94 million tonnes was used to generate electricity and 0.44 million tonnes to generate heat. Renewable energy use grew by 4½% in 2006 and is now well over four times the level it was at in 1990.

Growth in electricity generation from renewable sources since 1990



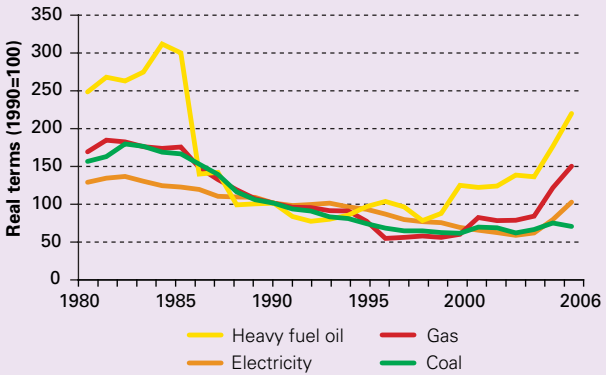
Percentage of UK generation except where shown

	1990	2000	2004	2005	2006
Wind, wave, solar and biofuels	0.19	1.27	2.35	3.00	3.40
Hydro	1.63	1.35	1.23	1.23	1.15
Total Renewables	**1.82**	**2.62**	**3.58**	**4.23**	**4.55**
Obligation (% of UK electricity sales)	-	1.32	3.06	3.99	4.43

Renewables accounted for 4.6% of electricity generated in the UK in 2006, up from 4.2% in 2005. Decreased water flow from low rainfall was the cause of the lower hydro levels in 2006, but this was more than matched by continuing growth in wind and biofuels.

Renewables accounted for 4.4% of UK electricity sales on a Renewables Obligation basis, up from 4.0% in 2005.

Fuel price indices for the industrial sector, 1980 to 2006



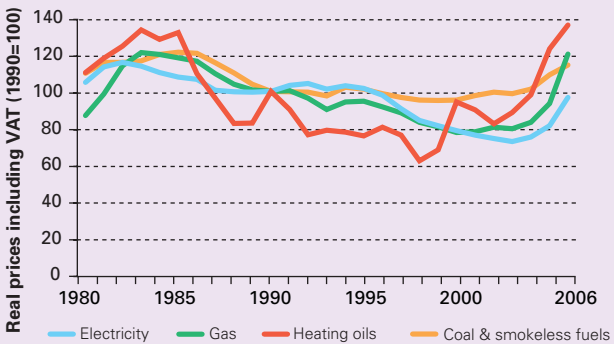
Real prices, 1990 = 100

	1980	1990	2000	2004[1]	2005[1]	2006[1]
Electricity	127.7	100	68.2	61.0	78.3	101.7
Gas	167.8	100	59.0	82.8	120.3	149.0
Heavy fuel oil	246.8	100	123.4	134.7	175.2	218.1
Coal	155.3	100	60.5	65.3	73.9	69.3
Industrial prices	**175.4**	**100**	**77.3**	**82.6**	**109.8**	**138.4**

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

Industrial electricity prices increased in 2006 by 30% in real terms, and were 19% higher than 10 years earlier in 1996. Despite the increase in 2006, average industrial electricity prices continue to be lower in real terms than when records began in 1970. Gas prices increased by 24% in 2006, and were 177% higher than in 1996. Heavy fuel oil prices increased by 24% in the year to 2006, and were 113% higher than in 1996.

Fuel price indices for the domestic sector, 1980 to 2006



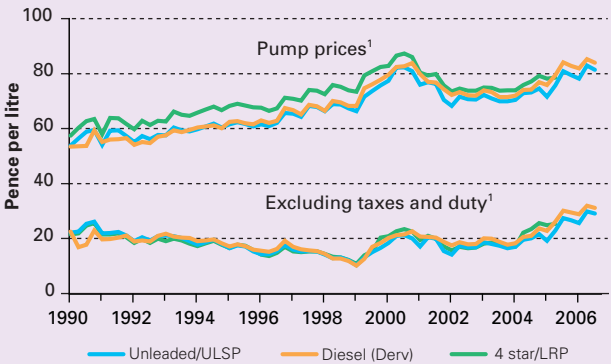
Real prices including VAT 1990 = 100

	1980	1990	2000	2004	2005	2006
Coal and smokeless fuels.	109.9	100	95.3	101.3	109.1	114.5
Gas	86.9	100	77.7	83.2	93.5	120.3
Electricity	104.9	100	78.6	75.2	81.4	96.7
Heating oils	110.3	100	94.3	98.1	123.2	136.1
Domestic prices (fuel & light)	**99.6**	**100**	**79.6**	**81.0**	**90.0**	**109.6**

Source: Retail Price Index, Office for National Statistics

Total domestic energy prices in 2006 increased in real terms by 22%. Within the overall movement, heating oils increased by 11%, electricity prices increased by 19%, and the price of coal and smokeless fuels increased by 5%. The largest increase over the period was for gas, with an increase of 29%. Over the last ten years, between 1996 and 2006, real prices have fallen by 1% for electricity, whilst the real price of coal and smokeless fuels has increased by 16%, the real price of gas has increased by 31%, and the price of heating oils has increased by 69% in real terms.

Petrol and diesel prices, 1990 to 2006



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

Current retail prices **Pence/litre**

	4 star/LRP	Unleaded	Diesel
1980	28.32	..	29.67
1985	43.14	..	41.94
1990	44.87	42.03	40.48
1995	59.70	53.77	54.24
2000	84.89	79.93	81.34
2001	79.71	75.72	77.84
2002	77.03	73.24	75.46
2003	79.94	76.04	77.92
2004	84.42	80.22	81.91
2005	*	86.75	90.86
2006	*	91.32	95.21

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

The real terms price of Ultra Low Sulphur Petrol (ULSP) increased by 3% during 2005/06, whilst the price of diesel increased by 2%. In cash terms, a litre of ULSP cost 4.6 pence more in 2006 than a year earlier, whilst diesel increased by 4.4 pence per litre.

Fuel expenditure of households[1], 2005/06

Expenditure (£ per week)	Income Decile: Lowest	Third	Fifth	Eighth	Highest	All households
Gas	3.9	5.6	5.9	6.8	8.9	6.2
Electricity	4.5	6.1	6.3	7.5	9.6	6.7
Other Fuels	0.5	0.7	1.0	1.2	1.9	1.0
Total fuel expenditure	8.9	12.3	13.2	15.5	20.4	13.9
Total expenditure	**153.6**	**264.5**	**356.7**	**548.1**	**989.7**	**443.4**
Percentage of total expenditure						
Gas	2.5	2.1	1.7	1.2	0.9	1.4
Electricity	2.9	2.3	1.8	1.3	1.0	1.5
Other Fuels	0.3	0.3	0.3	0.2	0.2	0.2
Total fuel expenditure	**5.8**	**4.7**	**3.7**	**2.7**	**2.1**	**3.1**

Source: Expenditure and Food Survey, Office for National Statistics

Fuel purchases as a percentage of total household expenditure

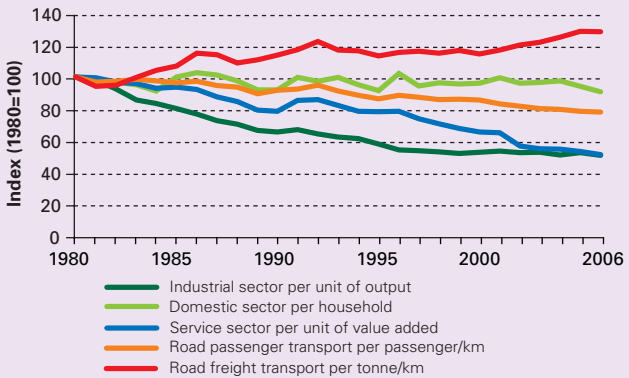
	1980	1990	2000/01	2003/04	2004/05	2005/06
Gas	1.6	1.7	1.2	1.3	1.3	1.4
Electricity	2.7	2.3	1.6	1.4	1.4	1.5
Coal and Coke	0.9	0.3	0.3	0.2	0.2	0.2
Heating oil	0.4	0.2				
Total	**5.6**	**4.5**	**3.1**	**2.9**	**2.9**	**3.1**

Source: Expenditure and Food Survey (formerly Family Expenditure Survey), Office for National Statistics

(1) includes non-consuming households

A household in the highest income decile (i.e. the 10% of households with the highest income) spent more than twice as much on fuel in 2005/06 as a household in the lowest decile (with similar ratios for all fuels). However, as total expenditure for the highest decile is over six times more than for the lowest, fuel expenditure counts for a far higher proportion of total expenditure for households on lower incomes. The percentage of expenditure on fuel for low-income households is almost double that of the average household and nearly three times as large compared to the highest earners. There has been a slight rise in the total percentage amount spent on fuel between 2004/05 and 2005/06.

Energy efficiency, 1980 to 2006



Tonnes of oil equivalent

	1980	1990	2000	2004	2005	2006
Industrial energy consumption per million units of GVA	362.8	236.4	189.7	183.4	189.0	183.2
Domestic energy consumption per household	2.0	1.8	1.9	1.9	1.8	1.8
Service sector energy consumption per million units of GVA	83.2	65.1	54.3	45.3	43.9	42.3
Road passenger energy consumption per million passenger-kilometres	45.7	41.8	39.0	36.3	35.8	35.5
Road freight energy consumption per million freight-kilometres	76.4	86.9	87.5	95.5	98.3	98.1

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 fall in energy intensity over the last thirty years has occurred in the industrial sector and is mainly due to structural change. The largest increase has occurred in the road freight transport sector where the move towards heavier vehicles has resulted in higher levels of energy consumption, although the trend has been relatively stable over the last decade.

CONTACTS

Topic	Contact	Telephone (020 7215)	e-mail
General enquires about energy statistics	Clive Sarjantson	2698	Clive.Sarjantson@berr.gsi.gov.uk
Total energy statistics Temperatures Foreign Trade	Chris Michaels	2710	Chris.Michaels@berr.gsi.gov.uk
Coal and other solid fuels Natural gas consumption	Sally Mercer	2717	Sally.Mercer@berr.gsi.gov.uk
Natural gas production Petroleum production	Clive Evans	5189	Clive.Evans@berr.gsi.gov.uk
Petroleum consumption and stocks	Lisa Vine	6072	Lisa.Vine@berr.gsi.gov.uk
Gas and petroleum exploration drilling Gas and petroleum investment Indicative tariffs	Suhail Siddiqui	5262	Suhail.Siddiqui@berr.gsi.gov.uk
Electricity statistics	Joe Ewins	5190	Joe.Ewins@berr.gsi.gov.uk
Renewables and CHP	Mike Janes	5186	Mike.Janes@berr.gsi.gov.uk
Energy prices (industrial, international & oil prices)	Jo Marvin	6935	Jo.Marvin@berr.gsi.gov.uk
Energy prices (domestic)	Mary Gregory	6532	Mary.Gregory@berr.gsi.gov.uk
Fuel poverty	Peter Matejic	6520	Peter.Matejic@berr.gsi.gov.uk
Emissions of greenhouse gases Energy efficiency	Julian Prime	6178	Julian.Prime@berr.gsi.gov.uk
All of the above can be contacted by fax on 020 7215 2723			
In addition, there is a Textphone number, which the deaf and hard of hearing can use to contact BERR: 020 7215 6740			

CONVERSION 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**
		multiply 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 for Business, Enterprise and Regulatory Reform is the source of all data except where stated. All figures are for the United Kingdom, except for page 9.

The Department for Business, Enterprise and Regulatory Reform also produces the following energy publications:

The Digest of United Kingdom Energy Statistics 2007 is the annual energy statistics publication of BERR. 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 2007 edition was published by The Stationery Office on 26 July 2007 and costs £40. It can also be accessed via BERR's energy website: http://www.berr.gov.uk/energy/statistics/publications/dukes/page39771.html.

UK Energy Sector Indicators 2007 was published on 23 May 2007. The content is designed to show the extent to which secure, diverse and sustainable supplies of energy to UK businesses and consumers, at competitive prices, are ensured. The 4 key indicators and 28 further supporting indicators along with a full set of background indicators (charts and tables) are available on the BERR website at: http://www.berr.gov.uk/energy/statistics/publications/indicators/page39558.html

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 (see below) from BERR, priced at £40 for UK subscribers, or it can be accessed via BERR's energy website:
http://www.berr.gov.uk/energy/statistics/publications/prices/index.html.

A subscription form can be downloaded from this page. Single copies are available from BERR Publications Orderline 0845 015 0010 priced £8.

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, and complements the annual Digest of United Kingdom Energy Statistics publication. Subscriptions run alongside Quarterly Energy Prices (see above), or material can be accessed via BERR's website:
http://www.berr.gov.uk/energy/statistics/publications/trends/index.html.
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Monthly updates to tables in Energy Trends are split by fuel source and can be found at: http://www.berr.gov.uk/energy/statistics/source/index.html.

REFERENCES

The Government's **Energy White Paper, 'Meeting the Energy Challenge'** was published by the Secretary of State for Trade and Industry on 23 May 2007. The White Paper sets out the Government's international and domestic energy strategy, and shows how the Government are implementing the measures set out in the Energy Review Report in 2006, as well as those announced since, including in the Pre-Budget Report in 2006 and the Budget in 2007. The White Paper is available on the BERR website at: http://www.berr.gov.uk/energy/whitepaper/page39534.html and in hard copy from The Stationery Office.

UK Energy and CO2 emissions projection: updated projections to 2020
This report provides key information on updated energy and emission projections. The latest projections have been updated for the Energy White Paper, and show the impact of the Energy White Paper measures and the EU ETS on energy demand, energy mix and carbon emissions between now and 2020. The report is to be found at: http://www.berr.gov.uk/files/file39580.pdf Previous projections are available at: http://www.berr.gov.uk/files/file26363.pdf

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 booklet describes the key trends in energy consumption in the UK since 1970 with a particular focus on trends since 1990. 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 via BERR's website:
http://www.berr.gov.uk/energy/statistics/publications/ecuk/page17658.html

Publication of **Development of UK Oil and Gas Resources** ended with the 2001 edition. Up-to-date information on the UK offshore industry is available via BERR's Oil and Gas website: http://www.og.berr.gov.uk

The UK Fuel Poverty Strategy, 4th Annual Progress Report 2006 is produced by Defra and the Department for Business, Enterprise and Regulatory Reform in association with the Devolved Administrations. This report sets out the progress that has been made on tackling fuel poverty and is available to view at http://www.berr.gov.uk/files/file29688.pdf

It is accompanied by detailed annexes published on the BERR website at:
http://www.berr.gov.uk/energy/fuel-poverty/strategy/index.html

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