



Department  
of Energy &  
Climate Change



A National Statistics Publication



# UK ENERGY IN BRIEF 2015

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# UK ENERGY IN BRIEF 2015

This booklet summarises the latest statistics on energy production, consumption, prices and climate change in the United Kingdom. Figures are primarily taken from the 2015 edition of the “Digest of UK Energy Statistics”, published on 30 July 2015. Details of the Digest and other Department of Energy and Climate Change (DECC) statistical publications can be found on pages 43 and 44 of this booklet and are available on the Internet at:

[www.gov.uk/government/organisations/department-of-energy-climate-change/about/statistics](http://www.gov.uk/government/organisations/department-of-energy-climate-change/about/statistics)



## **This is a National Statistics publication**

The United Kingdom Statistics Authority has designated these statistics as National Statistics, in accordance with the Statistics and Registration Service Act 2007 and signifying compliance with the UK Statistics Authority: Code of Practice for Official Statistics.

Designation can be broadly interpreted to mean that the statistics:

- meet identified user needs
- are well explained and readily accessible
- are produced according to sound methods, and
- are managed impartially and objectively in the public interest

Once statistics have been designated as National Statistics it is a statutory requirement that the Code of Practice shall continue to be observed.

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# Introduction to the charts and tables

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UK Energy in Brief aims to provide a summary of some of the key developments in the UK energy system: how energy is produced and used and the way in which energy use influences greenhouse gas emissions. It takes data from the main Department of Energy and Climate Change (DECC) statistical publications, the Digest of UK Energy Statistics, Energy Trends, Energy Prices, Energy Consumption in the UK, the annual Fuel Poverty statistics report and statistical releases on emissions, and combines these with data produced by the Office for National Statistics and other Government Departments.

The booklet contains separate sections on the economics of the energy industry, overall energy production and consumption and trends in production and consumption of the major fuel sources, climate change and fuel poverty. Also discussed are developments in combined heat and power, renewable energy and feed in tariffs. Information is also given on energy efficiency, energy prices and energy expenditure.

The detailed background data on energy production and consumption can be found in the Digest of UK Energy Statistics 2015 available from The Stationery Office, priced £75, but also available free of charge on the Internet at:

[www.gov.uk/government/collections/digest-of-uk-energy-statistics-dukes](http://www.gov.uk/government/collections/digest-of-uk-energy-statistics-dukes)

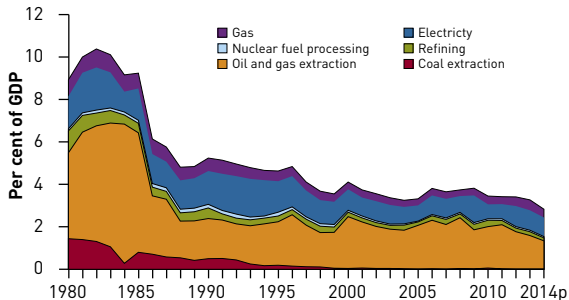
Other statistical outputs produced by DECC and drawn on in this publication are listed on pages 43 and 44.

# Energy in the economy

## The energy industries' contribution to the UK economy in 2014

- 2.8% of GDP
- 13.0% of total investment (at current prices) in 2014
- 37.1% of industrial investment (at current prices) in 2014
- 2.2% of annual business expenditure on research and development in 2013
- 162,000 people directly employed in 2014 (5.9% of industrial employment) and more indirectly e.g. an estimated 207,000 in support of UK Continental Shelf production.

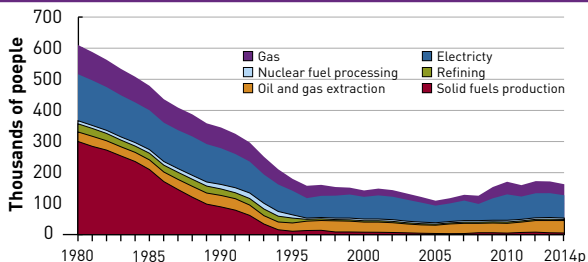
## Contribution to GDP by the energy industries, 1980 to 2014



Source: Office for National Statistics

The contribution to the UK economy by the energy industries peaked in 1982 at 10.4%. Despite its significant fall in 1986, oil and gas extraction continue to remain the major energy contributor to the UK economy (with its value dependent both on production and the price of oil and gas) followed by the electricity sector. For 2014, the contribution by the energy industries to the UK economy was 2.8% of GDP (0.4 percentage points lower than in the previous year and the lowest level to date) with oil and gas extraction accounting for 39%, electricity (including renewables) 32% and gas 14% of the energy total.

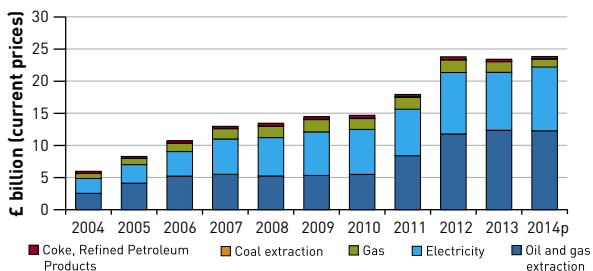
## Trends in employment in the energy industries, 1980 to 2014



Source: Office for National Statistics (Data from 1996 onwards based on SIC 2007 classifications)

Employment in the energy production and supply industries fell rapidly throughout the 1980s and mid-1990s largely as a result of closures of coal mines. Between 1995 and mid-2000s employment declined more slowly, but since 2005, it has increased gradually, driven by growth in the electricity sector. However in 2014, employment in the energy industries fell by 5.3 per cent to 162,000 (though this was 49 per cent above the 2005 level) and accounted for 5.9% of all industrial employment.

## Investment in the energy industries, 2004 to 2014

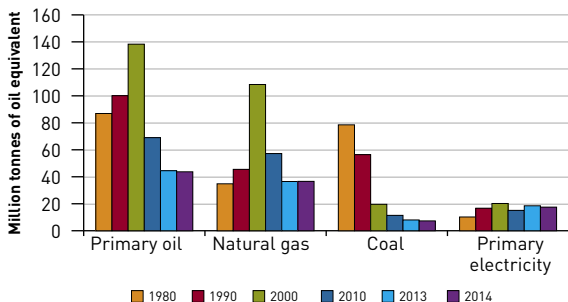


Source: Office for National Statistics

Since 2004, investment in the energy industries has continued to grow, specifically in the electricity sector and over the past few years in the oil and gas sector. In 2014, £24.0 billion (at current prices) was invested in the energy industry of which 52% was in oil and gas extraction, 41% in electricity, 5% in gas with the remaining 2% in coal extraction and coke & refined petroleum products industries.

# Overall energy

Production of primary fuels, 1980 to 2014



Million tonnes of oil equivalent

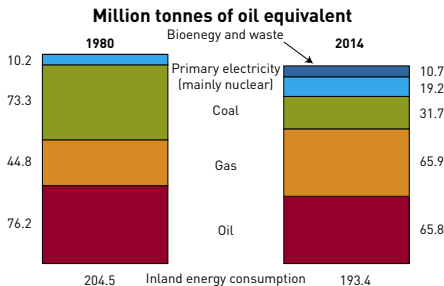
	1980	1990	2000	2010	2013	2014
Primary oil	86.9	100.1	138.3	69.0	44.5	43.7
Natural gas	34.8	45.5	108.4	57.2	36.5	36.6
Coal	78.5	56.4	19.6	11.4	8.0	7.3
Primary electricity	10.2	16.7	20.2	15.1	18.5	17.5
Bioenergy & waste	0.0	0.7	2.3	5.9	7.5	7.9
<b>Total</b>	<b>210.5</b>	<b>219.4</b>	<b>288.7</b>	<b>158.6</b>	<b>114.9</b>	<b>112.9</b>

Total production of primary fuels, when expressed in terms of their energy content, fell by 1.7% in 2014 compared to 2013. There were increases in renewables and gas production, which was offset by falls in coal, crude oil and nuclear output. Primary oil (crude oil and NGLs) accounted for 39% of total production, natural gas 32%, primary electricity (consisting of nuclear, wind and natural flow hydro) 15%, bioenergy and waste 7%, while coal accounted for the remaining 6%.

Total production increased rapidly between 1980 and 2000, mainly due to the growth of oil and gas. Production in 2000 was at record levels for natural gas, whilst in 1999 it was at record levels for overall energy and petroleum. Production has since been on the decline as a number of oil and gas fields become exhausted and also due to increased maintenance activity. Production is now 62% lower than its peak in 1999. Since 2000, oil and gas production together have fallen by an average of 8% per year.



## Inland energy consumption, 1980 to 2014



## Million tonnes of oil equivalent

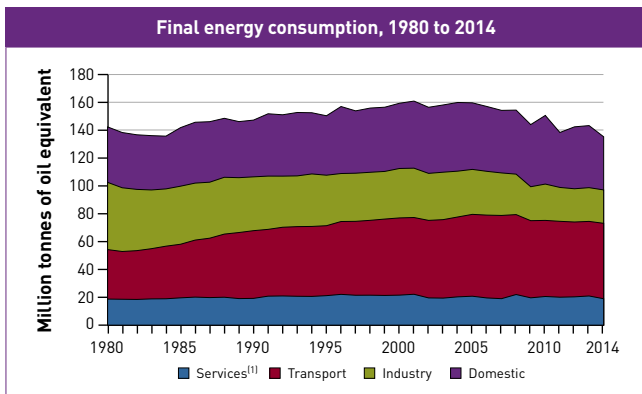
	1980	1990	2000	2010	2013	2014
<b>Total inland primary energy consumption:<sup>1</sup></b>	<b>204.5</b>	<b>213.7</b>	<b>234.8</b>	<b>219.4</b>	<b>207.0</b>	<b>193.4</b>
<b>Conversion losses:</b>			53.8	50.2	48.2	43.7
<b>Distribution losses and energy industry use:</b>	(62.1)	66.4)	20.7	17.9	15.8	14.9
<b>Total final energy consumption:</b>	<b>142.4</b>	<b>147.3</b>	<b>159.4</b>	<b>150.6</b>	<b>143.3</b>	<b>135.3</b>
<b>Final consumption of which:</b>						
<b>Industry</b>	48.3	38.7	35.5	26.1	24.2	24.0
<b>Domestic sector</b>	39.8	40.8	46.9	49.3	44.6	38.2
<b>Transport</b>	35.5	48.6	55.5	54.7	53.6	54.2
<b>Services<sup>2</sup></b>	18.7	19.2	21.5	20.6	20.9	19.0
<b>Temperature corrected total inland consumption:</b>	<b>206.2</b>	<b>221.6</b>	<b>240.2</b>	<b>213.4</b>	<b>204.1</b>	<b>198.7</b>

(1) Excludes non-energy use

(2) Includes agriculture

Primary energy consumption was 6.6% lower in 2014 than in 2013. The average temperature was 1.2 degrees Celsius per day warmer in 2014 than 2013. On a temperature corrected basis, primary energy consumption was 2.6% lower than in 2013, continuing the general fall seen since 2005. In the last 30 years or so, consumption of natural gas and primary electricity has risen considerably, whilst consumption of oil and coal have fallen. However over the past decade or so, consumption of bioenergy and waste has also grown.

# Overall energy



2014

Million tonnes of oil equivalent

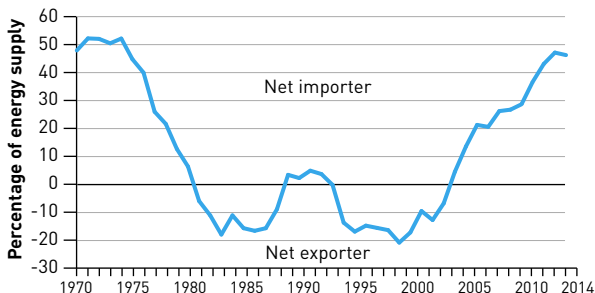
	Industry	Domestic	Transport	Services <sup>1</sup>	Total
Coal & manufactured fuels	2.1	0.6	0.0	0.0	2.7
Gas	8.0	23.9	-	8.3	40.2
Oil	4.3	2.6	52.6	1.5	61.0
Electricity	8.0	9.4	0.4	8.3	26.1
Bioenergy and heat	1.6	1.7	1.2	0.8	5.4
<b>Total</b>	<b>24.0</b>	<b>38.2</b>	<b>54.2</b>	<b>19.0</b>	<b>135.3</b>

(1) Includes agriculture

Total final energy consumption (excluding non-energy use) was down sharply in 2014 compared to 2013. By sector, final consumption rose by 1% in transport but fell by 1% in industry, 10% in the service sector, and by 14% in the domestic sector. The large falls in the domestic and service sectors were due to reduced demand for heat reflecting the record warm weather in 2014. Overall, final energy consumption, when adjusted for temperature was down in 2014, continuing the trend of falling consumption since 2004.

In terms of fuel types, final consumption of gas, the main fuel used for heating, fell by 15%. Oil use was broadly unchanged, with a small increase in fuel used for transport. Electricity consumption was down by 4%, however there were increased use of bioenergy in most sectors.

Import dependency, 1970 to 2014



Percentage

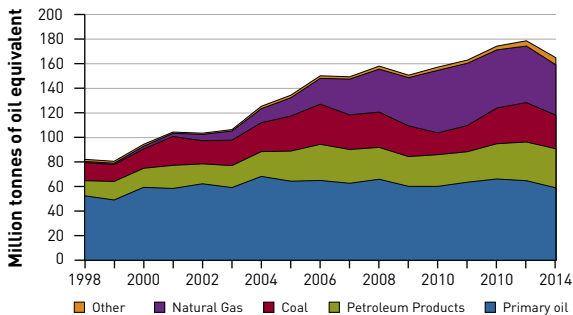
	2000	2010	2011	2012	2013	2014
Coal	39%	52%	64%	70%	82%	86%
Gas	-11%	38%	45%	47%	50%	45%
Oil	-55%	14%	27%	37%	40%	42%
<b>Total</b>	<b>-17%</b>	<b>29%</b>	<b>37%</b>	<b>43%</b>	<b>47%</b>	<b>46%</b>

In the 1970's the UK was a net importer of energy. Following development of oil and gas production in the North Sea, the UK became a net exporter of energy in 1981. Output fell back in the late 1980's following the Piper Alpha disaster, with the UK regaining a position as a net exporter in the mid 1990's. North Sea production peaked in 1999, and the UK returned to being an energy importer in 2004. In 2013, imports of petroleum products exceeded exports following the closure of the Coryton refinery; the UK is now a net importer of all main fuel types though remains a net exporter of some products such as petrol and fuel oil. In 2014, 46% of energy used in the UK was imported, up sharply from the 2010 level, due to the general decline in oil and gas output.

Latest comparable data from Eurostat, for 2013, show that the UK had the ninth lowest level of import dependency in the EU, behind Estonia, Denmark, Romania, Poland, Netherlands, Czech Republic, Sweden, and Bulgaria. All EU countries are now net importers of energy.

# Overall energy

Key sources of imports, 1998 to 2014



Since 1999, when UK energy production peaked, there has been a sharp rise in imports. Over this period imports have more than doubled. In 2011 imports exceeded UK production; though as the UK still exports large volumes; net imports still remain below production levels. By fuel type the largest growth in the past 10 years has come from gas imports, though there have been increases from most fuels.

In 2014, imports fell by 8% reflecting the overall reduction in demand. There was an increase in imports of biofuels which were generally used in generation; petroleum products to offset the reduction in UK refinery capacity and in electricity. These though were more than offset with decreases in imports of crude oil, gas and coal.

Imports are sourced from a wide variety of countries.

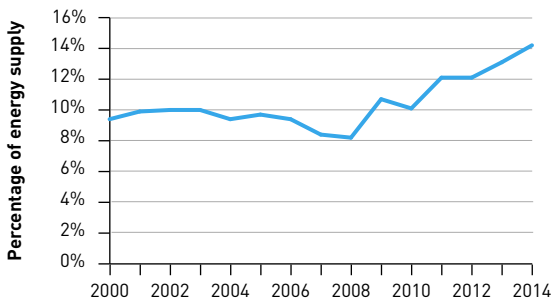
**Coal:** Russia remained the leading source accounting for 42% in 2014, followed by the US 26% and Columbia 23%. The vast majority of coal imported, was steam coal which accounted for an 87% share, mainly for electricity generation.

**Crude oil:** The key source of imports is Norway, which in 2014 accounted for 45% and with OPEC countries supplying a further 36%.

**Petroleum products:** The UK imports a wide variety of petroleum products, though remains a net exporter of certain fuels including petrol. Traditionally, the Netherlands has been the largest source of imports, which acts as a major trading hub. However, Russia is now the largest supplier of transport fuels, in particular diesel. Aviation Turbine fuel is generally sourced from Asia.

**Gas:** Norway accounted for 57% of UK gas imports in 2014, with pipelines from Netherlands and Belgium supplying 15% and 1% respectively. The remaining 27% arrived as Liquefied Natural Gas (LNG), of which 92% was from Qatar.

Proportion of UK energy supplied from low carbon sources, 2000 to 2014



## Percentage

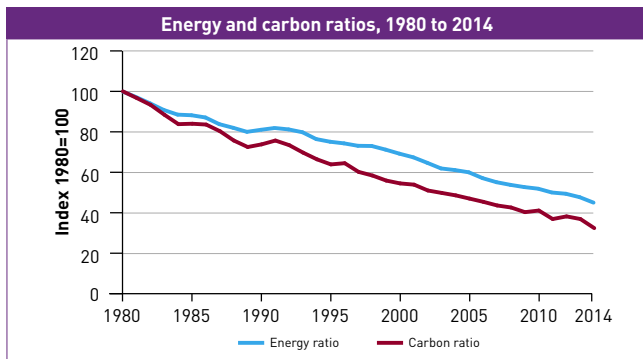
	2000	2010	2011	2012	2013	2014
Nuclear	8.4%	6.3%	7.7%	7.3%	7.5%	7.2%
Wind	0.0%	0.4%	0.7%	0.8%	1.2%	1.4%
Hydro	0.2%	0.1%	0.2%	0.2%	0.2%	0.3%
Bioenergy	0.9%	2.6%	2.9%	3.1%	3.6%	4.4%
Transport fuels	0.0%	0.6%	0.6%	0.5%	0.5%	0.6%
Other	0.0%	0.0%	0.1%	0.1%	0.2%	0.3%
<b>Total</b>	<b>9.4%</b>	<b>10.1%</b>	<b>12.1%</b>	<b>12.1%</b>	<b>13.1%</b>	<b>14.2%</b>

In 2014 the UK obtained just over 14% of its primary energy from low carbon sources, with 51% of this from nuclear power. The second largest component of low carbon was bioenergy, accounting for 31% of the total low carbon energy sources.

The supply of nuclear fell by 10.3% in 2014, though there was also a fall in inland consumption which resulted in the small decrease in share seen in the table.

Energy from biofuels was up by 14% with increased demand from generation. Energy supply from wind increased by 13% on 2013 with generation up by 17% for offshore and 10% for onshore. These increases were due to increased capacity, which were up by 22% for offshore and 13% for onshore. Wind speeds were broadly unchanged averaging 8.6 knots in both 2013 and 2014.

# Overall energy



	Index 1980=100					
	1980	1990	2000	2010	2013	2014
Primary energy consumption <sup>1</sup>	100	107.5	116.5	103.5	99.0	96.2
Carbon dioxide emissions	100	97.9	91.6	82.0	76.6	69.1
GDP	100	132.8	168.2	199.6	207.6	213.5
<b>Energy ratio</b>	<b>100</b>	<b>81.0</b>	<b>69.2</b>	<b>51.9</b>	<b>47.7</b>	<b>45.0</b>
<b>Carbon ratio</b>	<b>100</b>	<b>73.8</b>	<b>54.5</b>	<b>41.1</b>	<b>36.9</b>	<b>32.4</b>

(1) Temperature corrected primary energy consumption.

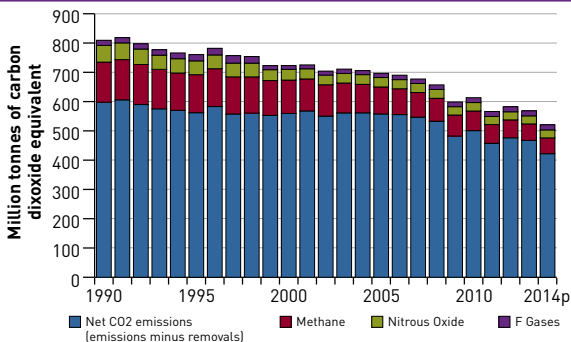
The energy ratio is calculated by dividing temperature corrected primary energy consumption by GDP at constant prices, with the carbon ratio similarly calculated by dividing carbon dioxide emissions by GDP. Both ratios have fallen steadily, with the energy ratio declining by around 2½% per year, and the carbon ratio declining at a faster pace of around 3½% per year.

The downward trends are due to a number of factors, with improvements in energy efficiency and the decline in the relative importance of energy intensive industries, affecting both ratios. The carbon ratio has been improved further by the increased use of more carbon efficient fuels and renewables.

The sharp downward ticks in the carbon ratio in both 2011 and 2014 are due, in the main, to temperatures, with energy consumption decreasing in response to the warmer weather.

Latest International Energy Agency data shows that the energy ratio is falling in all G8 countries. The UK is estimated to have the lowest energy ratio in the G8 (chart 5.7 of UK Energy Sector Indicators [www.gov.uk/government/statistics/uk-energy-sector-indicators-2014](http://www.gov.uk/government/statistics/uk-energy-sector-indicators-2014)).

## Greenhouse gas emissions by gas, 1990 to 2014



## Million tonnes of carbon dioxide equivalent

	1990	1995	2000	2005	2010	2014p
Carbon dioxide (net emissions)	597.9	562.0	559.5	557.8	500.8	422.0
Methane	136.9	129.9	113.9	92.1	67.0	54.0
Nitrous oxide	57.1	47.2	36.6	32.2	28.9	27.3
HFC	14.6	19.6	10.5	13.1	15.7	16.4
PFC	1.7	0.6	0.6	0.4	0.3	0.2
SF <sub>6</sub>	1.3	1.3	1.8	1.1	0.7	0.6
NF <sub>3</sub>	0.0	0.0	0.0	0.0	0.0	0.0
<b>Total Greenhouse gas emissions</b>	<b>809.4</b>	<b>760.6</b>	<b>722.8</b>	<b>696.6</b>	<b>613.3</b>	<b>520.5</b>

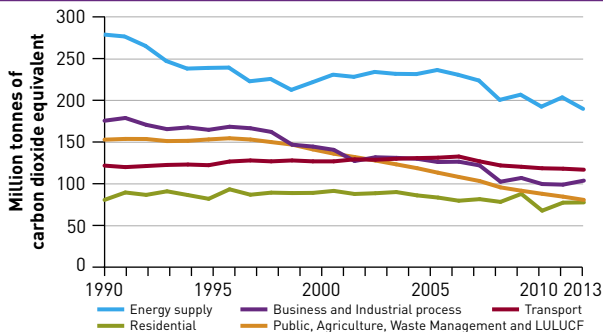
Source: Ricardo-AEA, DECC (2014 provisional figures)

All figures are for the UK and Crown Dependencies only, and exclude Overseas Territories

In 2014, UK emissions were provisionally estimated to be 520.5 million tonnes of carbon dioxide equivalent. This was 8.4% lower than the 2013 figure of 568.3 million tonnes and 36% lower than the 1990 figure of 809.4 million tonnes. Carbon dioxide emissions, which are primarily created when fossil fuels are burned, were estimated to account for about 81% of total UK anthropogenic greenhouse gas emissions in 2014. Estimates based on energy production and consumption in 2014 indicate that carbon dioxide emissions were 9.7% lower than the previous year and 29% lower than in 1990.

The decrease in emissions since 2013 can largely be attributed to a decrease in emissions from electricity generation and to 2014 being a warmer year on average than 2013.

## Greenhouse gas emissions by National Communication sector, 1990 to 2013



### Million tonnes of carbon dioxide equivalent

	1990	1995	2000	2005	2010	2013
Energy supply	278.8	238.8	221.5	231.4	206.7	189.7
Residential	80.6	81.9	89.0	86.0	87.8	77.6
Public, Agriculture, Waste Management and LULUCF	152.8	153.1	141.1	118.6	91.6	80.6
Business and Industrial process	175.5	164.6	144.5	129.9	106.9	103.7
Transport	121.7	122.2	126.8	130.7	120.3	116.8
<b>Total greenhouse gas emissions</b>	<b>809.4</b>	<b>760.6</b>	<b>722.8</b>	<b>696.6</b>	<b>613.3</b>	<b>568.3</b>

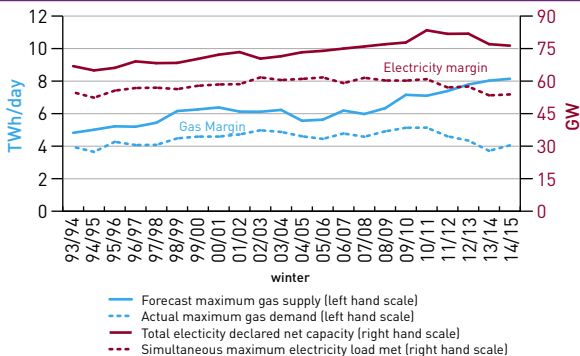
Source: Ricardo-AEA, DECC (2013 final figures)

All figures are for the UK and Crown Dependencies only, and exclude Overseas Territories

In 2013, UK greenhouse gas (GHG) emissions were estimated to be 568.3 million tonnes of carbon dioxide equivalent (MtCO<sub>2</sub>e), 30% lower than in 1990. The energy supply sector, at 189.7 MtCO<sub>2</sub>e, was the largest single source of GHG emissions in 2013, accounting for 33%. Between 1990 and 2013, emissions from this sector decreased by 32%. In 2013 GHG emissions from the transport sector, at 116.8 MtCO<sub>2</sub>e, accounted for 21% of emissions, compared to 15% in 1990. Emissions from the residential sector accounted for around 14% of emissions in 2013; and since 1990 emissions from this sector have decreased by 4%.



## Reliability – gas and electricity capacity margins – maximum supply and maximum demand 1993/94 to 2014/15



Source: National Grid and DECC

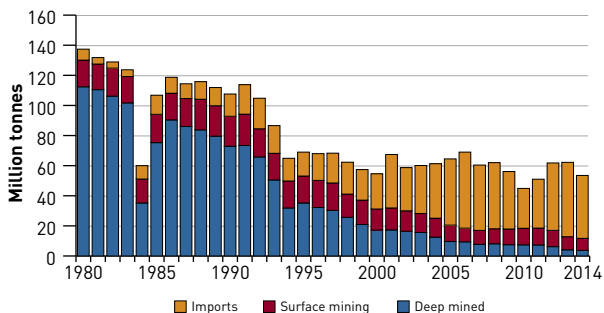
Whilst energy security is complex to measure, and subsequent charts on individual fuels provide fuller insight, this chart aims to provide a view on it, by looking at the difference between maximum supply and demand for gas and electricity.

Since 2007/08, the electricity capacity margin has mainly increased year on year due to both a decrease in peak demand and an increase in capacity. However, in 2014/15, a slight increase in demand and fall in capacity due to plant closures and conversions resulted in the capacity margin falling to 42%.

Between 2008/09 and 2014/15, the gas capacity margin increased year on year, with the large increase from 2011/12 and 2012/13 as a result of reduced demand and increased supply. Reductions in gas demand in recent years have been due to a switch from gas to coal for power generation and relatively muted domestic demand due to relatively warm weather.

# Coal

Coal production and imports, 1980 to 2014



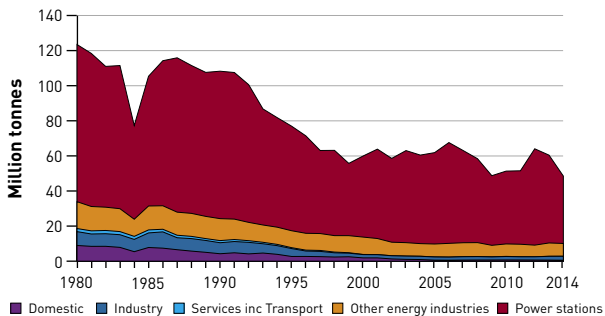
Million tonnes

	1980	1990	2000	2010	2013	2014
Deep mined	112.4	72.9	17.2	7.4	4.1	3.7
Surface mining (including slurry)	17.7	19.9	14.0	11.0	8.7	8.0
<b>Total</b>	<b>130.1</b>	<b>92.8</b>	<b>31.2</b>	<b>18.4</b>	<b>12.8</b>	<b>11.6</b>
Coal imports	7.3	14.8	23.4	26.5	49.4	41.8

In 2014 UK coal production fell to an all-time low of 12 million tonnes. Production was 8.8% lower in 2014 than in 2013. Deep mined production fell by 9.9%, due to the closure of a number of mines in 2013 (Maltby, Daw Mill and Unity) and unfavourable geological conditions at some of the remaining mines. Surface mine production (including a small amount of slurry) decreased by 8.3% mainly due to the Scottish Coal Company going into liquidation in April 2013 and unfavourable geological and weather conditions at some of the remaining mines.

Imports started in 1970, and grew steadily. In 2001 imports exceeded the level of UK production for the first time. As annual levels of UK coal production continued to fall, imports continued to grow and in 2006 reached a new record of 51 million tonnes. From this point on, imports fell, mainly as a result of less demand by electricity generators. However, from 2011 imports rose again due to a greater demand by electricity generators. In 2013, with low UK production, imports rose to just below the 2006 record to 49 million tonnes. In 2014 imports fell by 15.5% to 42 million tonnes, due to lower demand.

## Coal consumption, 1980 to 2014



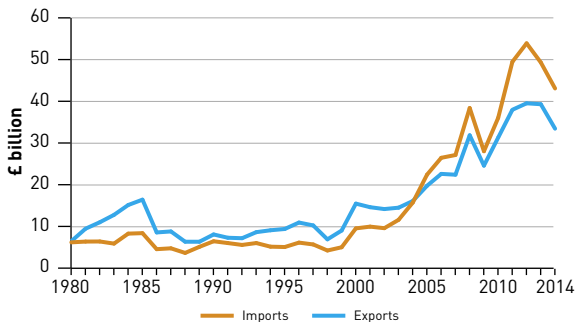
## Million tonnes

	1980	1990	2000	2010	2013	2014
Power stations	89.6	84.0	46.2	41.5	50.0	38.4
Domestic	8.9	4.2	1.9	0.7	0.6	0.6
Industry	7.9	6.3	1.9	2.0	2.1	2.2
Services	1.8	1.2	0.08	0.06	0.05	0.05
Other energy industries	15.3	12.5	9.8	7.1	7.5	7.3
<b>Total consumption</b>	<b>123.5</b>	<b>108.3</b>	<b>59.9</b>	<b>51.4</b>	<b>60.4</b>	<b>48.5</b>

In 2006, coal use by electricity generators peaked in the decade at 57 million tonnes, representing 85 per cent of total coal demand. Coal use gradually fell between 2007 and 2011 before increasing again in 2012 due to high gas prices, which allowed coal fired stations to generate electricity at a lower cost than some gas fired stations. Coal use in electricity generation has fallen since due to less demand for electricity generation. In 2014 coal use in electricity generation fell to a record low of 38 million tonnes. The decline was due to a number of reasons, outages at several power stations, the closure of Uskmouth and the partial closure of Ferrybridge C during 2014, a second unit of Drax being converted to biomass, lower demand for generation overall and changes in the relative prices of coal and gas. In 2014 coal use in electricity generation represented 79 per cent of total coal demand.

# Petroleum

## Foreign trade in crude oil and petroleum products, 1980 to 2014



### Crude oil and petroleum products

£ billion

	1980	1990	2000	2010	2013	2014
Exports	6.5	8.1	15.5	31.3	39.3	33.4
Imports	6.2	6.4	9.5	36.0	49.3	43.1
<b>Net Imports</b>	<b>-0.3</b>	<b>-1.6</b>	<b>-5.9</b>	<b>4.7</b>	<b>10.0</b>	<b>9.6</b>

Source: Office for National Statistics

### Crude oil and petroleum products

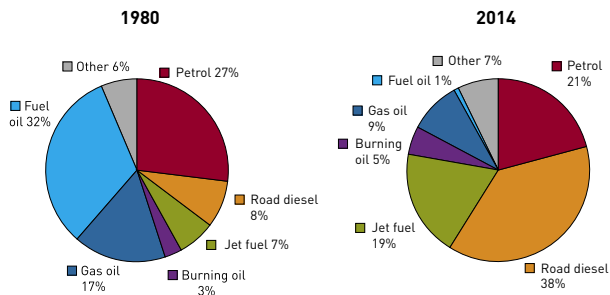
Million tonnes of oil equivalent

	1980	1990	2000	2010	2013	2014
Exports	58.4	80.4	123.9	74.4	65.7	58.7
Imports	60.4	69.2	74.8	85.9	96.2	90.6
<b>Net Imports</b>	<b>2.0</b>	<b>-11.2</b>	<b>-49.1</b>	<b>11.5</b>	<b>30.5</b>	<b>31.9</b>

Source: DECC

Since the first 'surplus' of £0.3 billion in 1980, oil trade has contributed more than £20 billion to the UK balance of payments. The largest 'surplus' of £8 billion in 1985 reflected high crude oil production and prices. In 1990 the 'surplus' fell from its peak due to lower prices but managed to peak again in 2000 at £5.9 billion. The surplus has since steadily declined and in 2005 the UK became a net importer of oil with a deficit of £2.7 billion, though still an exporter of oil products. In 2014, the deficit was £9.6 billion, slightly down on a year earlier due to lower crude oil prices.

## Demand by Product, 1980 to 2014

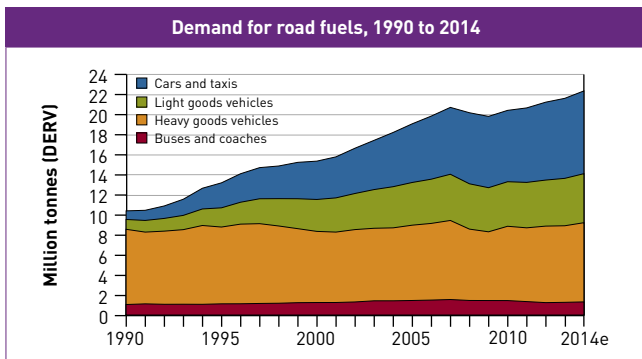


### Million tonnes

	1980	1990	2000	2010	2013	2014
<b>Energy uses<sup>1</sup></b>						
Petrol	19.2	24.3	21.4	14.6	12.6	12.3
Road diesel	5.9	10.7	15.6	20.7	21.9	22.7
Jet fuel	4.7	6.6	10.8	11.1	11.2	11.2
Burning oil	2.1	2.1	3.8	4.0	3.5	3.2
Gas oil	11.6	8.0	6.8	5.1	5.2	5.2
Fuel oil	22.7	14.0	3.3	1.9	0.9	0.7
Other	4.4	5.0	5.3	6.1	5.0	4.5
<b>Total energy uses</b>	<b>70.5</b>	<b>70.6</b>	<b>67.1</b>	<b>63.6</b>	<b>60.3</b>	<b>59.9</b>
Of which:						
Transport fuels	31.7	43.5	49.5	48.1	47.2	47.7
Industry	14.9	7.2	5.5	5.1	4.0	4.0
Refinery fuel use	6.3	5.1	5.3	4.4	3.8	3.3
<b>Non-energy uses</b>	<b>7.0</b>	<b>9.2</b>	<b>10.1</b>	<b>7.1</b>	<b>6.3</b>	<b>6.2</b>
<b>Total demand</b>	<b>77.5</b>	<b>79.8</b>	<b>77.2</b>	<b>70.7</b>	<b>66.6</b>	<b>66.1</b>

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

Demand for oil products has declined since 1980 but more notable is the change in the mix of products consumed. Transport now represents nearly 80% of energy use of oil products, up from 45% in 1980. The main trends have been the declining use of fuel oil for electricity generation, the growth of both road and air travel, and the increasing use of diesel and not petrol as the UK's main road fuel.



Total deliveries of diesel road fuel (DERV) have almost doubled in the past 20 years and increased further this year. The long term trend is mainly caused by the increased use of DERV in cars, taxis and light goods vehicles.

## Demand for DERV by Vehicle Type

Thousand tonnes

	1990	1995	2000	2010	2013	2014*
Car & taxi	856	2,486	3,813	7,100	7,963	8,235
Light goods vehicles	979	1,913	3,178	4,433	4,718	4,879
Heavy goods vehicles	7,479	7,641	7,078	7,395	7,619	7,880
Buses & coaches	1,047	1,115	1,245	1,439	1,265	1,308
<b>Total</b>	<b>10,650</b>	<b>13,460</b>	<b>15,632</b>	<b>20,740</b>	<b>21,926</b>	<b>22,675</b>

(\*2014 estimated. Figures are derived from Ricardo-AEA modelling. Total includes off road use of DERV and all figures refer to hydrocarbon fuel only.)

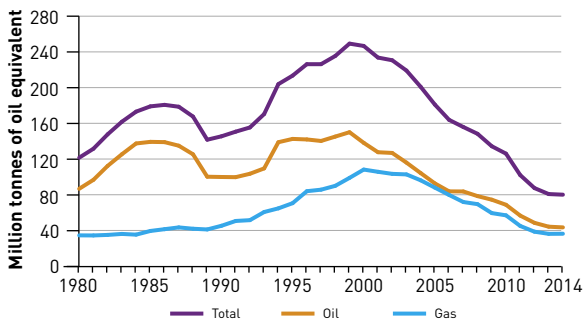
Demand for petrol decreased further in 2014 as diesel fuel continued to displace petrol in road transport. Despite the increasing dieselisation of the car fleet, petrol consumption by cars and taxis (c 12 million tonnes) still outstrips diesel consumption (c 8 million tonnes) though the gap continues to narrow.

## Demand for Petrol

Thousand tonnes

	1990	1995	2000	2010	2013	2014
<b>Total</b>	<b>24,310</b>	<b>21,950</b>	<b>21,403</b>	<b>14,602</b>	<b>12,574</b>	<b>12,336</b>

## UK Continental Shelf production, 1980 to 2014



### Million tonnes of oil equivalent

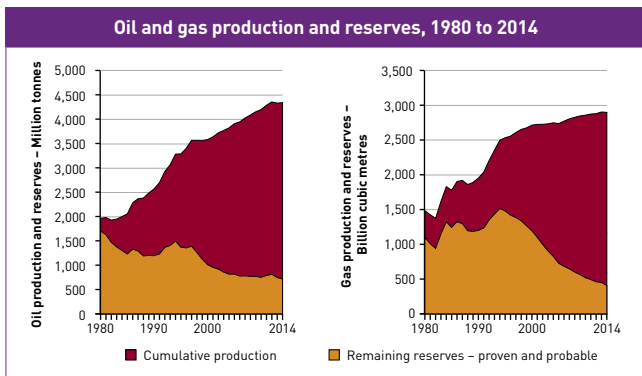
	1980	1990	2000	2010	2013	2014
Oil	86.9	100.1	138.3	69.0	44.5	43.7
Gas	34.8	45.5	108.4	57.2	36.5	36.6
<b>Total</b>	<b>121.7</b>	<b>145.6</b>	<b>246.7</b>	<b>126.2</b>	<b>81.0</b>	<b>80.3</b>

Total indigenous oil and gas production was down just 1% on 2013. This relative stability is in contrast to an average decline rate of 7% since UKCS production peaked in 1999.

Oil production in 2014 was 71% lower than the record 150.2 million tonnes in 1999 but this year it dropped only 2 per cent on last year, a substantially shallower fall than the decline rate of around 8 per cent seen since the turn of the century. Whilst there were several temporary field closures, 2014 also saw commencement of operations at the Golden Eagle field, the second largest oil discovery in the North Sea since Buzzard.

Gas production in 2014 was 66% lower than the record levels seen in 2000, and since the turn of the century gas production has been decreasing by around 6 per cent per year. Unusually though, 2014 is notable as gas production was up on 2013, albeit marginally, which is the first such increase since 2000. Production was aided by new outputs from the Juliet and Kew fields.

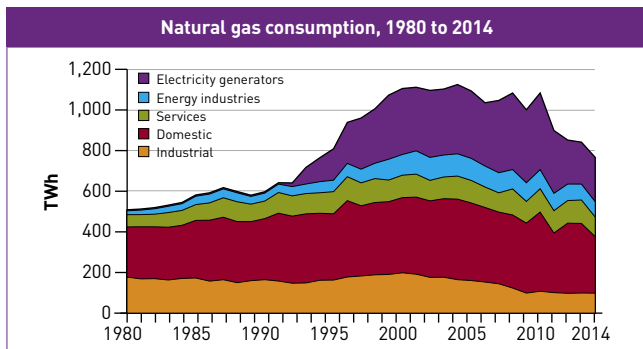
# Oil and gas production



	1980	1990	2000	2010	2013	2014
<b>Oil</b>					<b>Million tonnes</b>	
Cumulative production	263	1,374	2,570	3,446	3,583	3,623
Proven plus probable reserves	1,700	1,195	1,010	751	746	716
<b>Estimated Ultimate Recovery</b>	<b>1,963</b>	<b>2,569</b>	<b>3,580</b>	<b>4,197</b>	<b>4,329</b>	<b>4,339</b>
<b>Gas</b>					<b>Billion cubic metres</b>	
Cumulative production	382	752	1,518	2,337	2,451	2,490
Proven plus probable reserves	1,101	1,200	1,195	520	452	407
<b>Estimated Ultimate Recovery</b>	<b>1,483</b>	<b>1,952</b>	<b>2,713</b>	<b>2,857</b>	<b>2,903</b>	<b>2,897</b>

The Estimated Ultimate Recovery (EUR) shows the cumulative total of production to the end of the years given and the total of proven plus probable reserves as estimated at the end of those years. For both oil and gas, EUR has grown substantially since 1980, increasing by 121% for oil and by 95% for gas. This reflects increased new discoveries and the effect of new technology allowing exploitation of resources that were previously regarded as uncommercial. Total cumulative production of oil and gas are 85% and 68% respectively greater than the estimated EUR in 1980. The EUR figures shown do not include estimates for Shale Gas.





TWh

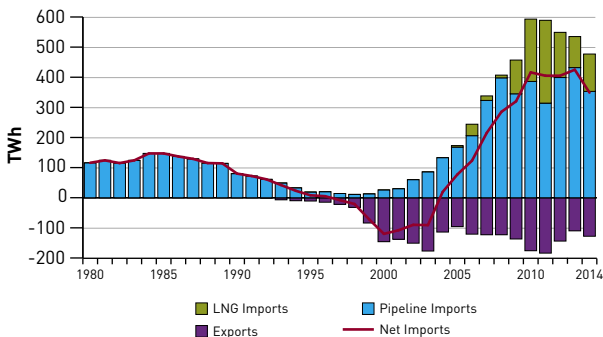
	1980	1990	2000	2010	2013	2014
Electricity generators	4.9	6.5	324.6	377.1	206.3	218.4
Energy Industries	19.1	39.2	102.1	94.3	78.2	75.1
Industry	177.5	164.6	198.5	107.7	99.0	98.3
Domestic	246.8	300.4	369.9	389.6	342.5	278.1
Services	60.4	86.4	110.5	114.9	115.4	96.4
<b>Total</b>	<b>508.6</b>	<b>597.0</b>	<b>1,105.5</b>	<b>1083.6</b>	<b>841.4</b>	<b>766.2</b>

From the early 1970s, following the expansion of UK production of natural gas, gas consumption (excluding losses) grew rapidly reaching a record high in 2004 of 1,125 TWh. Since then, consumption (excluding losses) has seen an overall decline, and in 2014 total gas consumption was 766.2 TWh, around a third below its 2004 peak. The longer term trends are driven by structural aspects of commodity prices and changes to energy efficiency whilst the year to year changes are mainly driven by temperature and shorter term fluctuations in prices.

Overall gas demand was down by 8.9% in 2014 versus 2013. This reflects the falls in domestic and services (particularly due to the unusually high temperatures in 2014) whilst consumption from electricity generators, energy industries and industry remain quite low especially in comparison to 2010 (due to the continued switch away from gas for electricity generation).

# Natural gas

UK trade in natural gas, 1980 to 2014



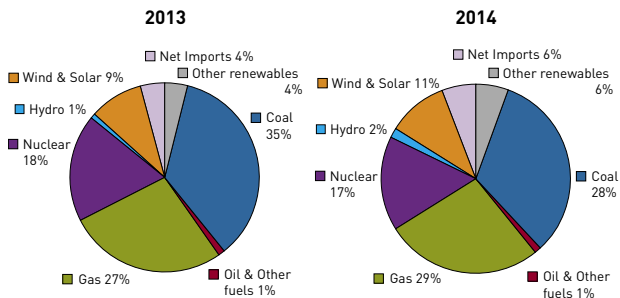
TWh

	1980	1990	2000	2010	2013	2014
Natural gas production	404.8	528.8	1,260.2	664.4	424.2	424.9
Imports	116.3	79.8	26.0	592.6	535.1	477.2
of which						
LNG	-	-	-	206.8	102.6	123.9
Exports	-	-	-146.3	-176.4	-109.7	-127.9
Net imports(+) or exports(-)	+116.3	+79.8	-120.3	+416.2	+425.4	+349.3

UK gas production peaked in 2000 and has since been declining. With declining production the UK has become increasingly reliant on gas imports to meet demand. Since 2000 net imports have steadily increased year on year, with the exception of 2011 and 2014 which saw decreases on the previous year's level. In 2014 net imports accounted for around 45% of gas demand.

Imports of Liquefied Natural Gas (LNG) through the two terminals at Milford Haven (South Hook and Dragon) and via the Isle of Grain remain substantial and their shares of total imports have increased from 19% in 2013 to 26% in 2014. Norway remains the UK's key partner for imports and accounted for 57% of imports in 2014. Whilst demand for LNG on the global market remains strong the UK has a diverse pipeline infrastructure (from Norway, the Netherlands and Belgium) and the proportion delivered through each route in the future will depend on global market conditions.

## Electricity supplied by fuel type, 2013 and 2014



TWh

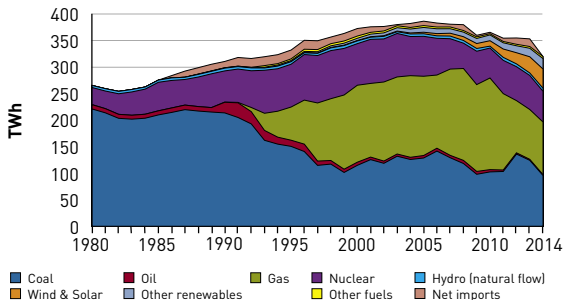
	1980	1990	2000	2010	2013	2014
Coal	220.8	213.4	114.7	102.3	124.1	95.5
Oil & other fuels <sup>1</sup>	7.9	19.2	9.2	5.6	4.1	4.6
Gas	-	0.4	144.9	172.5	94.2	99.0
Nuclear	32.3	58.7	78.3	56.4	64.1	57.9
Hydro	3.9	5.2	5.1	3.5	4.7	5.8
Wind & Solar	-	-	0.9	10.3	30.4	36.1
Other renewables	-	-	4.1	10.8	15.7	19.6
Net Imports	-	11.9	14.2	2.7	14.4	20.5
<b>Total electricity available for supply</b>	<b>264.9</b>	<b>308.7</b>	<b>371.4</b>	<b>364.1</b>	<b>351.8</b>	<b>339.0</b>

[1] Includes net supply from pumped storage

Between 2013 and 2014, supply of electricity saw a 4% decrease. Electricity supplied from gas increased from 27% to 29%, due to lower wholesale gas prices and to help meet the shortfall caused by the fall in nuclear. Electricity supplied from coal fell from 35% to 28%. Nuclear's share of supply fell from 18% to 17%. Wind's share rose from 9% to 11% with much increased capacity. The share of net imports rose from 4% to 6%, due to increased imports from France as well as the Netherlands (via the interconnector which came into full operation in April 2011). In 2014 electricity supplied from wind was over half that produced from nuclear compared to just over a tenth in 2000. Further details on renewable electricity generation can be found on page 30.

# Electricity

Electricity supplied by fuel type, 1980 to 2014



The mix of fuels used to generate electricity continues to evolve. Since 1990, the decline of coal and oil and the rise of gas and, in more recent years, renewables, have been the most marked features, but none of these fuels have followed a smooth path.

Supply from gas rose most markedly over this period from 0.4 TWh in 1990 to a peak of 173 TWh in 2008, and has fluctuated slightly since. In 2014, gas has risen following falls in the previous three years, due to lower wholesale gas prices during the year and to help meet the shortfall caused by the fall in nuclear generation.

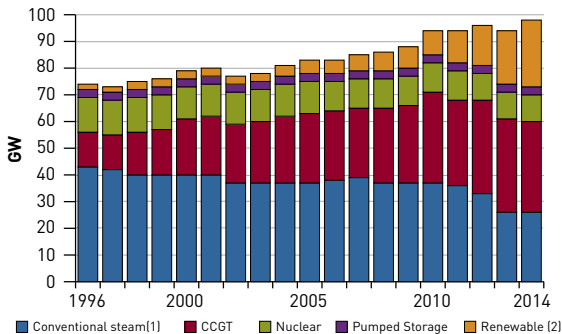
Supply from nuclear grew to a peak in 1998 before falling back, particularly during 2006 to 2008, as station closures and maintenance outages reduced supply, but recovered in 2009, before falling in 2010 due to further outages. In 2011, supply from nuclear began to rise again as stations returned from outages and has been fluctuating since. In 2014 supply fell due to outages at several nuclear power stations.

Coal recorded its highest level for ten years in 2006, making up for the reduced availability of nuclear stations and as a substitute for high priced gas. It fell back again in the next three years before rising in 2010, particularly due to higher winter electricity demand. Again due to high gas prices, supply from coal rose during 2012 but fell slightly again in 2013. In 2014 supply from coal fell again due to the closure and conversions of several power stations.

Supply from wind (including solar) has followed an upward trend since 2000, as capacity levels have increased each year. In 2014, wind supplied a record level of 36.1 TWh.

Total electricity supplied rose continuously from 1997 to reach a peak in 2005. It has subsequently fallen, reflecting lower demand due to energy efficiency, economic and weather factors.

## Electricity capacity, 1996 to 2014



## GW

	1996	2000	2005	2010	2012	2013	2014
Conventional Steam	43.0	39.7	37.1	37.1	32.6	26.2	25.7
CCGT	12.7	21.1	25.9	34.0	35.4	35.1	33.8
Nuclear	12.9	12.5	11.9	10.9	9.9	9.9	9.9
Pumped Storage	2.8	2.8	2.8	2.7	2.7	2.7	2.7
Renewable	2.3	3.0	4.5	9.2	15.5	19.8	24.6
<b>Total</b>	<b>73.6</b>	<b>79.0</b>	<b>82.1</b>	<b>94.0</b>	<b>96.2</b>	<b>93.8</b>	<b>96.8</b>

(1) Mainly coal, includes gas turbines, oil engines mixed/dual fired and co-firing

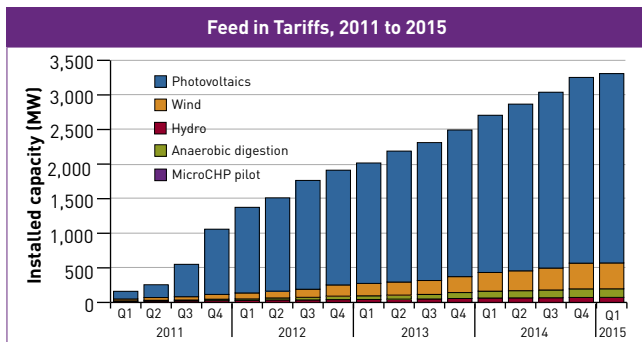
(2) Renewable capacity is on an Installed capacity basis. Data for other fuels/technologies relates to Declared Net Capacity from 1996 to 2005, data for 2006 onwards is transmission entry capacity (TEC).

Installed capacity in the UK has increased gradually between 1996 and 2014, from 73.6 GW to 96.8 GW. Overall, there has been a decline in conventional steam, initially in favour of CCGT and more recently in favour of an increase in renewables.

Conventional steam declined by 3.8 per cent between 2013 and 2014 (to 25.7 GW). This is a result of the conversion of Drax power station from coal to biomass. CCGT capacity has increased almost threefold over the period 1996-2013, from 12.7 GW to 33.8 GW. CCGT declined 3.8% between 2013 and 2014 as a result of the closure of Barking power station.

Nuclear and pumped storage capacity has remained fairly constant between 1996 and 2014, at 9.9 GW and 2.7 GW respectively. Renewables capacity has seen a significant increase, with the installed capacity of renewables increasing by almost 11 times the installed capacity in 1996 to 24.6 GW. This is mainly as a result of an increase in wind capacity, particularly from 2009, the growth of photovoltaics and as already mentioned the conversion of coal plants to biomass.

## Feed in tariffs

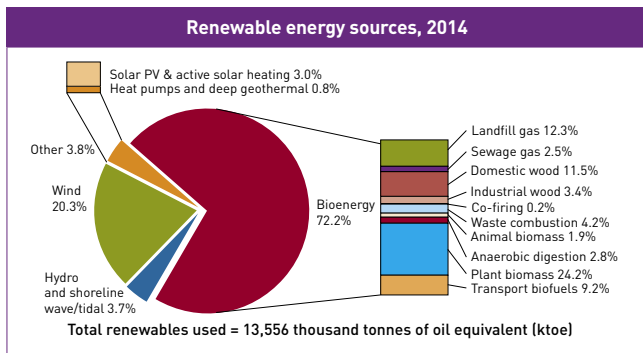


	2011 Q1	2012 Q1	2013 Q1	2014 Q1	2015 Q1
	<b>Cumulative Installed capacity (MW)</b>				
Micro CHP	0.2	0.5	0.6	0.6	0.7
Anaerobic Digestion	8	22	53	99	124
Hydro	15	29	42	63	72
Wind	27	86	179	270	374
Photovoltaics	111	1,238	1,741	2,273	2,737
<b>Total</b>	<b>162</b>	<b>1,376</b>	<b>2,015</b>	<b>2,706</b>	<b>3,308</b>

Source: Extracted on 20th April 2015 from the Central Feed-in Tariffs Register (CFR), Ofgem. The register is a live database and is continually being updated and revised, so statistical reports extracted at a later date may not exactly match the totals presented here. Registration on the CFR represents the final stage in the Feed-in Tariff (FiTs) registration process. There will be installations eligible for FiT that have been installed but have not yet been registered onto CFR.

The Feed in Tariff scheme (FiTs) was introduced on 1st April 2010 and is a financial support scheme for eligible low-carbon electricity technologies, aimed at small-scale installations up to a maximum capacity of 5 Megawatts (MW).

At the end of year 5 (2014/15) of the Feed in Tariff scheme, 3,308 MW of capacity (598,713 installations) was confirmed on FiTs, around 22 per cent more capacity than that installed at the end of the previous year, and over 19 per cent more installations. Of the 602 MW increase (96,265 installations) from the end of year 4 (2013/14), 77 per cent (464 MW, 95,771 installations) were from solar photovoltaics, 17 per cent (104 MW, 400 installations) were from wind installations, with the other technologies (micro-CHP, anaerobic digestion and hydro) contributing to the remaining 6 per cent of this increase. At the end of 2014/15, 60 per cent (2,001 MW) of the total installed capacity was in the domestic sector, 5 percentage points lower than at the end of the previous year, when domestic sector capacity represented 65 per cent (1,544 MW) of total installed capacity.

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

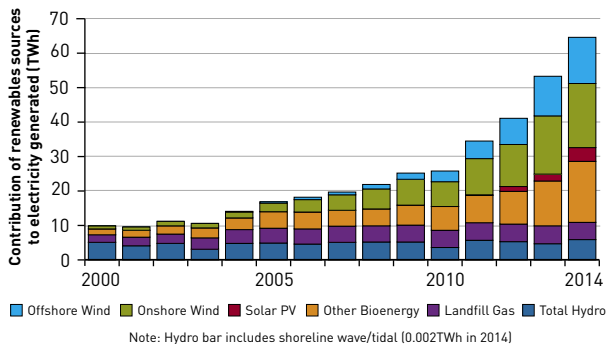
	1990	2000	2010	2013	2014
Solar PV and active solar heating	6	11	43	221	400
Wind	1	81	882	2,444	2,753
Hydro (large & small) and wave	448	437	307	405	506
Landfill gas	80	731	1,663	1,706	1,668
Sewage gas	138	169	286	318	345
Wood (domestic and industrial)	174	458	1,514	1,970	2,014
Municipal waste combustion	101	375	632	595	574
Heat pumps and deep geothermal	1	1	31	89	108
Transport biofuels	-	-	1,217	1,092	1,243
Cofiring	-	-	625	54	25
Other bioenergy	72	265	1,052	2,861	3,919
<b>Total</b>	<b>1,021</b>	<b>2,529</b>	<b>8,253</b>	<b>11,753</b>	<b>13,556</b>

In 2014, bioenergy accounted for 72.2% of renewable energy sources used, with most of the remainder coming from hydro and wind generation. Wind accounted for 20.3% and hydro 3.7%.

Of the 13.6 million tonnes of oil equivalent of primary energy use accounted for by renewables, 9.6 million tonnes was used to generate electricity, 2.7 million tonnes was used to generate heat, and 1.2 million tonnes was used for road transport. Renewable energy use grew by 15% between 2013 and 2014 and is now nearly five and a half times the level it was at in 2000.

# Renewables

## Electricity generation from renewable sources since 2000



## Renewable Electricity Generation, TWh

	1990	2000	2010	2013	2014
Onshore wind	-	0.9	7.2	16.9	18.6
Offshore wind	-	-	3.1	11.5	13.4
Solar PV	-	-	0.0	2.0	4.0
Hydro	5.2	5.1	3.6	4.7	5.9
Landfill Gas	0.1	2.2	5.0	5.2	5.0
Other Bioenergy	0.5	1.7	6.9	13.0	17.7
<b>Total Renewables</b>	<b>5.8</b>	<b>9.9</b>	<b>25.8</b>	<b>53.3</b>	<b>64.7</b>

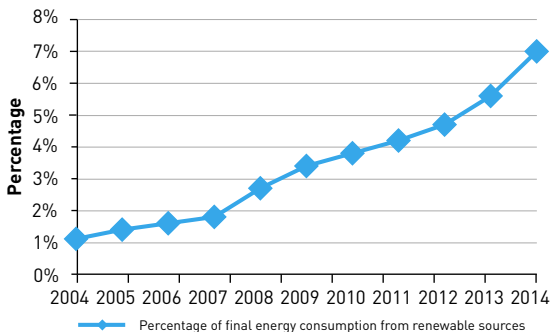
At 64.7 TWh, renewables accounted for 19.1% of electricity generated in the UK during 2014, 4.2 percentage points higher than during 2013. Overall generation from renewables increased by 21% between 2013 and 2014. Bioenergy showed the largest absolute increase at 4.5 TWh (25 per cent), mostly from biomass. Solar photovoltaics more than doubled from 2.0 TWh to 4.1 TWh. Wind increased by 13% to 32.0 TWh largely due to increased capacity and hydro increased by 25% reflecting unusually high rainfall.

The main weather effect on renewable generation was the average rainfall which was the highest since 2008. Average wind speeds were the same for 2014 compared to 2013.

When taking into account only renewable sources eligible under the Renewables Obligation, they accounted for 19.8% of UK electricity sales, up from 15.5% in 2013.



## UK progress against 2009 EU Renewable Energy Directive



## Progress against the 2009 Renewable Energy Directive

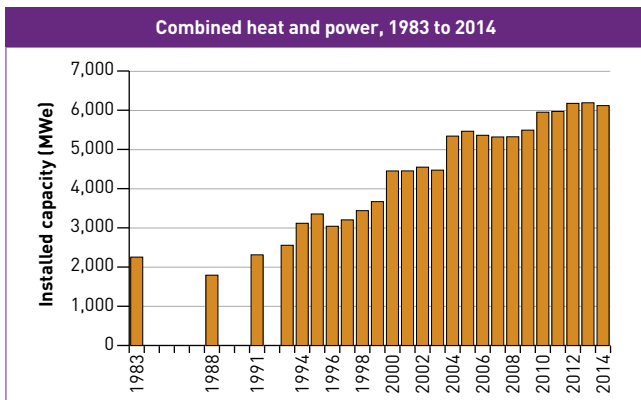
	2009	2010	2011	2012	2013	2014
Percentage of electricity from renewable sources	6.7%	7.4%	8.8%	10.7%	13.8%	17.8%
Percentage of heating and cooling from renewable sources	1.7%	3.0%	3.4%	3.7%	4.1%	4.8%
Percentage of transport energy from renewable sources	2.6%	3.1%	2.7%	3.7%	4.4%	4.8%
Overall renewable consumption as a percentage of capped gross final energy consumption using net calorific values	3.0%	3.8%	4.2%	4.7%	5.6%	7.0%

In March 2007, the European Council agreed to a common strategy for energy security and tackling climate change. It set a target of 20% of the EU's energy to come from renewable sources. In 2009 a new Renewable Energy Directive was implemented and resulted in agreement of country "shares" of this target. For the UK, by 2020, 15% of **final energy consumption** – calculated on a net calorific basis, and with an air transport fuel cap - should be accounted for by energy from renewable sources.

In 2014 7.0% of final energy consumption was from renewable sources; this is up from 5.6% in 2013 and 4.7% in 2012. The methodology uses normalised load factors for wind (over 5 years) and hydro (over 15 years) to reduce the impact of unusual weather conditions on the calculations.

The UK has now achieved 6.3% renewable energy averaged across 2013 and 2014 compared to its interim Directive target of 5.4%.

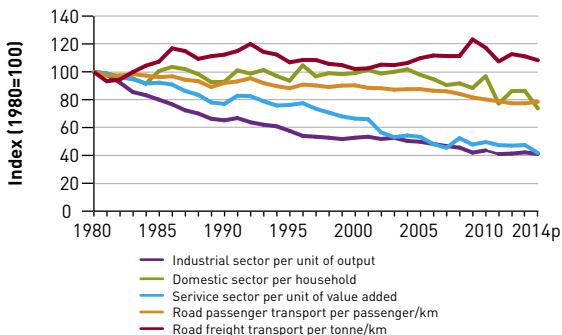
## Combined heat and power



	1995	2000	2010	2013	2014
CHP electrical capacity (MWe)	3,354	4,451	5,950	6,190	6,118
CHP electrical generation (GWh)	14,778	25,245	26,768	20,400	20,281
CHP heat generation (GWh)	56,833	54,877	48,267	46,076	43,306
Number of CHP sites					
<= 100 kWe	620	560	407	607	603
> 100 kWe to 1 MWe	397	533	765	1,098	1,103
>1 MWe to 2 MWe	26	41	83	115	124
> 2 MWe to 10 MWe	113	141	138	166	169
> 10 MWe +	63	64	66	68	67
<b>Total</b>	<b>1,219</b>	<b>1,339</b>	<b>1,459</b>	<b>2,054</b>	<b>2,066</b>

In 2014, CHP electrical capacity remained broadly unchanged compared to 2013. Electricity generation in 2014 was 0.6% lower than in 2013, while heat generation was 6% lower. Schemes larger than 10MWe represent 79% of the total electrical capacity of CHP schemes whereas schemes less than 1MWe constitute the majority (83%) of the number of schemes. In 2014, CHP schemes accounted for around 6.0% of the total electricity generated in the UK and 8.5% of UK gas demand.

## Energy intensity, 1980 to 2014



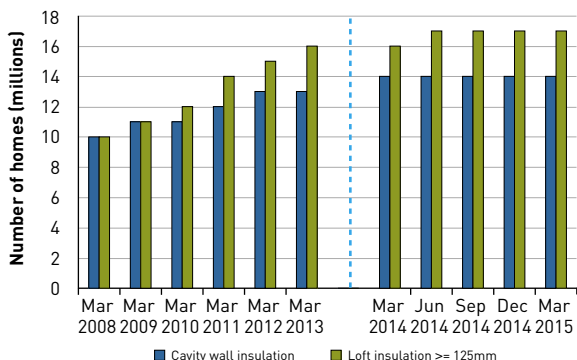
Tonnes of oil equivalent

	1980	1990	2000	2010	2013	2014p
Industrial energy consumption per million units of GVA	281.7	183.7	148.4	122.8	118.8	115.6
Domestic energy consumption per household	1.9	1.8	1.9	1.9	1.7	1.4
Service sector energy consumption per million units of GVA	39.6	30.5	26.3	19.6	18.8	16.5
Road passenger energy consumption per million passenger-kilometres*	45.5	41.9	41.1	36.5	34.9	35.4
Road freight energy consumption per million freight-kilometres*	77.2	86.7	78.7	90.6	87.5	85.3

\* DECC estimates for 2014

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 or so have occurred in the industrial sector mainly due to structural change in the period before 2000, and in the service sector due to general energy efficiency improvements. Domestic consumption reduced further in 2014 continuing with the general downward trend since 2004.

**Number of homes with energy efficiency measures,  
March 2008 to March 2015**



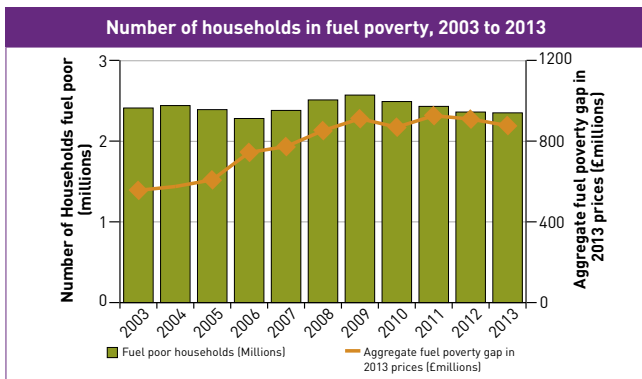
**Insulated homes in Great Britain (Thousands)**

	Mar 2008	Mar 2010	Mar 2011	Mar 2012	Mar 2013	Mar 2014	Mar 2015
Cavity wall insulation	10,030	11,490	12,090	12,750	13,390	13,780	14,200
Loft insulation ≥ 125mm	10,150	12,450	13,540	14,770	16,210	16,450	16,770

Source: DECC, Green Deal, ECO and Insulation Levels Quarterly Report. Figures are rounded to the nearest ten thousand.

Cost effective methods of improving energy efficiency in homes are to install cavity wall and loft insulation where these measures are practical. Building Regulations require new homes to reach thermal efficiency standards which would typically be met by installing these measures. In addition, existing homes have had these measures retrofitted through Government schemes or through a DIY loft insulation. These data show the change in the number of insulated homes as a result of new build and retro fitting insulation.

The number of homes with cavity wall insulation has increased by 41 per cent between the end of March 2008 and March 2015 such that 14.2 million, of the 19.4 million homes with cavities, are insulated. The number of homes with loft insulation, of a depth of at least 125mm, has increased by 65 per cent between the end of March 2008 and March 2015 meaning that 16.8 million of the 23.9 million homes with lofts are insulated to this level.



A household is considered to be fuel poor if:

- they have required fuel costs that are above average (the national median level)
- were they to spend that amount, they would be left with a residual income below the official poverty line.

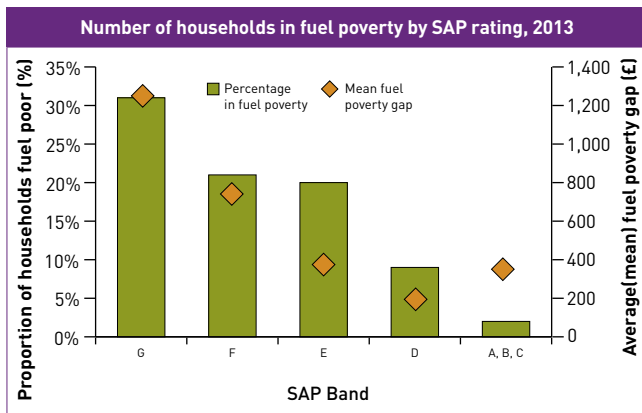
This is a relative measure as it compares households to the national median bill and income – thereby reflecting contemporary trends. There are two indicators:

- i) the **number** of households that have both low incomes and high fuel costs and
- ii) the **depth** of fuel poverty amongst these fuel poor households. This is measured through a fuel poverty gap which represents the difference between the required fuel costs for each household and the median required fuel costs.

The fuel poverty gap for each individual household is then aggregated across all fuel poor households to produce an overall aggregate fuel poverty gap which gives a sense of the depth of fuel poverty on a national level.

In 2013, the number of households in fuel poverty in England was estimated at around 2.35 million, representing approximately 10.4 per cent of all English households. This is broadly unchanged from 2.36 million households in 2012. The aggregate fuel poverty gap fell by around 4% in real terms, from £909 million in 2012 to £877 million in 2013. The average fuel poverty gap over this period also decreased from £385 to £374. Five per cent of fuel poor households were living in a property with a fuel poverty energy efficiency rating of band C or above in 2013, compared to two per cent in 2010.

## Fuel poverty

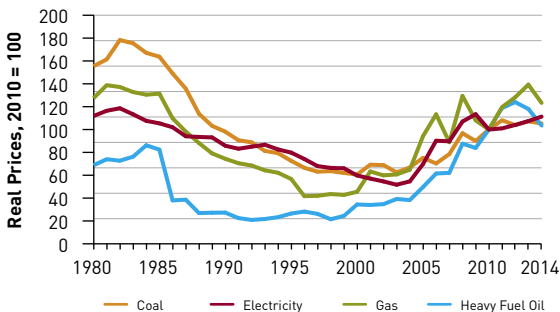


The energy efficiency of dwellings is a key driver of the likelihood of a household being fuel poor, as it is strongly linked to the fuel costs incurred by the household. This chart shows the fuel poverty rates by different SAP rating bands\* (based on SAP12 methodology) under the low income high cost indicator.

The chart shows that the depth and likelihood of fuel poverty increases markedly with lower SAP scores. In 2013, 31 per cent of households living in G rated properties were fuel poor compared to only two and nine per cent of households living in A/B/C and D rated properties respectively. The corresponding average fuel poverty gap is also three times higher in G rated properties compared to A-C rated properties and six times higher than in D rated properties (with an average fuel poverty gap of around £1,274 in G rated properties compared to £370 in A-C rated properties and £209 in D rated properties in 2013).

\* SAP Band is different to the fuel poverty energy efficiency rating discussed on page 35.

Fuel price indices for the industrial sector, 1980 to 2014



Real prices, 2010 = 100

	1980	1990	2000	2010	2013	2014
Coal	155.4	98.1	60.6	100.0	107.2	105.3
Electricity	111.8	85.8	59.8	100.0	107.4	111.3
Gas	127.4	74.4	45.5	100.0	139.3	123.3
Heavy fuel oil	68.7	27.3	34.4	100.0	118.0	103.5
<b>Industrial prices</b>	<b>103.9</b>	<b>76.0</b>	<b>52.0</b>	<b>100.0</b>	<b>115.8</b>	<b>111.9</b>

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

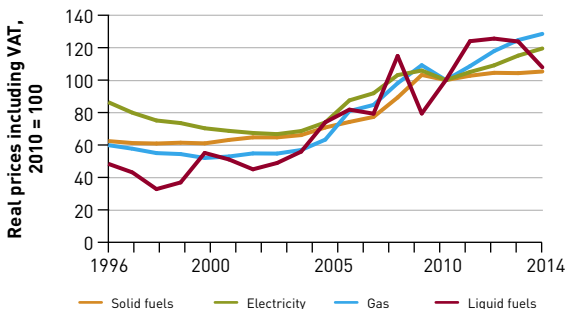
Industrial prices were broadly stable in the early 80's before falling steadily to their lowest aggregate levels in 2003. Since then prices have more than doubled, growing on average by 118% by 2014.

In 2014 compared to 2013, prices for most fuels decreased, though electricity prices rose slightly, by 4%. Gas prices fell by 11%. Over the last ten years gas and electricity prices have risen by 90% and 104% respectively.

Prices for most fuels are generally driven by changes to the price of crude oil. In the last ten years the price of Brent in \$ per barrel (bbl) has increased from around \$38/bbl to around \$100/bbl in 2014.

## Prices

Fuel price indices for the domestic sector, 1996 to 2014



Real prices including VAT, 2010 = 100

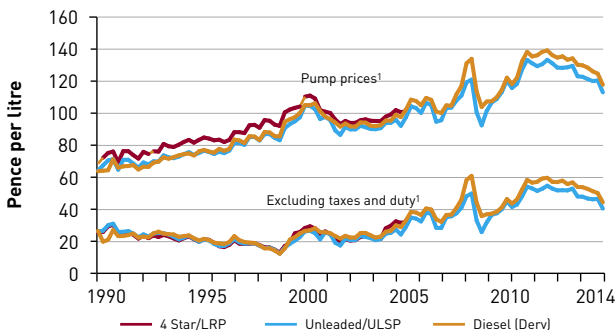
	1996	2000	2005	2010	2013	2014
Solid fuels	62.4	61.0	70.8	100.0	104.3	105.3
Electricity	86.4	70.3	73.9	100.0	115.1	119.5
Gas	59.9	52.0	63.3	100.0	124.7	128.5
Liquid fuels	48.4	55.1	74.0	100.0	123.8	107.9
<b>Domestic fuels</b>	<b>71.5</b>	<b>61.6</b>	<b>69.4</b>	<b>100.0</b>	<b>120.3</b>	<b>123.4</b>

Source: Consumer Price Index, Office for National Statistics

Compared to 2013, total domestic energy prices in 2014 increased in real terms by 3%. Within the overall movement, liquid fuels decreased by 13%, electricity prices increased by 4%, and gas prices increased by 3%. Between 2004 and 2014, real prices for domestic energy almost doubled (up 96%), with the real price of electricity increasing by 74% and the real price of liquid fuels and gas increasing by 93% and 126% respectively.



## Petrol and diesel prices, 1990 to 2014



(1) Deflated using GDP (market prices) deflator (2010 = 100).

## Current retail prices

Pence/litre

	Unleaded	Diesel
1990	42.0	40.5
1995	53.8	54.2
2000	79.9	81.3
2005	86.8	90.9
2010	116.9	119.3
2011	133.3	138.7
2012	135.4	141.8
2013	134.1	140.4
2014	127.5	133.5

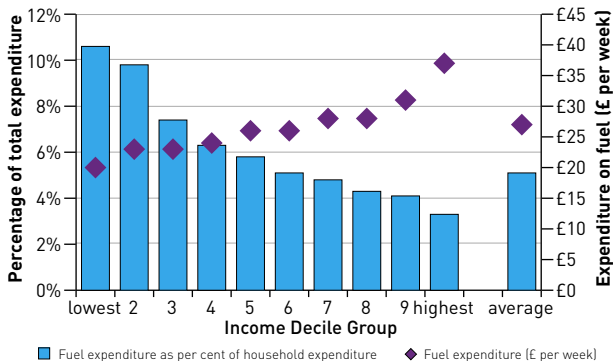
In cash terms ULSP cost 6.7 pence less in 2014 than in 2013, whilst diesel cost 6.9 pence per litre less. These slight decreases reflect the price of crude oil, which were almost consistently above \$100 per barrel between February 2011 and September 2014 before starting to fall, falling below \$50 per barrel for the first time since 2009 in January 2015. Prices have since increased to around \$65 per barrel, but the average annual price in 2014 was lower than 2013.

In real terms the price of Ultra Low Sulphur Petrol (ULSP) was 7% lower in 2014 compared to 2013, whilst the price of diesel was also 7% lower.

In 2014, taxes and duty accounted for 62% of the retail price of unleaded and 60% of the price of diesel.

# Expenditure

Fuel expenditure of households,<sup>1</sup> 2013



## Fuel expenditure as a percentage of total household expenditure, 1980 to 2013

Fuel type	1980	1990	2000/01	2010	2012	2013
Gas	1.6%	1.7%	1.2%	2.0%	2.1%	2.4%
Electricity	2.7%	2.3%	1.6%	2.1%	2.2%	2.3%
Coal and Coke	0.9%	0.3%	} 0.3%	0.4%	0.4%	0.4%
Heating oil	0.4%	0.2%				
<b>Total</b>	<b>5.6%</b>	<b>4.5%</b>	<b>3.1%</b>	<b>4.5%</b>	<b>4.7%</b>	<b>5.1%</b>

Source: Living Costs and Food Survey 2013, Office for National Statistics

(1) Includes non-consuming households

Between 2000/01 and 2010, the proportion of household expenditure spent on fuel increased from 3.1 per cent to 4.5 per cent. Between 2010 and 2012, it has remained fairly steady, however, in 2013;<sup>1</sup> it has increased to 5.1%. Households in the lowest income decile group (i.e. the 10% of households with the lowest income) spend almost half as much on domestic fuel per week compared to households in the highest income decile group (£20 compared to £37 per week). However, when comparing expenditure on domestic fuels as a proportion of total expenditure in 2013, then those in the lowest income decile group spend considerably more (10.6%) than those in the highest income decile group (3.3%).

<sup>1</sup> The year-on-year changes presented in this section between 2013 and earlier years should be treated with caution because changes in recording expenditure were implemented by the Living Costs and Food (LCF) survey in 2013.

Contacts			
Topic	Contact	Telephone (0300 068)	e-mail
General enquires about energy statistics			energy.stats@decc.gsi.gov.uk
Total energy statistics Foreign Trade Energy Intensity	Anwar Annut	5060	Anwar.Annut@decc.gsi.gov.uk
Climate Change	Laura Bates	5471	climatechange.statistics@decc.gsi.gov.uk
Coal and other solid fuels	Chris Michaels	5050	coalstatistics@decc.gsi.gov.uk
Petroleum production Natural gas production	Shyam Lakhani	6865	Shyam.Lakhani@decc.gsi.gov.uk
Petroleum consumption and stocks	William Spry	6988	William.Spry@decc.gsi.gov.uk
Gas and petroleum exploration drilling Gas and petroleum investment indicative tariffs	Mike Earp	5784	Mike.Earp@decc.gsi.gov.uk
Natural gas consumption	Michael Williams	5052	Michael.Williams2@decc.gsi.gov.uk
Electricity	Stephen Ashcroft	2928	electricitystatistics@decc.gsi.gov.uk
Feed in Tariffs	Tamas Borbely	5761	fitstatistics@decc.gsi.gov.uk
Renewables	James Hemingway	5042	renewablesstatistics@decc.gsi.gov.uk
Combined Heat and Power	Liz Waters	5735	Elizabeth.Waters@decc.gsi.gov.uk
Energy Efficiency Installations	Peter Antoniadis	5106	Peter.Antoniades@decc.gsi.gov.uk
Fuel Poverty	Liz Vincent	5162	fuelpoverty@decc.gsi.gov.uk
Energy prices (industrial, international & oil prices)	Jo Marvin	5049	Jo.Marvin@decc.gsi.gov.uk
Energy prices (domestic)	Liz Vincent	5162	Elizabeth.Vincent@decc.gsi.gov.uk

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

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## 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.

	<b>Thousand toe</b>	<b>TJ</b>	<b>GWh</b>	<b>Million therms</b>
<i>to:</i>				
	<i>multiply by</i>			
<i>from:</i> <b>Thousand toe</b>	1	41.868	11.630	0.39683
<b>TJ</b>	0.023885	1	0.27778	0.0094778
<b>GWh</b>	0.085985	3.6000	1	0.034121
<b>Million therms</b>	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 nil or not separately available, and '..' is used to indicate 'not available'.

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

All data within this publication are classified as National Statistics.

All figures are for the United Kingdom, except for pages 34, 35 and 36.

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 2015 edition was published by The Stationery Office on 30 July 2015 and costs £75. It can also be accessed on the Internet at:

[www.gov.uk/government/collections/digest-of-uk-energy-statistics-dukes](http://www.gov.uk/government/collections/digest-of-uk-energy-statistics-dukes)

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 2015 edition of the chart, published on 30 July 2015, shows the flows for 2014 and can be accessed on the Internet at:

[www.gov.uk/government/collections/energy-flow-charts](http://www.gov.uk/government/collections/energy-flow-charts)

Free copies are available from the Publications Orderline 0845 504 9188.

**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 can be accessed on the Internet at:

[www.gov.uk/government/collections/energy-trends](http://www.gov.uk/government/collections/energy-trends)

Monthly updates to tables in Energy Trends are split by fuel source and can be accessed on the Internet at:

[www.gov.uk/government/organisations/department-of-energy-climate-change/about/statistics](http://www.gov.uk/government/organisations/department-of-energy-climate-change/about/statistics)

**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 can be accessed on the Internet at:

[www.gov.uk/government/collections/quarterly-energy-prices](http://www.gov.uk/government/collections/quarterly-energy-prices)

**UK Energy Sector Indicators** 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. It can be accessed on the Internet at:

[www.gov.uk/government/collections/uk-energy-sector-indicators](http://www.gov.uk/government/collections/uk-energy-sector-indicators)

## References

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**Energy Consumption in the United Kingdom** brings together statistics from a variety of sources to produce a comprehensive review of energy consumption and changes in efficiency, intensity and output since the 1970s, 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.

[www.gov.uk/government/collections/energy-consumption-in-the-uk](http://www.gov.uk/government/collections/energy-consumption-in-the-uk)

**Sub-National 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.

[www.gov.uk/government/organisations/department-of-energy-climate-change/about/statistics](http://www.gov.uk/government/organisations/department-of-energy-climate-change/about/statistics)

DECC has constructed a **National Energy Efficiency Data-framework (NEED)** to enable detailed statistical analysis of energy efficiency. The data framework matches the gas and electricity consumption data collected for DECC sub-national energy consumption statistics and records of energy efficiency measures in the Homes Energy Efficiency Database (HEED) run by the Energy Saving Trust (EST), as well as typographic data about dwellings and households.

[www.gov.uk/government/collections/national-energy-efficiency-data-need-framework](http://www.gov.uk/government/collections/national-energy-efficiency-data-need-framework)

**Fuel Poverty Statistics** are produced by DECC to support the UK Fuel Poverty Strategy.

[www.gov.uk/government/collections/fuel-poverty-statistics](http://www.gov.uk/government/collections/fuel-poverty-statistics)

**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.

[www.gov.uk/government/collections/uk-greenhouse-gas-emissions](http://www.gov.uk/government/collections/uk-greenhouse-gas-emissions)

**Green Deal and Energy Company Obligation Statistics** are published by DECC on a range of information relating to the rollout of the Green Deal and ECO policy. This includes number of GD Assessments, number of GD Plans, number of energy efficiency measures installed, data on the amount of GD cashback and GD Home Improvement Fund vouchers issued, data on ECO brokerage, and information on the supply chain. DECC also publishes quarterly statistics on the levels of wall and loft insulation in Great Britain, along with information on the remaining potential for insulation measures.

[www.gov.uk/government/collections/green-deal-and-energy-company-obligation-eco-statistics](http://www.gov.uk/government/collections/green-deal-and-energy-company-obligation-eco-statistics)

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