

PRESS NOTICE



Department for
Business, Energy
& Industrial Strategy



Statistical Press Release

28 July 2016

Digest of UK Energy Statistics 2016

The Department for Business, Energy and Industrial Strategy today releases 4 key publications: the **Digest of United Kingdom Energy Statistics 2016**, **UK Energy in Brief**, **Energy Flow Chart**, and **Energy Consumption in the United Kingdom** providing detailed analysis of production, transformation and consumption of energy in 2015.

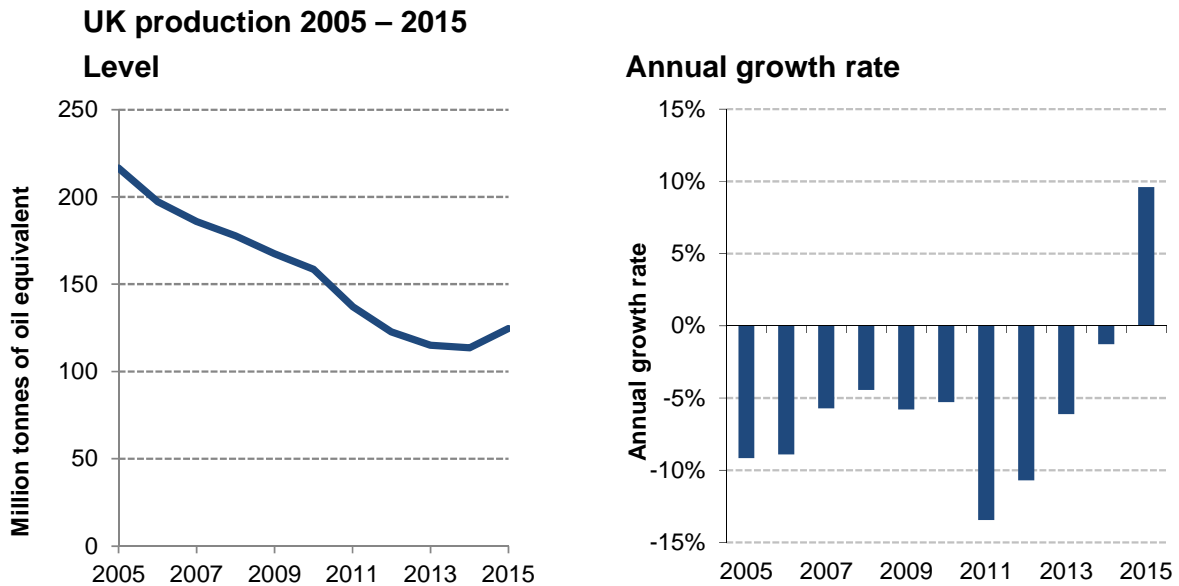
DIGEST OF UK ENERGY STATISTICS 2016

Key points

- **Primary energy production** rose by 9.6 per cent, on a year earlier, its first increase since 1999, as output of oil and gas from the UK Continental Shelf were both up. Low carbon sources including nuclear, wind, solar photovoltaics and bioenergy all grew strongly. Coal output though was down to a record low level.
- **Final energy consumption** rose by 0.4 per cent, reflecting the cooler weather in 2015 compared to 2014. On a temperature adjusted basis, final energy consumption was down 0.8 per cent continuing the downward trend of the last ten years.
- Electricity generated from **renewable sources** in the UK in 2015 increased by 29 per cent on a year earlier, and accounted for 25 per cent of total UK electricity generation, up from 19.1 per cent in 2014. Total renewables, as measured by the 2009 EU Renewables Directive, accounted for 8.3 per cent of energy consumption in 2015, up from 7.1 per cent in 2014.

Main energy production and trade statistics:

- **Primary energy production** rose by 9.3 per cent in 2015; its first rise since 1999. Production though is down 58 per cent from its peak on 1999.

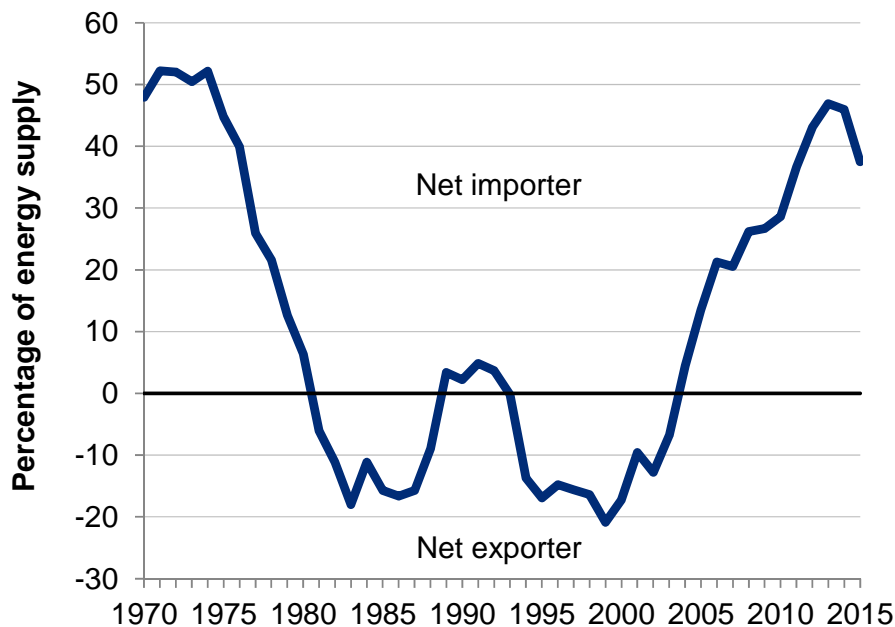


- **Gross natural gas** production increased 7.6 per cent in 2014. The increase contrasts with both the small increase in 2014 and the long term decline in UK natural gas production which had fallen by an average of 8.0 per cent from peak production in 2000 to the end of 2013.
- **Crude oil (including NGL) production** in 2015, at 45 million tonnes, increased by 13.4 per cent compared to 2014 due to the opening of new fields. Production is currently around a third of the UK's peak in 1999.
- **Coal production** was down by 26 per cent to a record level in 2015 compared to 2014, following the closure of a number of mines.
- Energy **imports** fell by a further 6.1 per cent in 2015 and are down by 13 per cent on 2013's record level.
 - For crude oil the key source was Norway, which accounted for 50 per cent of imports. In total crude oil imports fell marginally because refineries made use of indigenous crude as a feedstock in 2015.



- For gas the key source was also Norway, which accounted for 61 per cent of UK imports, with 7 per cent from the Netherlands. LNG accounted for 31 per cent of gas imports, up from 27 per cent in 2014, with 92 per cent of these imports from Qatar.
- The UK sources its petroleum products widely, with a range of European countries supplying diesel road fuel. Aviation fuel is also sourced widely with significant volumes from OPEC countries such as Kuwait and Saudi Arabia. The UK remains a net exporter of petrol with over a third of exports shipped to the US.
- For coal the key source was Russia accounting for 38 per cent of UK imports, followed by Colombia and the US which accounted for 29 and 22 per cent respectively.
- The UK remained a **net importer of energy**, though with a decreased dependency level (imports / energy use) of 38 per cent; this continues the trend from 2004 when the UK once again became a net importer of fuel. In 2015 the UK was a net importer of all main fuels types.

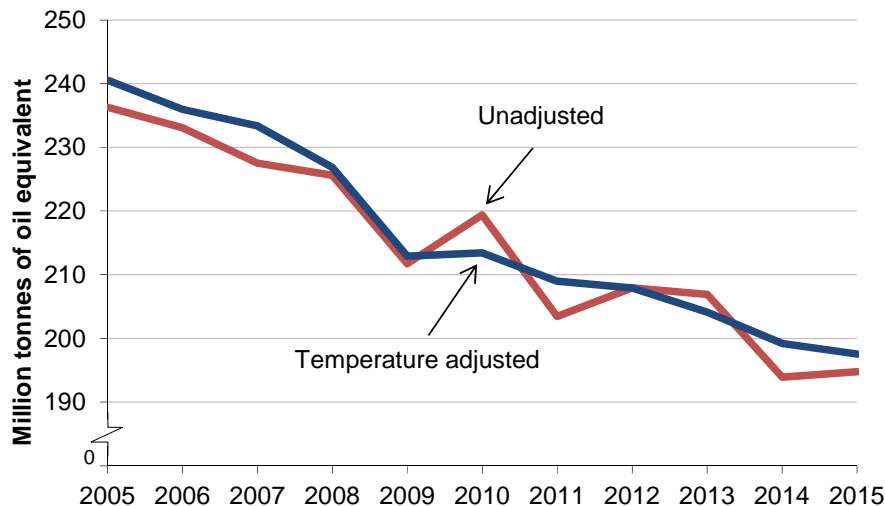
UK import dependency 1970 – 2015



Main energy consumption statistics:

- UK **primary energy consumption** in 2015 increased by 0.4 per cent, but on a temperature adjusted basis, consumption was down 0.8 per cent continuing the downward trend of the last ten years.

Primary energy consumption 2005 - 2015



- **Overall gas demand** increased by 2.9 per cent. Domestic demand, which is influenced by temperature, was 5.1 per cent higher than in 2014.
- **Total oil consumption in the UK increased in 2015, the first noticeable increase in several years.** Over 70 per cent of oil is consumed in the transport sector, which showed an increase of 1.8 per cent from 2014. An increase in demand for diesel, combined with reduced contraction in demand for petrol, has driven the overall increase. Demand has likely been affected by low road fuel prices seen in 2015.
- **Consumption of diesel road fuel exceeded the consumption of motor spirit** in 2015 by over 11 million tonnes. Up until 2005 motor spirit exceeded diesel road fuel sales; since then a large element of the UK's car fleet has switched to diesel. Petrol consumption has typically been falling by around 3.5 per cent per annum since 2000, but in 2015 reduced by just 2 per cent. Over the same period diesel use typically increases by 2.6 per cent per annum, but in 2015 was up 4.3 per cent.

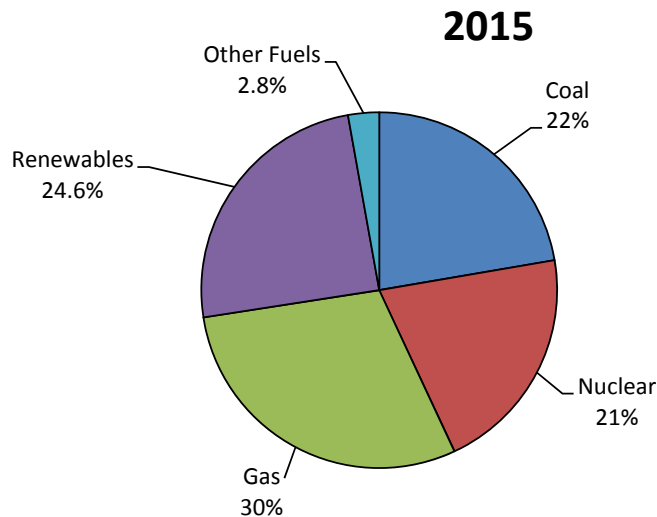
- **Coal consumption** decreased by 23 per cent in 2015. There was a 24 per cent decrease in **consumption by major power producers** (consumers of 78 per cent of total coal demand). The decline was due to a number of reasons: increased availability of nuclear and wind generation, the conversion of a third unit at Drax from coal to high-range co-firing (85% to <100% biomass) in July 2015 and an increase in the carbon price floor (from April 2015). Coal accounted for 22 per cent of the electricity generated in the UK in 2015, down from 30 per cent in 2014. The domestic sector accounted for only 1.5 per cent of total coal consumption.
- **Energy consumption by final users** at 137.4 million tonnes of oil equivalent increased by 1.7 per cent in 2015. Consumption in the domestic sector was up by 3.6 per cent; with and service sector use up by 1.8 per cent. Industrial use was down by 0.5. There was increased consumption from transport, which was up 1.3 per cent. Average temperatures in 2015 were cooler than the record levels of 2014. On a temperature adjusted basis final energy consumption was broadly unchanged on 2014 levels.
- **Refinery production** increased by 1 per cent on 2015 despite recent rationalisation in the sector, but remains at roughly one third of peak levels in 1999. Despite robust production, net imports increased by 40 per cent on 2014 to make up the shortfall in demand for certain products including road diesel and aviation fuel. Imports of petroleum products increased by 9 per cent but exports increased by less than 1 per cent. As a result, the UK was a net importer of petroleum products in 2014 by around 9 million tonnes, up from 6 million tonnes in 2014 and the largest figure since 1984, the year of the miners' strike. Petrol accounts for nearly half of exports.



Main electricity generation and supply statistics:

- In 2015, gas was the main fuel used for electricity generation, with its share remaining at 30 per cent. Coal's share decreased from 30 per cent to 22 per cent, whilst nuclear's share increased to 21 per cent following outages in the second half of 2014.

Electricity generation by fuel, 2015



- Electricity generated from renewable sources in the UK in 2015 increased by 29 per cent on a year earlier, and accounted for 25 per cent of total UK electricity generation, up from 19.1 per cent in 2014. Offshore wind generation increased by 30 per cent, and onshore wind increased by 23 per cent. The offshore wind load factor (41.4 per cent) exceeded that of gas (31.7 per cent).
- In 2015, the proportion of UK **electricity generated from renewables** was 25 per cent. Installed electrical generating capacity of renewable sources rose by 23 per cent (5.7 GW) in 2015, mainly as a result of a 69 per cent increase (3.8 GW) in solar photovoltaic capacity (mainly due to high deployment of large-scale capacity under the Renewables Obligation), and a 9.6 per cent increase (1.3 GW) in wind capacity. Bioenergy capacity increased by 14.8 per cent (0.7 GW), with new and converted capacity (mainly a third unit at Drax) exceeding reductions.

- There was a 0.4 per cent increase in the **total supply of electricity** in the UK in 2015, to 360.0 TWh. Indigenous electricity supply rose by 0.3 per cent, while net imports of electricity increased by 2.0 per cent, to a record 20.9 TWh. This was despite a 2.3 per cent fall in imports, which was outweighed by a 35 per cent fall in exports.
- **Final consumption of electricity** remained broadly the same at 302.7 TWh, the lowest level since 1998.
- The **domestic sector** was the largest electricity consumer in 2015 (108.2 TWh), while the **industrial sector** consumed 92.3 TWh, and the **service sector** consumed 97.8 TWh. Industrial consumption fell by 0.4 per cent, while domestic consumption fell by 0.2 per cent.

Other energy statistics:

- **Total renewables**, as measured by the 2009 EU Renewables Directive, accounted for 8.3 per cent of energy consumption in 2015 up from 7.1 per cent in 2014, see article in Energy Trends June 2016 at: www.gov.uk/government/statistics/energy-trends-june-2016-special-feature-article-renewable-energy-in-2015
- In 2015, **Combined Heat and Power (CHP)** capacity stood at 5,692 MWe, a decrease of 202 MWe on 2014.
- In 2015 the energy industries' accounted for 2.5 per cent of **GDP**.

The switch away from coal for electricity generation, to low carbon sources is provisionally estimated to have decreased **emissions** of carbon dioxide by around 4 per cent in 2015.



ENERGY CONSUMPTION IN THE UNITED KINGDOM

- Final energy consumption excluding non-energy use was 137.4 Mtoe in 2015, 2.3 Mtoe (1.7 per cent) higher than in 2014 (though 2014 was the lowest since prior to 1970).
- Energy consumption in 2015 was 21.9 Mtoe (14 per cent) lower than in 2000 (137.4 Mtoe compared to 159.4 mtoe), and 8.5 Mtoe (5.9 per cent) lower than in 1970.
- In 2015, energy consumption in the **industrial sector** was 23.6 Mtoe, a 0.5 per cent decrease since 2014. Consumption increased in the vehicles sub-sector (by 4.6 per cent), electrical & instrument engineering (2.7 per cent), and in the chemicals sub-sector (an increase of 1.5 per cent). The biggest decrease in absolute terms was in the mineral products sub-sector which fell from 2.8 Mtoe to 2.7 Mtoe. Overall there was little change in each sub-sectors' share of consumption when compared to 2014, with the largest single share being from the chemical industry accounting for 13 per cent.
- Since 2014, energy consumption in the **transport sector** increased by 0.7 Mtoe (1.3 per cent) to 54.8 Mtoe in 2015. The majority of the increase was in **road transport** which increased by 0.6 Mtoe (1.4 per cent). Consumption in **air transport** also increased from 2014 to 2015 (by 1.2 per cent), but **rail transport** fell by 1.6 per cent. Consumption in the **transport sector** peaked in 2007 and has since fallen by 5.0 Mtoe (8.3 per cent). **Road transport** (which accounted for 74 per cent of total transport in 2015) saw the largest fall in absolute terms (a decrease of 2.7 Mtoe) whilst **air transport** fell by 1.3 Mtoe (9.6 per cent). During this period, **rail transport** actually increased; by 5.0 per cent.
- In 2015, **domestic energy consumption** increased by 1.4 Mtoe (3.6 per cent), reflecting lower average temperatures for the year. On a temperature corrected basis, consumption was 0.4 Mtoe (1.0 per cent) lower in 2015. Since 2000, consumption has fallen by 15 per cent despite a 13 per cent increase in the number of households and an 11 per cent increase in the population. Per household, consumption has fallen by 25 per cent since 2000.
- In the **service sector**, energy consumption in the **private commercial sector** increased by 3.2 per cent between 2000 and 2015, in the **public sector** it fell by 30 per cent and by 9.3 per cent in the **agriculture sector**.



NOTES TO EDITORS

1. The **Digest of United Kingdom Energy Statistics 2016**, compiled by the Department for Business, Energy and Industrial Strategy, contains tables and extensive commentary, charts and technical notes. As well as giving new data for 2015 it also presents some revised data for earlier years.

2. The Digest provides a comprehensive account of energy supply and demand in the United Kingdom, with the majority of the tables covering the last five years. The first chapter covers aggregated overall energy statistics, energy balances and the estimated value of fuel purchases. This chapter gives details of the conversion of fuels by the energy supply industries and figures for consumption by final users, with an analysis of consumption by main industrial groups. It also contains a table covering fuel used for electricity generation by industries whose main activity is not the generation of electricity (i.e. autogenerators). Other chapters cover the individual fuels and particular topics such as renewable sources of energy and combined heat and power. The Digest also contains annexes on key events in the energy industries in recent years and a glossary of terms.

3. The **Digest of United Kingdom Energy Statistics 2016** is available at: www.gov.uk/government/collections/digest-of-uk-energy-statistics-dukes. **UK Energy in Brief**, a summary of the main figures in the Digest, is available at: www.gov.uk/government/collections/uk-energy-in-brief. **The Energy Flow Chart**, a chart showing the UK energy flows of primary fuels from home production and imports to their eventual final uses, is available at: www.gov.uk/government/collections/energy-flow-charts

4. **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 in the UK since the 1970s, with a particular focus on trends since 1990. The updated information is released in tables at: www.gov.uk/government/collections/energy-consumption-in-the-uk

5. **Energy Trends** is a quarterly publication that contains tables, charts and commentary covering all major aspects of energy. It provides a comprehensive picture of energy production and use over recent months and enables readers to monitor trends during the year and complements the annual publications. The latest edition was published on 30 June 2016, and is available at: www.gov.uk/government/collections/energy-trends

6. **Energy Prices** is a quarterly publication that contains analyses of petroleum product prices, industrial energy prices, domestic electricity and gas prices, and international comparisons of energy prices. It contains the information on energy prices that until 2001 was published in the Digest of United Kingdom Energy Statistics. The latest edition was published on 30 June 2016, and is available at: www.gov.uk/government/collections/quarterly-energy-prices

7. In addition to the above statistical publications, the BEIS section of the GOV.UK website also contains key energy data in downloadable spreadsheet format. The



spreadsheet format includes data on energy production, consumption, trade and prices and is available in monthly, quarterly and annual time-series format.

8. UK Greenhouse Gas Emissions statistics are also produced by BEIS to show progress against the UK's goals, both international and domestic, for reducing greenhouse gas emissions. These data are available at: www.gov.uk/government/collections/uk-greenhouse-gas-emissions

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