

## Section 1 - Total Energy

### Key results show:

#### Provisional 2018

Total energy production was 3.7 per cent higher than in 2017. This increase, the fourth in successive years, was due to rises in output from oil, bioenergy and waste, and wind and solar. Oil output rose, up 9.0 per cent, and together with gas, which fell 3.1 per cent, accounts for 72 per cent of UK production. Coal output fell to a record low level, whilst output from nuclear also fell, due to outages. The output from bioenergy and waste and wind, solar and hydro is now nearly 13 times higher than coal, notable as coal output was higher as recently as 2012. **(Chart 1.1)**

Total primary energy consumption for energy uses was 0.6 per cent lower than in 2017. However, when adjusted to take account of weather differences between 2017 and 2018, primary energy consumption fell by 1.3 per cent. **(Chart 1.3)**

Final energy consumption (excluding non-energy use) was 0.7 per cent higher than in 2017. On a seasonally and temperature adjusted basis it is estimated to have fallen by 0.3 per cent with rises in industrial and transport consumption offset by falls in the domestic and services sector. **(Chart 1.5)**

Net import dependency was 35.3 per cent in 2018. Imports fell whilst exports rose in 2018. Fossil fuel dependency was at a record low in 2018 at 79.3 per cent. **(Charts 1.6 & 1.7)**

#### Quarter 4 2018

Total energy production was 7.9 per cent higher than in the fourth quarter of 2017, boosted by strong growth in oil and bioenergy and waste output. **(Chart 1.2)**

Total primary energy consumption for energy uses fell by 3.0 per cent. However, when adjusted to take account of weather differences between the fourth quarter of 2017 and the fourth quarter of 2018, primary energy consumption also fell by 2.7 per cent. **(Chart 1.3)**

Final consumption fell by 2.2 per cent compared to the fourth quarter of 2017, with the warmer weather in November and December 2018 compared to a year earlier a significant factor, resulting in domestic consumption falling by 4.4 per cent. **(Chart 1.4)**

### Relevant tables

[1.1: Indigenous production of primary fuels](#)

[1.2: Inland energy consumption: primary fuel input basis](#)

[1.3: Supply and use of fuels, and Seasonally adjusted and temperature corrected final energy consumption](#)

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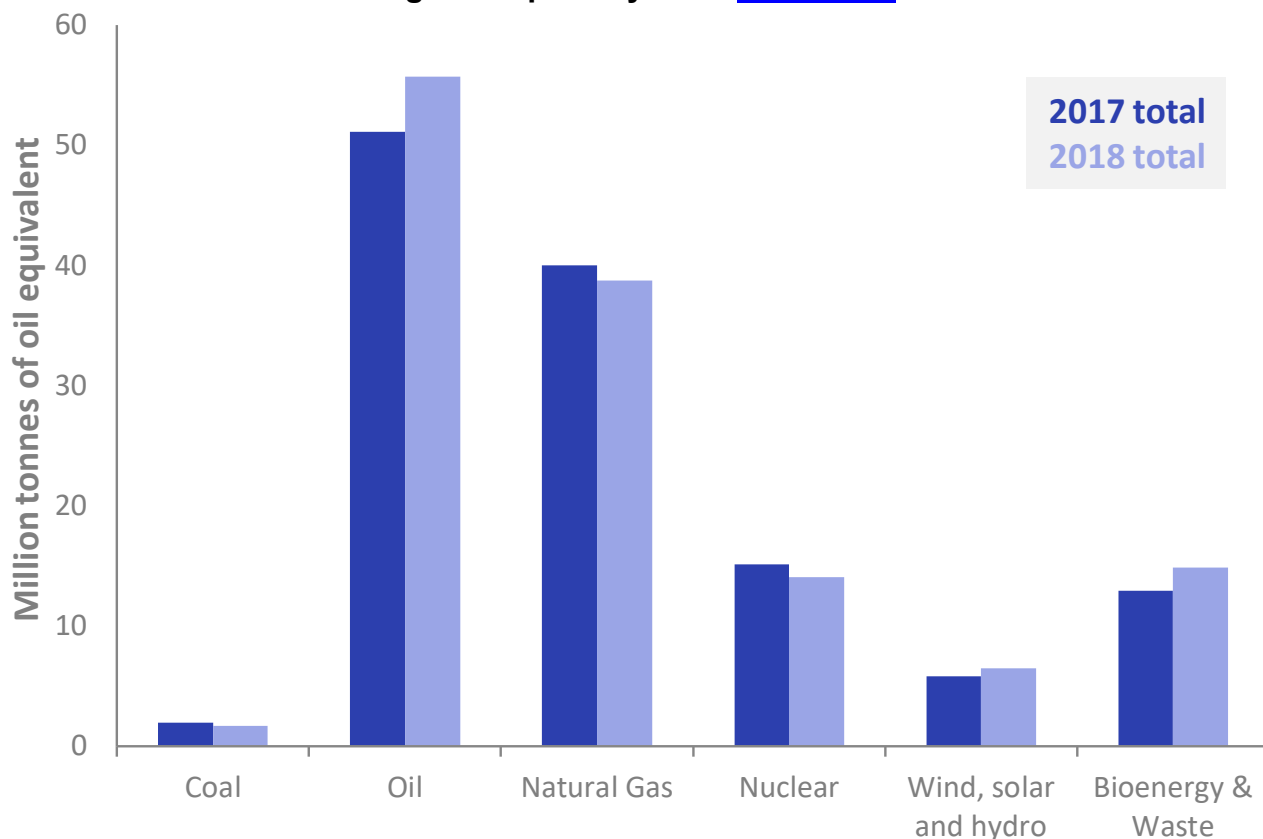
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**Chart 1.1 Production of indigenous primary fuels** [\(Table 1.1\)](#)



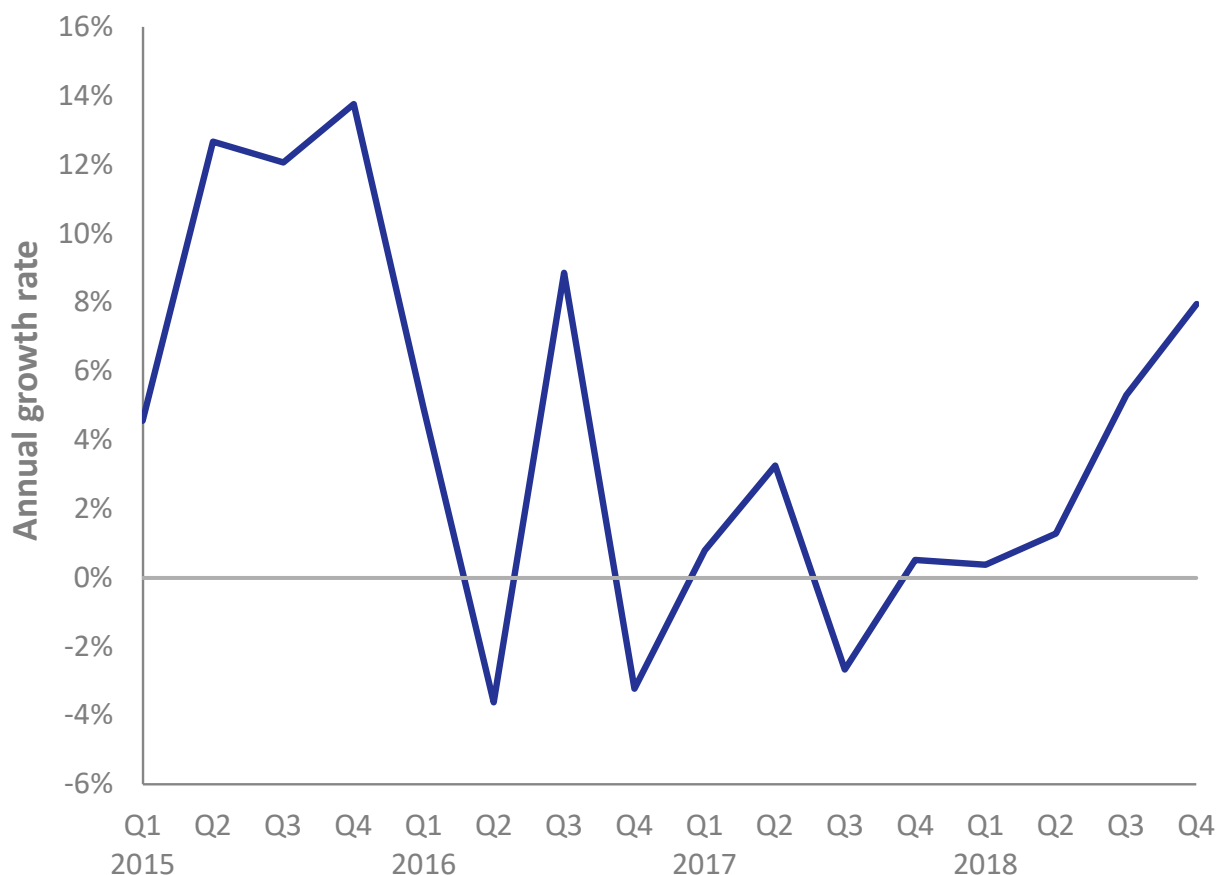
Total production in 2018 was 131.5 million tonnes of oil equivalent, 3.7 per cent higher than in 2017. This increase, the fourth in successive years, is due to rises in output from oil, bioenergy and waste, and wind and solar which more than offset the decline in UK coal production and reduced output from gas and nuclear. Output from bioenergy and waste and wind, solar and hydro is now nearly 13 times that of coal, when as recently as 2012 coal output was larger.

Production of oil rose by 9.0 per cent due to new fields opening on the UKCS, as well as the closure of the Forties pipeline in December 2017, whilst gas fell by 3.1 per cent, with production in the second half of the year impacted by the closure of the Theddlethorpe gas terminal in August 2018.

Production of bioenergy & waste rose by 15 per cent between 2017 and 2018 to a record 14.8 million tonnes of oil equivalent, driven by conversions from coal to biomass at the Drax and Lynemouth power stations.

Primary electricity output fell by 1.8 per cent between 2017 and 2018, within which nuclear output fell by 7.0 per cent due primarily to outages in the fourth quarter of 2018, whilst output from wind, solar and hydro rose by 12 per cent, to a record high level, due to increased wind and solar capacity.

Production of coal fell by 14 per cent, to a new record low.

**Chart 1.2 UK production (annual growth rate) ([Table 1.1](#))**

Total production in the fourth quarter of 2018 at 34.8 million tonnes of oil equivalent was 7.9 per cent higher than in the fourth quarter of 2017.

Production of oil rose by 17 per cent, whilst gas fell by 5.1 per cent compared to the fourth quarter of 2017. Oil and gas production levels in December 2018 were 31 per cent higher than in December 2017 due to the closure of the Forties Pipeline System for repair.

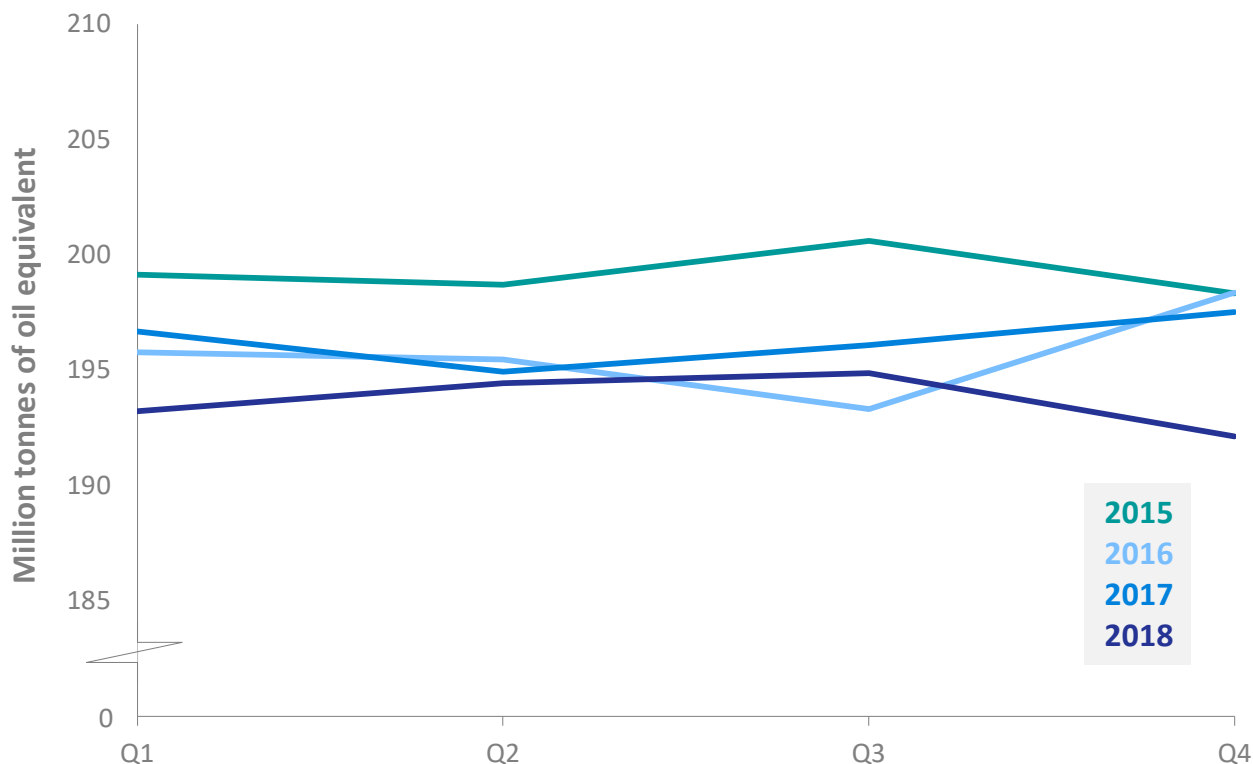
Primary electricity output in the fourth quarter of 2018 was 4.9 per cent lower than in the fourth quarter of 2017, within which nuclear electricity output was 12 per cent lower following outages, whilst output from wind, solar and hydro was 10 per cent higher due to increased wind and solar capacity.

Production of bioenergy and waste was 40 per cent higher compared to the fourth quarter in 2017, due mainly to an increase in capacity, mostly from the conversion of Lynemouth power station from coal to biomass in March 2018.

In the fourth quarter of 2018 production of coal was 19 per cent lower than the corresponding period of 2017.

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**Chart 1.3 Total inland consumption (primary fuel input basis) <sup>(1)</sup> [\(Table 1.2\)](#)**

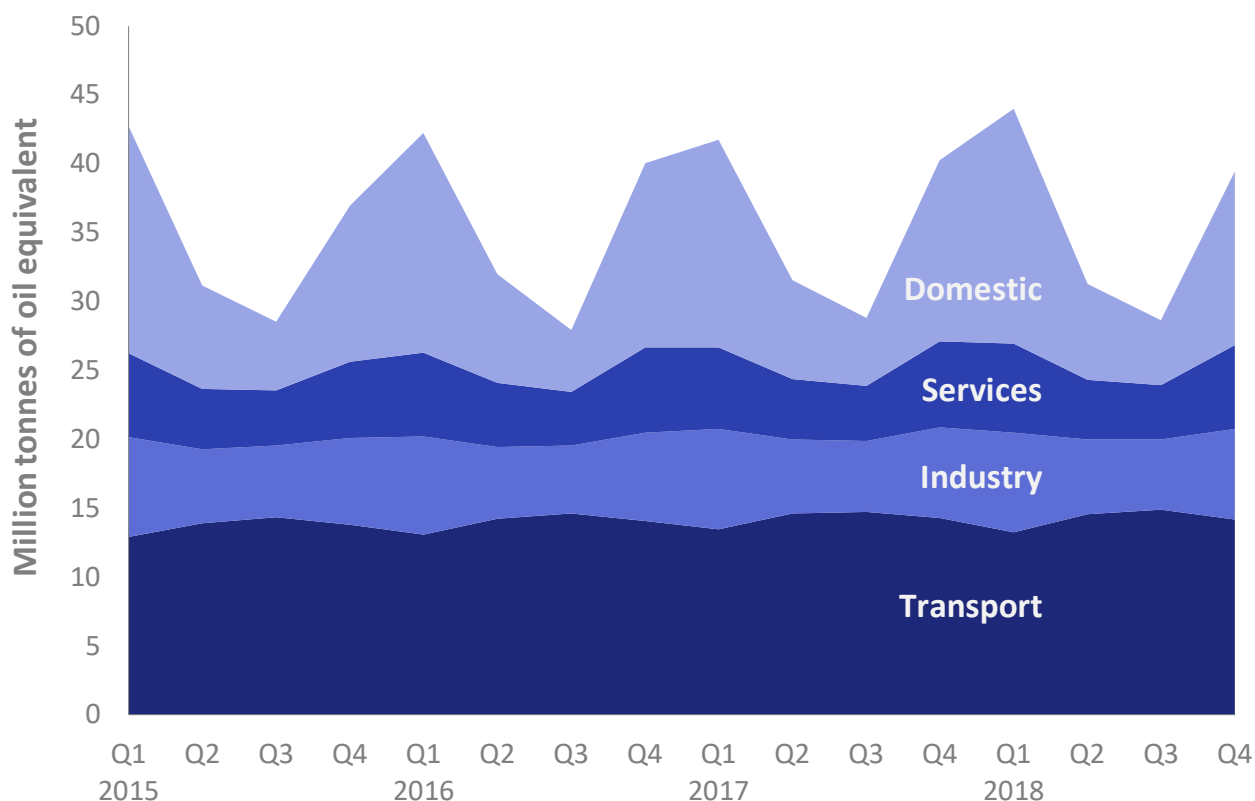


Total inland consumption on a primary fuel input basis (temperature corrected, seasonally adjusted annualised rate), was 193.7 million tonnes of oil equivalent in 2018, a fall of 1.3 per cent from 2017. On an unadjusted basis, consumption was down 0.6 per cent. The average temperature in 2018 was broadly similar to 2017, and BEIS estimate that the number of heating degree days increased by 5.5 per cent from 1,889 to 1,992.

Between 2017 and 2018 (on a seasonally adjusted and temperature corrected basis) oil consumption fell by 1.3 per cent, gas fell by 1.7 per cent as electricity generators made more use of renewable sources, and bioenergy rose by 9.6 per cent. Primary electricity consumption was broadly unchanged, within which nuclear fell by 7.0 per cent but wind, solar and hydro rose by 12 per cent, whilst coal consumption fell by 19 per cent, to a record low.

Total inland consumption on a primary fuel input basis (temperature corrected, seasonally adjusted annualised rate), was 192.1 million tonnes of oil equivalent in the fourth quarter of 2018, a fall of 2.7 per cent compared to the fourth quarter of 2017. On an unadjusted basis, consumption also fell by 3.0 per cent; average temperatures in the fourth quarter of 2018 were 8.6 degrees Celsius, 0.4 degrees higher than the same period a year earlier. Average temperatures in November and December 2018 were respectively 1.2 and 1.8 degrees higher than the equivalent months in 2017; whilst in October 2018 the daily average temperature was 10.7 degrees Celsius, 1.6 degrees Celsius lower than October 2017.

Consumption of coal fell by 32 per cent on an unadjusted basis in the fourth quarter of 2018 compared to a year earlier, whilst gas consumption fell by 4.8 per cent. Primary electricity consumption fell by 1.6 per cent, within which nuclear fell by 12 per cent but wind, solar and hydro rose by 10 per cent due to increased capacity and more favourable weather conditions. These changes in consumption levels reflect the switch from coal and gas to renewable sources for electricity generation in 2018 (see sections 5 and 6).

**Chart 1.4 Final energy consumption by user (Table 1.3a)**

In 2018, total final consumption (including non-energy use) was 0.4 per cent higher than in 2017, but 7.2 per cent lower than 2008.

Total final energy consumption fell by 2.2 per cent between the fourth quarter of 2017 and the fourth quarter of 2018.

Domestic sector energy consumption fell by 4.4 per cent between the fourth quarter of 2017 and the fourth quarter of 2018 reflecting the warmer weather in the quarter; annually it rose by 2.3 per cent reflecting the notably cold weather in February and March.

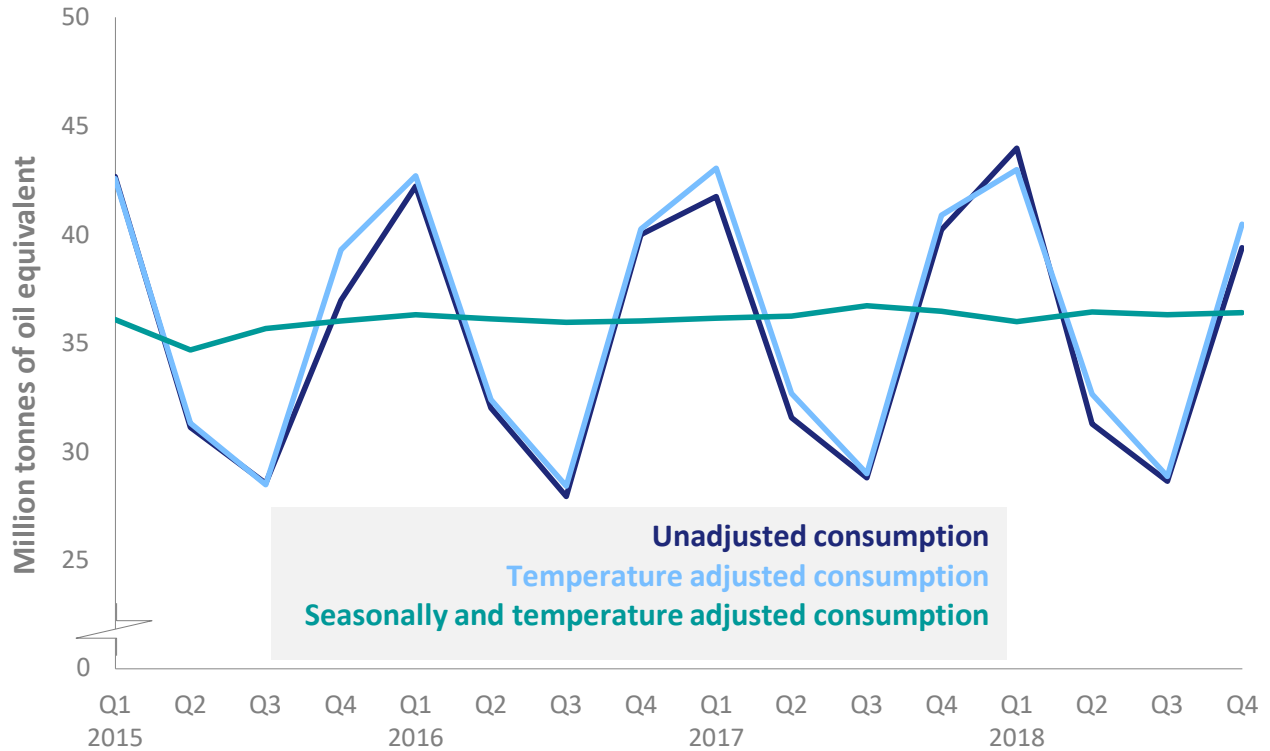
Service sector energy consumption fell by 1.8 per cent between the fourth quarter of 2017 and the fourth quarter of 2018; annually it rose by 1.4 per cent.

Industrial sector energy consumption was broadly unchanged between the fourth quarter of 2017 and the fourth quarter of 2018; annually it rose by just 0.1 per cent.

Transport sector energy consumption fell by 0.9 per cent between the fourth quarter of 2017 and the fourth quarter of 2018; annually it fell by 0.5 per cent.

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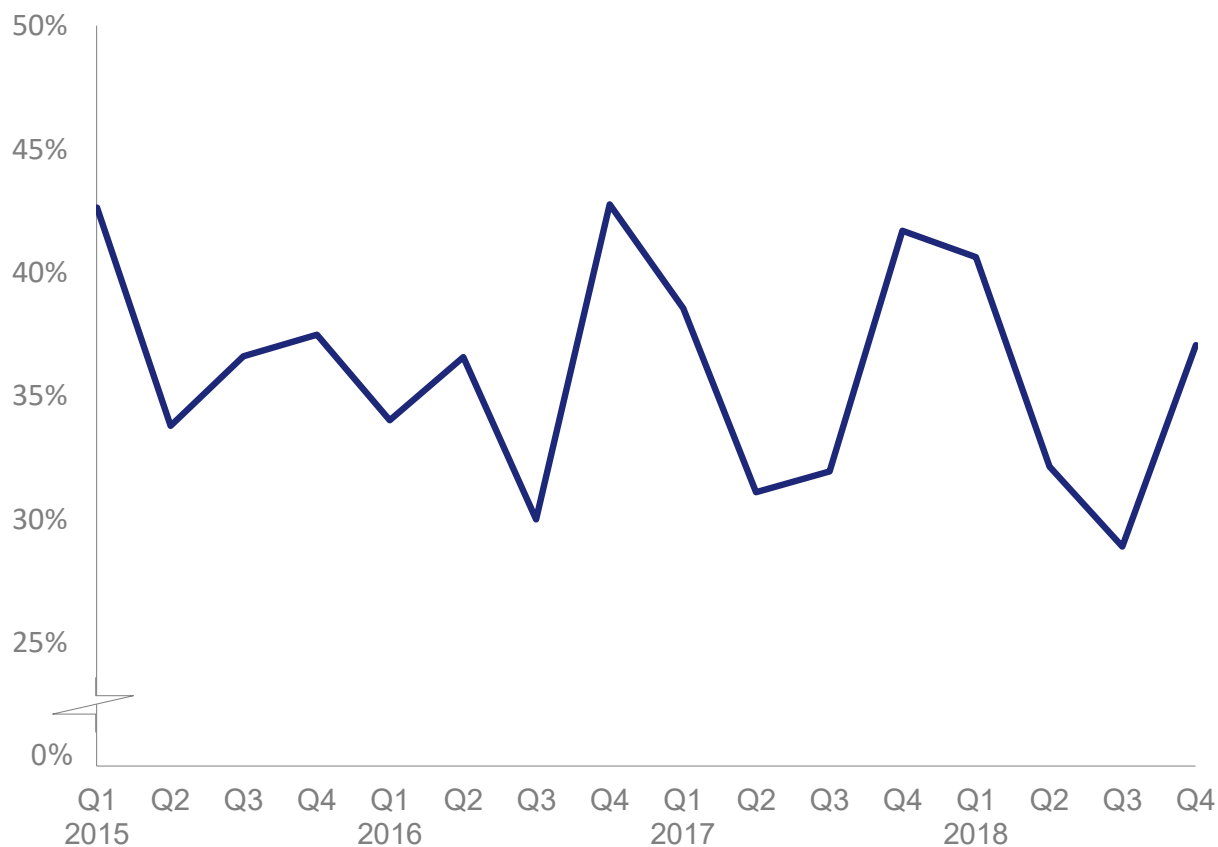
**Chart 1.5 Seasonally adjusted and temperature corrected final energy consumption**  
**(Table 1.3c)**



Total unadjusted final energy consumption (excluding non-energy use) rose by 0.7 per cent between 2017 and 2018.

On a seasonally and temperature adjusted basis final energy consumption (excluding non-energy use) is estimated to have fallen by 0.3 per cent driven by falls in domestic and service sector consumption.

Total unadjusted final energy consumption (excluding non-energy use) fell by 2.1 per cent between the fourth quarter of 2017 and the fourth quarter of 2018. On a seasonally and temperature adjusted basis final energy consumption (excluding non-energy use) is estimated to have fallen by 0.2 per cent between the fourth quarter of 2017 and the fourth quarter of 2018.

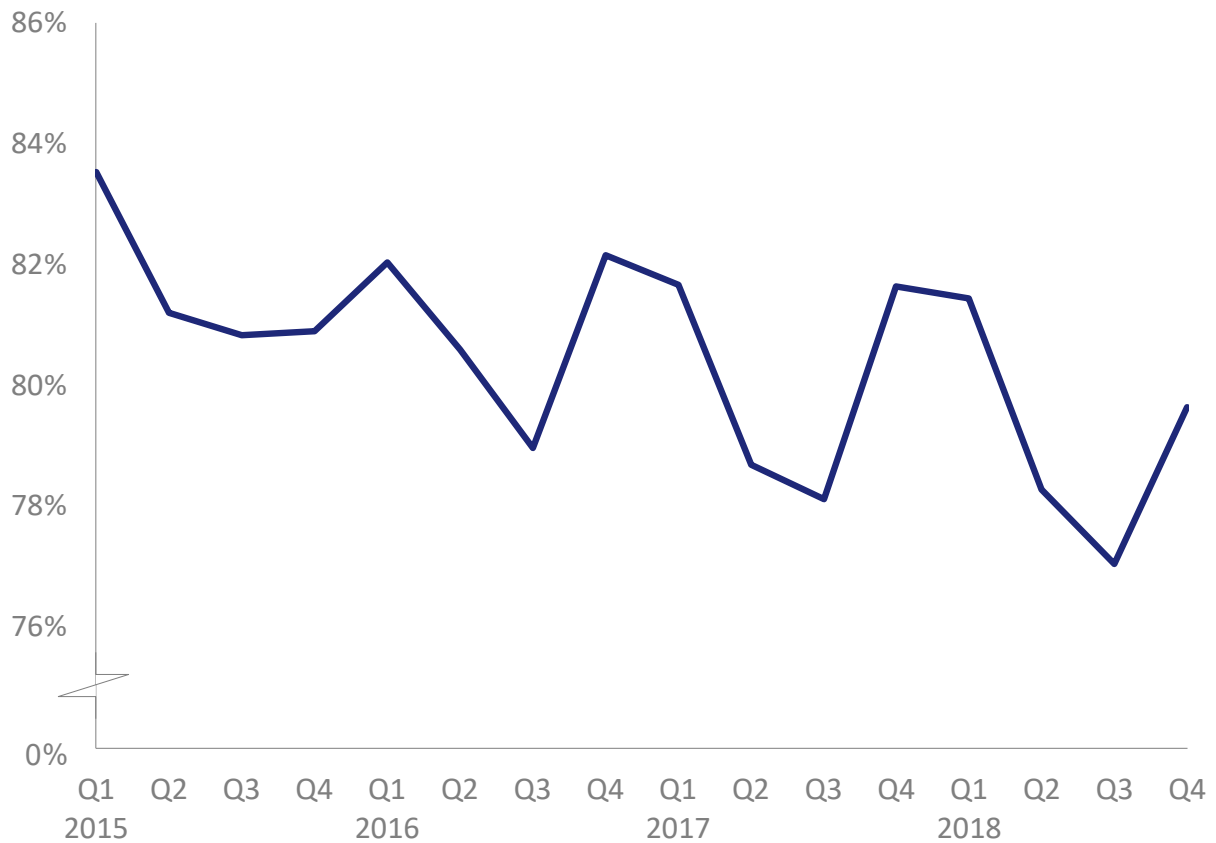
**Chart 1.6 Net import dependency** ([Table 1.3a](#))

Annually, total imports fell by 0.1 per cent to 153.4 million tonnes of oil equivalent, whilst exports rose by 3.3 per cent to 81.8 million tonnes of oil equivalent. As a result, net import dependency fell 1.0 percentage points from 2017 to 35.3 per cent, its lowest level since 2010.

In the fourth quarter of 2018, imports fell by 3.0 per cent, whilst exports rose by 11 per cent. As a result, net import dependency fell 4.6 percentage points from the fourth quarter of 2017 to 37.1 per cent.

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**Chart 1.7 Fossil fuel dependency** ([Table 1.3a](#))



Annually fossil fuel dependency was at a record low of 79.3 per cent, down 0.9 percentage points from 2017.

Dependency on fossil fuels in the fourth quarter of 2018 was 79.6 per cent, down 2.0 percentage points from the fourth quarter of 2017.