

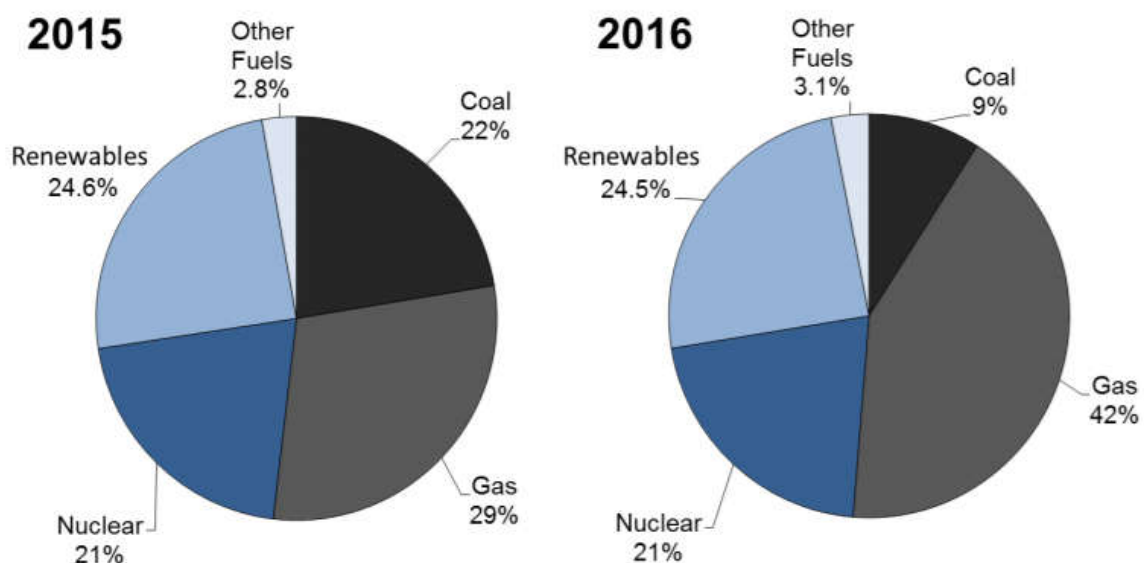
The UK's changing energy mix

2016 saw a significant shift in the way the UK generates its electricity. Driven by policy and supported by market preference, the UK fuel mix has moved further away from coal and more towards gas generated electricity.

As can be seen below, coal's share in the energy mix fell to just 9% in 2016, down 13% on 2015. This gap was filled entirely by increased gas generation which now represents 42% of the UK's energy mix. The major driver for this change was an increase in the Carbon Floor Price (CFP). The CFP is a top-up tax to the EU emissions trading scheme (ETS) and acts as a financial incentive for companies to reduce their emissions. In 2015, the cost was just £9 per tonne of CO₂, by 2016, the cost had doubled. Since generating just one GWh of electricity by coal produces more than double the amount of CO₂ than generation by gas does, coal generation has become more expensive and is therefore reserved for when demand is highest. Furthermore, coal-fired capacity has reduced with the closure of two coal power plants in March 2016; Ferrybridge C in Yorkshire and Longannet in Scotland. While no coal power stations closed in 2017, by 2025, remaining coal power stations will be forced to close as a result of new pollution standards.

Renewables holding steady

Meanwhile, the charts below also show that renewable's share in generation remained stable at 24.5% in 2016. Renewable's include solar, wind, marine, hydro, geothermal, heat pumps, bioenergy and combined heat and power. This stability is largely due to unfavourable conditions in 2016 resulting in lower wind speeds, reduced rainfall and fewer sun hours being mitigated by the addition of new generation sites. Under the 2009 EU renewable Energy Directive, the UK has to have 30% of its energy mix has come from renewable sources by 2020. Under current projections by the National Grid, the UK is headed for 34% in 2020. Despite a reduction in financial incentives, a major contributor to the increase in renewables has been the financial support available. Current schemes include Renewable Obligation (RO) and the Feed in Tariff (FiT) with a new scheme currently being developed called Feed in Tariff with a Contract for Difference (CfD).



What about nuclear?

Nuclear's share in the UK's energy mix has also stayed the same. A legacy of under-investment will result in all but one of the UK's current nuclear reactor plants being closed by 2025. However, plans to overcome this are well underway. Two new nuclear reactors at Hinckley Point C, Somerset, will kick-start a generation of new nuclear power plants in the UK. The new generation will feature UK EPR's (a UK specific version of a European Pressurised Water Reactor) which use 17% less uranium than current reactors and produce a third less long-lived radioactive wastes and are the safest nuclear power generators ever designed. The new power station, expected to become operational in 2025, will deliver 7% of the UK's electric. The company behind Hinckley Point C, EDF Energy, are also planning two additional nuclear power stations, one in Essex and the other in Suffolk.

Looking to the future

With official figures for 2017 yet to be released, data released by BM Reports and Sheffield University suggest that renewables are making significant progress. For 315 days of the year, renewables generated more electricity than coal with wind outperforming the fossil fuel on 263 days and solar on 180 days. Despite progress, more needs to be done if the UK wants to hit its carbon targets which it won't if gas continues to share such a large proportion of the UK's energy mix.

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