



Department for
Business, Energy
& Industrial Strategy



Statistical Press Release

30 July 2020

Digest of UK Energy Statistics 2020

The Department for Business, Energy and Industrial Strategy today releases 3 key publications: the **Digest of United Kingdom Energy Statistics 2020**, **UK Energy in Brief** and the **Energy Flow Chart**, providing detailed analysis of production, transformation and consumption of energy in **2019**.

DIGEST OF UK ENERGY STATISTICS 2020

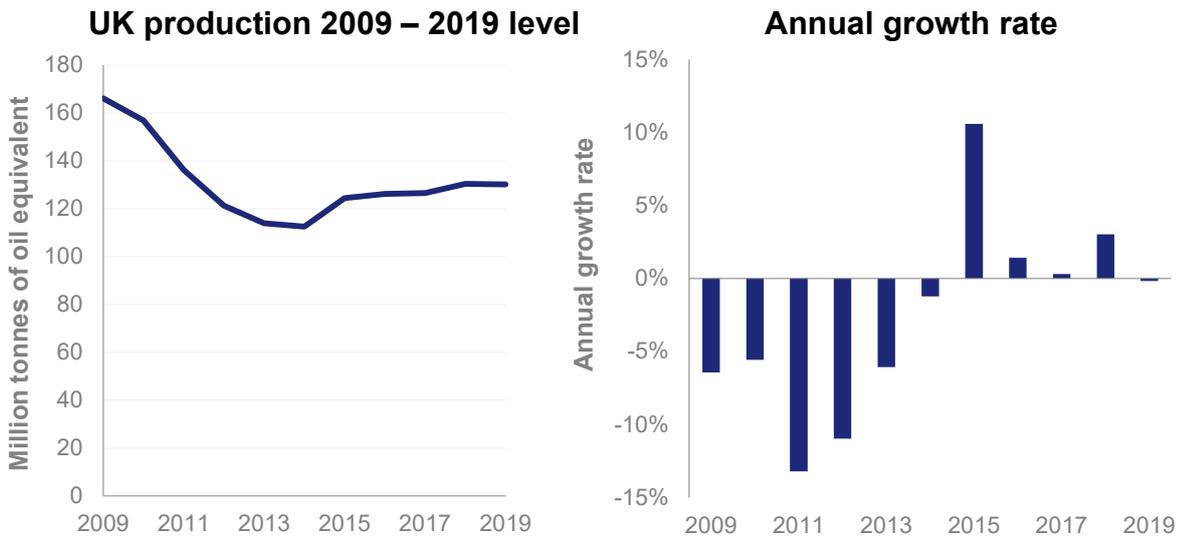
Key points:

- **Primary energy production** fell marginally in 2019, down 0.2 per cent on a year earlier. The fall was due to reduced output from gas and nuclear. Overall, fossil fuel production decreased, with coal output falling to a record low level.
- **Final energy consumption** fell by 0.9 per cent, as demand for heating decreased particularly in the first quarter of 2019 compared to 2018. On a temperature adjusted basis, final energy consumption also fell by 0.9 per cent.
- **Total renewables** accounted for 12.3 per cent of total energy consumption in 2019, up from 11.2 per cent in 2018.
- **Electricity generated from renewable sources** in the UK in 2019 reached a record 37.1 per cent of total UK electricity generation, up from 33.1 per cent in 2018. This increase reflected a 6.5 per cent rise in renewable generation capacity to 47.2 GW.
- Despite reduced nuclear output, **low carbon electricity's share of generation** increased from 52.6 per cent to a record 54.4 per cent, driven by the increase in renewables generation.
- Provisional BEIS estimates¹ suggest that **overall emissions fell by 14.2 million tonnes of carbon dioxide (MtCO₂) (3.9 per cent) to 351.5 MtCO₂** between 2018 and 2019, driven mainly by the changes in the fuel mix used for electricity generation.

¹ www.gov.uk/government/statistics/provisional-uk-greenhouse-gas-emissions-national-statistics-2019

Energy production:

- **Primary energy production** fell by 0.2 per cent in 2019; production is down 56 per cent from its peak in 1999.

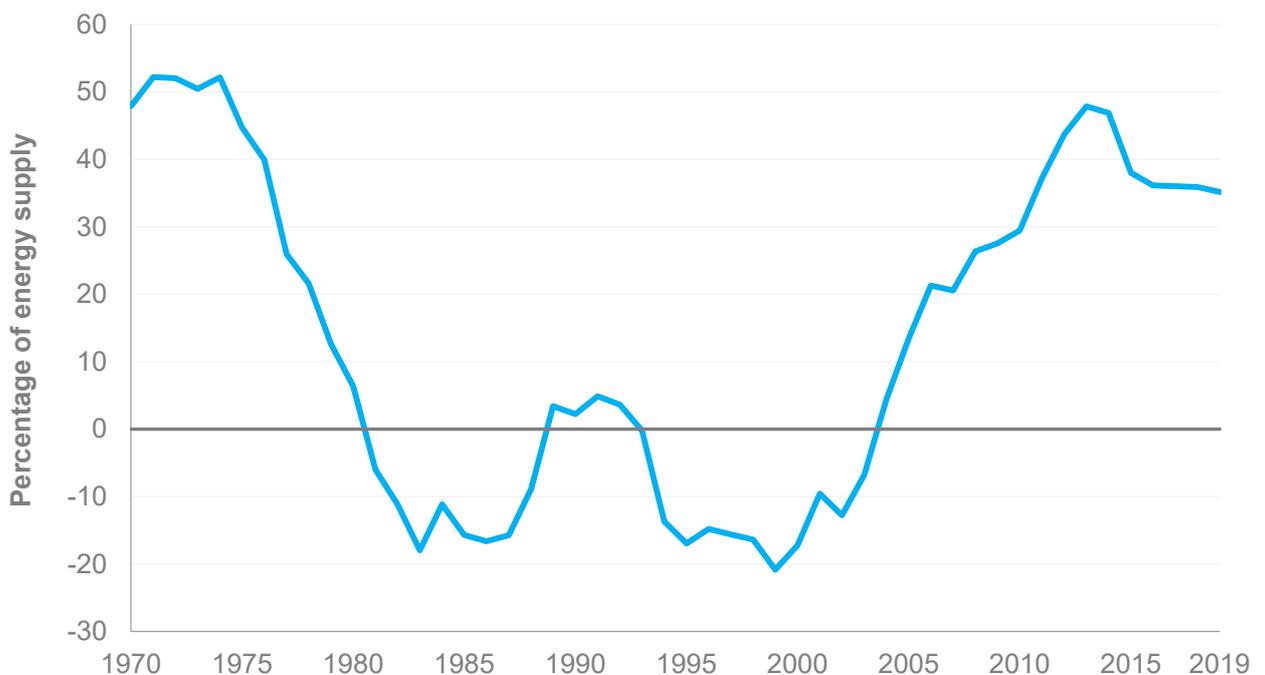


- **Crude oil (including NGL) production** in 2019, at 52 million tonnes, grew for the second consecutive year (by 1.9 per cent) following new projects that came online towards the end of 2017. Production in 2019 stands at 38 per cent of the UK's peak in 1999.
- **Gross natural gas production** decreased by 2.9 per cent to 439 TWh in 2019 compared to 2018, due to the closure of multiple gas production sites. The longer-term trend of gas production has been a pattern of decline and in 2019 production remained two-thirds below the peak levels seen in 2000.
- **Coal production** was down by 16 per cent to a record low of 2 million tonnes in 2019. This decrease was mainly due to lower demand for coal-fired electricity and coal mines closing and other collieries producing less coal as they are coming up to closure.

Energy trade:

- Energy **imports** fell by 2.4 per cent in 2019 and are down by 16 per cent on 2013's record level.
 - For crude oil, while Norway remains the single largest source of crude to the UK, its share has fallen in recent years from more than 60 per cent to just under 40 per cent in 2019. Imports of crude oil from the US continue to rise and in 2019 reached new record highs since the lifting of the crude export ban at the end of 2015, contributing 26 per cent of UK imports.
 - For gas, in 2019 pipeline imports were down sharply (by 28 per cent) owing to a three-fold increase in imports of Liquefied Natural Gas (LNG). This followed increasing diversification of supply from other countries and global oversupply driving down prices. Despite this, Norwegian pipeline gas continued to be the predominant source at 57 per cent of all imports.
 - The UK sources its petroleum products widely, with a range of European countries supplying fuel. Aviation fuel is also sourced widely with significant volumes in 2019 from India and OPEC countries such as Saudi Arabia and Kuwait.
- The UK remained a **net importer of energy** at 35 per cent, down marginally on last year. In 2019 the UK was a net importer of all main fuel types.

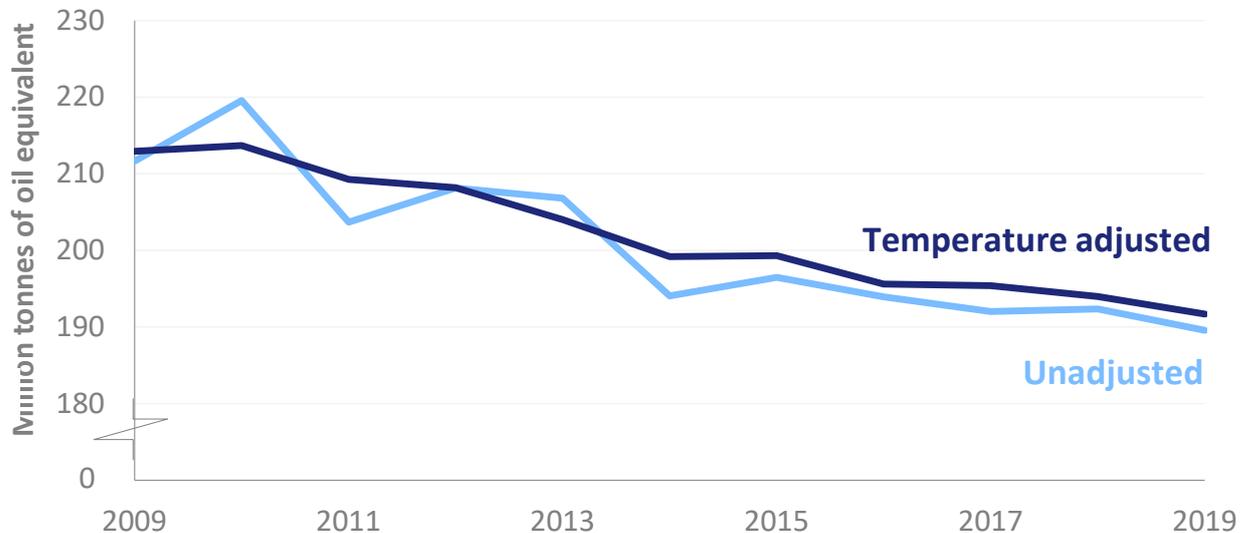
UK import dependency 1970 – 2019



Energy consumption:

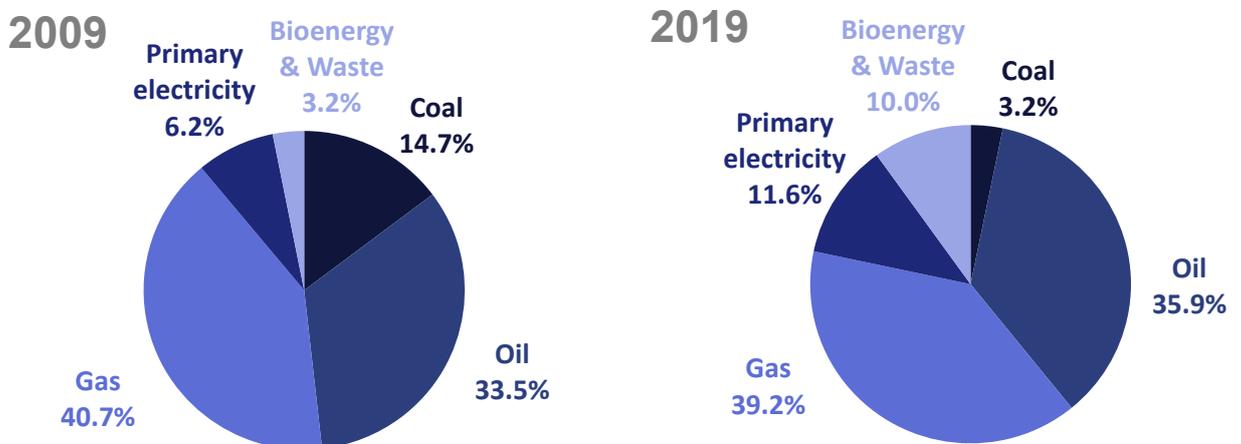
- UK **primary energy consumption** in 2019 fell by 1.5 per cent, and on a temperature adjusted basis consumption was down 1.2 per cent continuing the downward trend of the last ten years. The fall in 2019 was due to the continued switch in generation from coal and gas to renewable sources.

Primary energy consumption 2009 - 2019



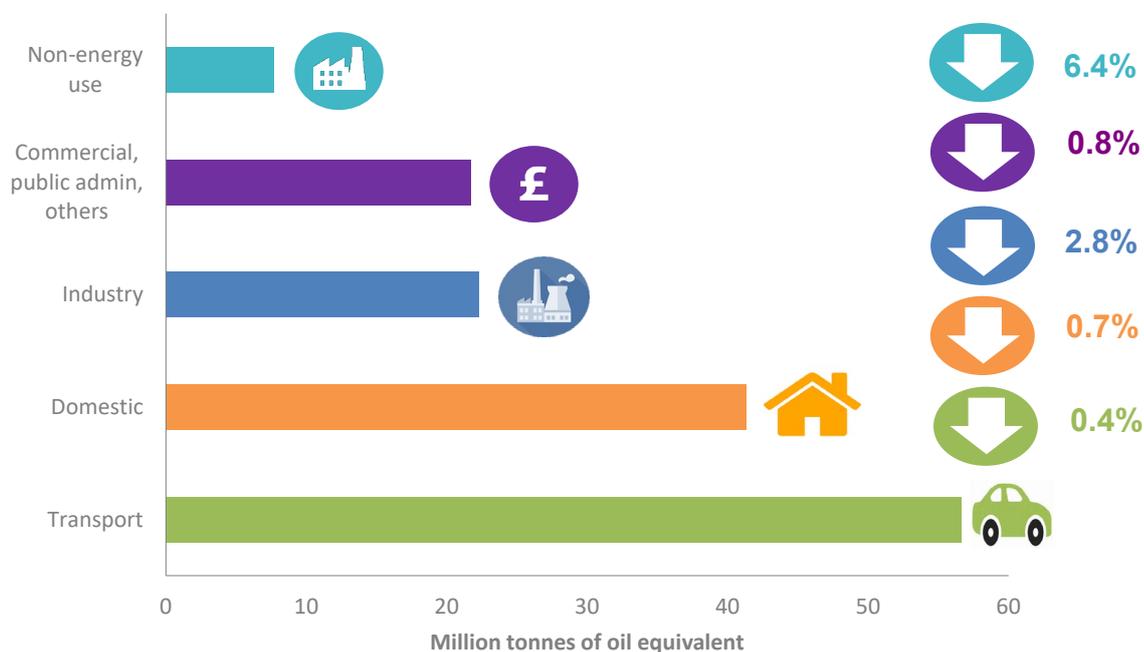
- The **composition of primary energy consumption** has changed, with coal falling from 14.7 per cent to 3.2 per cent of the total share between 2009 and 2019. The contribution of bioenergy & waste has more than trebled over that period. Gas, oil and coal now comprise 78 per cent of the primary consumption share, down from 89 per cent in 2009.

Primary energy consumption 2009 vs 2019



- **Consumption by final users** at 149.7 million tonnes of oil equivalent decreased by 1.2 per cent in 2019. Consumption in the domestic sector was down by 0.7 per cent, whilst service sector use was down by 0.8 per cent. Industrial use was down by 2.8 per cent and transport consumption was down by 0.4 per cent. On a temperature adjusted basis final energy consumption (excluding non-energy use) was down by 0.9 per cent on 2018 levels.

Final consumption by sector, 2019



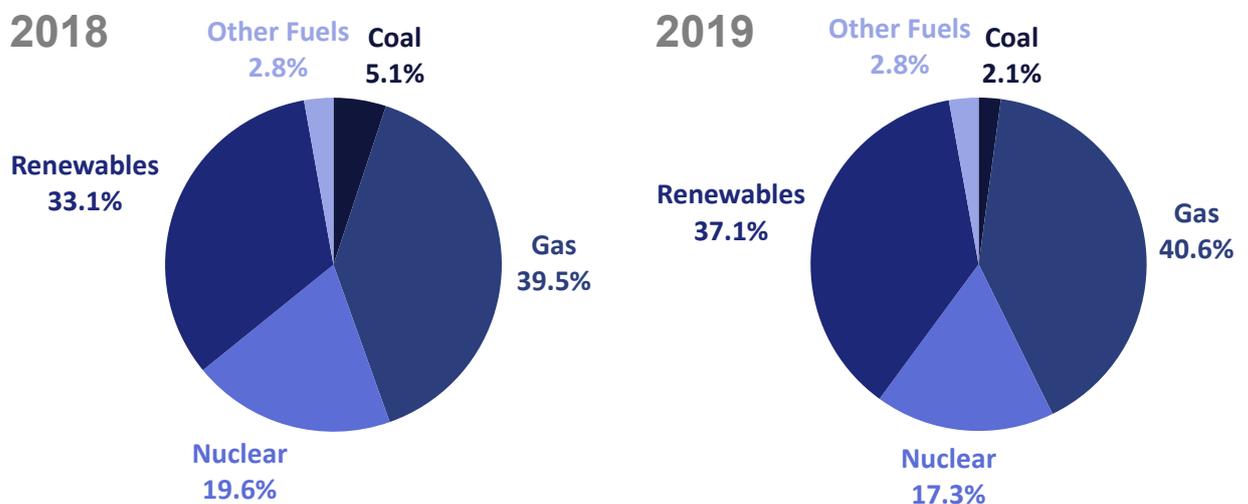
- **Coal demand** decreased by 33 per cent in 2019. There was a 56 per cent decrease in **consumption by major power producers**. The decline was due to gas, nuclear and renewables being favoured over coal for electricity generation due to economic reasons, as well as the continued rationalisation of the coal generation capacity with the closure of the following power stations - Fiddlers Ferry unit 1 (March 2019), Cottam Power Station (September 2019) and Aberthaw B (December 2019). There were only 5 major power stations remaining at the end of 2019. In May 2019 electricity was generated from coal on only 5 days with the longest coal free spell (18 days and 6 hours) since the 1880's. In the last ten years coal consumption has fallen by 84 per cent. Coal accounted for 2.1 per cent of the electricity generated in the UK in 2019, down from 5.1 per cent in 2018. The domestic sector accounted for only 6.2 per cent of total coal demand.
- **Final consumption of oil** in the UK decreased by 1.8 per cent in 2019. Transport fuels accounted for nearly 80 per cent of final consumption of oil and transport demand fell for the second consecutive year, by 1.1 per cent, on 2018.
- Whilst **demand for road diesel** fell by 3.4 per cent, demand for petrol was up by 1.1 per cent (excluding biofuels). This was **the first annual increase in petrol demand in the series** and is partially attributed to the slowing growth of the diesel vehicle fleet following sharp drops in new registrations after changes in diesel vehicle taxation announced in 2018. Despite this, consumption of road diesel remains more than double that of petrol at 24 million tonnes.

- **Natural gas demand** fell by 0.7 per cent to 878 TWh compared with 2018. Demand fell across most sectors, including the two largest sectors for gas demand - domestic and gas for electricity generation. Domestic demand, which is influenced by temperature, decreased by 0.9 per cent as milder temperatures in the first quarter of 2019 compared to 2018 brought demand down. An increase in the capacity for renewables has also reduced demand for generation. The long-term trend for gas demand is downwards, with demand 22 per cent lower in 2019 than in 2000.

Electricity generation and supply:

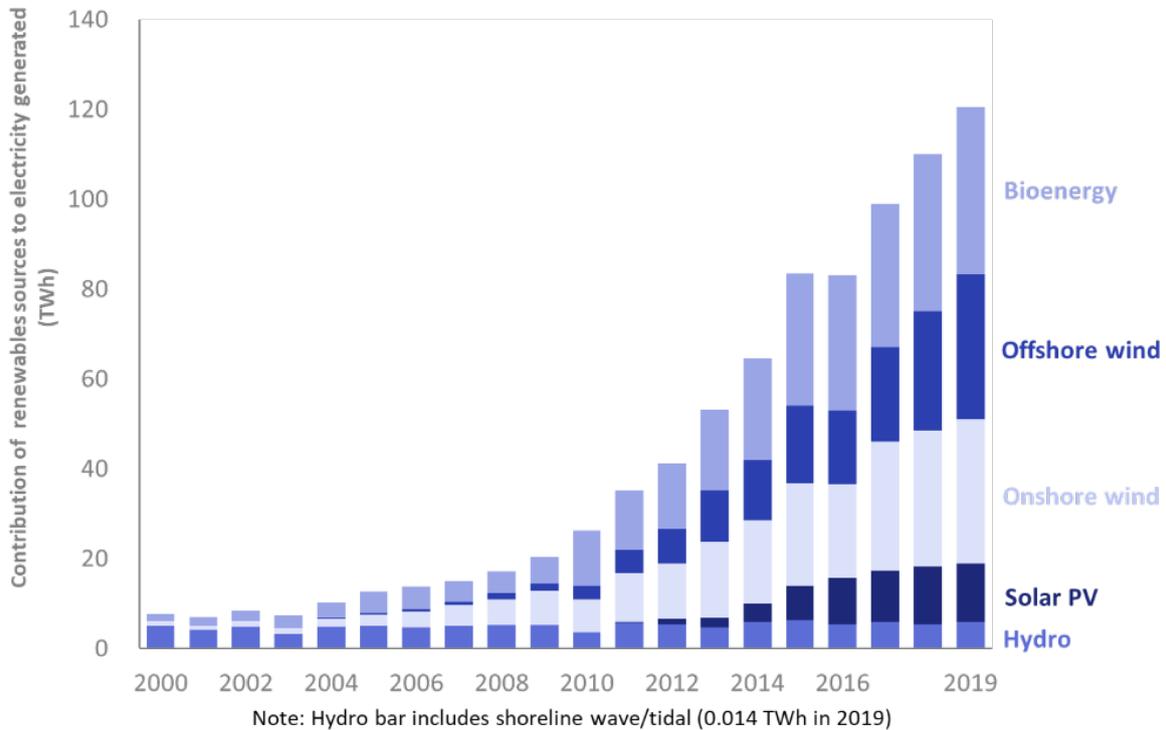
- There was a 1.7 per cent drop in the **total supply of electricity** in the UK in 2019, to 346 TWh, as demand fell with increased energy efficiency measures. Indigenous electricity supply fell 2.4 per cent while net imports of electricity rose by 11 per cent, to 21.2 TWh, with the new GB-Belgium interconnector coming into operation at the end of January. The UK remained a net importer of electricity in 2019.
- **Final consumption of electricity** fell 1.7 per cent to 295 TWh, its lowest level since 1994.
- The **domestic sector** remained the largest electricity consumer in 2019 (103.8 TWh), while the **industrial sector** consumed 91.6 TWh, and the **service sector** consumed 94.4 TWh. Industrial consumption fell by 2.4 per cent. Domestic consumption fell by 1.2 per cent and services consumption fell by 2.2 per cent.
- In 2019, **renewable electricity generation rose to a record high of 37.1 per cent**, displacing coal and nuclear generation. This stemmed from a 6.5 per cent increase in renewable capacity. Coal-fired generation continued its decline, falling below a tenth of its 2015 level. Its share fell from 22 per cent in 2015 to 2.1 per cent in 2019 as the carbon price increase in April 2015 made coal generation more expensive than gas. Gas rose slightly from 39.5 per cent in 2018 to a 40.6 per cent share of generation. Nuclear's share fell to 17.3 per cent due to maintenance and outages.

Electricity generation by fuel, 2018 vs 2019



- Electricity generated from renewable sources** in the UK in 2019 increased by 10 per cent to a record 121 TWh on a year earlier. Since 2004, renewables share of generation has increased tenfold. Generation from onshore and offshore wind increased by 6.5 per cent and 20 per cent respectively to new records, both boosted by higher capacities, offsetting lower wind speeds. Solar PV generation increased by 1.4 per cent and Hydro generation increased by 9.0 per cent. Generation from bioenergy increased by 6.8 per cent.

Electricity generation by main renewable sources



- Installed electrical generating capacity of renewable sources** rose by 6.5 per cent (2.9 GW), to 47.2 GW in 2019. Most of the increase was in wind capacity (2.3 GW). Taken together, onshore and offshore wind represent just over half of renewable electrical capacity.



NOTES TO EDITORS

1. The **Digest of United Kingdom Energy Statistics 2020**, 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 2019 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. 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, including a **glossary of terms (Annex B)** and details of **key events in the energy industries in recent years (Annex D)**.

3. The **Digest of United Kingdom Energy Statistics 2020** 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. We also anticipate publishing Energy Consumption in the UK (ECUK) at the end of September, which provides a more detailed breakdown of energy consumption than is available in DUKES. Publication of ECUK was delayed from July as a result of additional resource pressures arising from COVID-19.

5. 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.

6. 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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