Key results show:

Renewables' share of electricity generation was 44.6 per cent in 2020 Q2, a record for the second quarter and up 9.0 percentage points on the share in 2019 Q2. This was largely due to a drop in total electricity generation from non-renewable sources. (Chart 6.1)

Renewable electricity generation was 30.1 TWh in 2020 Q2, an increase of 12 per cent on the 27.0 TWh in 2019 Q2, but 29 per cent lower than the previous quarter which was the highest on record for renewable electricity generation (42.1 TWh). (Chart 6.2)

Offshore wind increased by 31 per cent to 7.8 TWh however this was a decrease of 45 per cent from the record generation in the previous quarter as average wind speeds dropped sharply back to typical seasonal levels. Onshore wind generation dropped by 0.8 per cent to 6.1 TWh compared to 2019 Q2 and dropped by 53 per cent compared to the previous quarter. (Chart 6.2)

Renewable electricity capacity was 48.5 GW at the end of 2020 Q2, a 5.4 per cent increase on a year earlier, and a 1.1 per cent increase on the previous quarter, with 77 per cent of the increase on last year’s capacity coming from offshore wind. (Chart 6.3)

Liquid biofuels consumption decreased by 24 per cent, from 444 million litres in 2019 Q2 to 337 million litres in 2020 Q2. This was driven by reduced consumption of all transport fuels as Covid-19 restriction decreased demand. The biofuel share of road fuels increased to 6.3 per cent, 1.2 percentage points greater than Q2 2019. (Chart 6.6)

Relevant tables

6.1: Renewable electricity capacity and generation
6.2: Liquid biofuels for transport consumption

Contacts for further information:

Will Spry    Ben Lucking
Renewables Statistics  Renewables Statistics
Tel: 020 7215 5394   Tel: 020 7215 5010

E-mail: renewablesstatistics@beis.gov.uk
Renewables’ share of electricity generation increased to 44.6 per cent in 2020 Q2 from 35.6 per cent in 2019 Q2. The share in 2020 Q2 is the second highest share on renewable generation on record. The share of generation fell by 3.2 percentage points from 2020 Q1 when very high wind speeds boosted load factors to record highs for both offshore and onshore wind.

The increased share on a year earlier mostly reflects a drop of 23 per cent in fossil fuel generation, particularly from gas, due to a decrease in total demand.

Total electricity generated from renewables in 2020 Q2 was up by 3.1 TWh (12 per cent) on 2019 Q2, to 30.1 TWh, but dropped by 12.0 TWh (29 per cent) lower than the previous quarter which had been a new record quarterly high at 42.1 TWh. The percentage share of electricity generated from renewables decreased from the previous quarter of 2020 by 3.2 percentage points, lower renewable generation was partly offset by lower total electricity generation.

Total electricity generation figures (all generating companies) can be found in table ET 5.1, at: www.gov.uk/government/statistics/electricity-section-5-energy-trends
In 2020 Q2, electricity generated from onshore wind remained within 1 per cent of 2019 Q2 at 6.1 TWh. Generation from offshore wind, however, saw a significant increase, up by 31 per cent (1.8 TWh), to 7.8 TWh but this was a decrease of 45 per cent compared to the previous quarter when average quarterly wind speeds were at their highest level in over a decade. Wind speeds in 2020 Q2, at 7.8 knots, were lower than the long-term mean (8.4 knots) but were slightly higher than average wind speeds for the last 2 years. See Energy Trends table 7.2 at: www.gov.uk/government/statistics/energy-trends-section-7-weather.

Generation from solar photovoltaics was at a new quarterly high, exceeding 5 TWh for the first time. Totals for 2020 Q2 increased by 5.6 per cent (0.3 TWh) compared to 2019 Q2. Capacity increased by 1.4 per cent whilst average daily sun hours grew by 1.9 in 2020 Q2 to 7.9 hours compared to 2019 Q2. This was a record high for the second quarter of the year in our time series - see Energy Trends table 7.3.

Hydro generation increased by 20.3 per cent to 1.1 TWh. Capacity remained stable as did average rainfall on a national level however actual generation depends on the precise location and timing of rainfall, rainfall had been very high in Q1 which may have added to generation in Q2 - see Energy Trends table 7.4.

In 2020 Q2, generation from bioenergy\(^1\), at 9.9 TWh, was up by 9.7 per cent on a year earlier. Within this, the largest increase came from plant biomass (mainly wood pellets) which was up by 0.7 TWh (12 per cent) on 2019 Q2. Plant Biomass makes up 69 per cent of total bioenergy.

Bioenergy had the largest share of renewable generation (33.1 per cent), 26.0 per cent came from offshore wind as well as 20.2 per cent from onshore wind, 17.1 per cent from solar PV and 3.7 per cent from hydro.

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\(^1\) Bioenergy consists of: plant biomass, animal biomass, biodegradable municipal solid waste, landfill gas, sewage gas, anaerobic digestion and co-firing (generation only)
At the end of 2020 Q2, the UK’s renewable electricity capacity totalled 48.5 GW, an increase of 5.4 per cent on that installed at the end of 2019 Q2, and 1.1 per cent higher than the previous quarter.

At the end of 2020 Q2, wind accounted for just over a half of total renewable generating capacity with 29.2 per cent for onshore wind and 23.0 per cent for offshore wind. After onshore wind, solar PV had the highest share of renewable technologies at 27.7 per cent. Bioenergy represented 16.2 per cent of capacity and hydro 3.9 per cent.

Compared with 2019 Q2, the largest increase in absolute terms was in offshore wind capacity which rose by 21 per cent to 11.2 GW. Additions to offshore wind include the final turbines being constructed at Hornsea One and more capacity coming online at East Anglia One which now stand at 1218 MW and 680 MW respectively. Increased onshore wind capacity includes Clocaenog Forest in Wales and Slieve Divena 2 in Northern Ireland.

Bioenergy capacity increased by 3.1 per cent to 7.9 GW. Solar PV capacity increased by 1.4 per cent to 13.4 MW. The increases in Solar PV capacity are slower than the rapid expansion seen in 2010–2016, partly due to the closure of the Renewables Obligation (RO) and Feed in Tariffs (FiTs) at the end of March 2019. The statistics published here do not currently include unsubsidised installations below 1MW capacity that are not registered on the MCS database. We are reviewing data sources to improve coverage.
Load factors are calculated as electricity generated by a technology as a proportion of maximum potential generation over the period, given the installed capacity.

In 2020 Q2, onshore wind’s load factor decreased by 0.5 percentage points, from 20.2 per cent in 2019 Q2 to 19.7 per cent. However offshore wind’s load factor increased by 2.1 percentage points, from 30.7 per cent in 2019 Q2 to 32.8 per cent. Wind speeds can vary across the country and can be different at sea. The precise timing of capacity coming online can also affect load factors, in particular, a lot of capacity was added at Hornsea 1 in June 2019, this contributed to the capacity at the end of that quarter but did not add to generation in the first two months of that quarter. This resulted in a lower load factor in Q2 of 2019.

The load factor for solar PV rose from 16.8 per cent in 2019 Q2 to 17.5 per cent in 2020 Q2 as average sun hours grew to 7.9 per day.

Hydro's load factor in 2020 Q2 decreased by 4.6 percentage points, from 22.7 per cent in 2019 Q2 to 27.3 per cent despite a small decrease in average rainfall. Quarterly load factors are affected by the precise timing and location of rainfall as there is a lag between rain falling and generation. Rainfall had been very high in Q1 of this year and this may have had some effect on generation in the latest quarter.

For bioenergy, the load factor in 2020 Q2, at 57.2 per cent, was up by 2.9 percentage points on a year earlier. However, this was lower than the previous quarter by 3.3 percentage points. Generation may have been affected by lower total demand due to COVID 19.
The Feed in Tariff (FiT) scheme closed to new entrants at the end of March 2019. BEIS continues to monitor small scale generation using the Central FiTs Register as well as records of installations that register with the Micro Generation Certification Scheme (MCS) and the Renewable Energy Planning Database (REPD). The statistics published here do not currently include unsubsidised installations below 1MW capacity that are not registered on the MCS database. We are reviewing data sources to improve coverage.

There were over 1 million small scale installations (less than 5 MW) installed at the end of Q2 2020, with a total capacity of 6,722 MW. This accounts for 14 per cent of total renewable capacity.

Solar photovoltaics (PVs) represent the overwhelming majority of small-scale installations at 1.013 million (99 per cent) and also the majority of capacity at 5.5 MW (81 per cent).

Statistics on Feed in Tariffs can be found at: www.gov.uk/government/collections/feed-in-tariff-statistics

Following the closure of the FIT scheme to new installations, government laid legislation in June 2019 to introduce a new supplier-led smart export guarantee (SEG) in Great Britain from 1 January 2020. Under the SEG, licensed electricity suppliers (with 150,000 domestic customers or more) are required to offer small-scale low-carbon generators a price per kWh for electricity exported to the grid. Further information on the SEG is available at: www.gov.uk/government/consultations/the-future-for-small-scale-low-carbon-generation
In the second quarter of 2020, 440 million litres of liquid biofuels were consumed in transport, a decrease of 27 per cent on the total of 599 million litres in the second quarter of 2019. This sharp drop in consumption reflects an overall drop in all transport fuel consumption as COVID-19 lockdown measures reduced travel.

Bioethanol consumption fell by 48 per cent from 187 million litres in the second quarter of 2019 to 97 million litres. Biodiesel consumption decreased by 17 per cent, from 412 million litres in Q2 2019 to 343 million litres in Q2 2020.

Biodiesel represented 78 per cent of biofuels consumption, with bioethanol accounting for the remaining 22 per cent.

Despite the drop in biofuel consumption the share of biofuel consumption as a proportion of total transport fuel continued to increase. In Q2 2020 bioethanol accounted for 4.6 per cent of motor spirit, up from 4.4 per cent in Q2 2019. Biodiesel represented 7.0 per cent of diesel (DERV) consumption, an increase from the 5.4 per cent seen in the second quarter of 2019. The combined contribution of all biofuels increased by 1.2 percentage points to 6.3 per cent, with the increase in biodiesel leading to a new record share of biofuels in transport.