Key results show:

Total renewable generation increased by 9.2 per cent on the same quarter last year to 31.1 TWh (Chart 6.2). As a result, renewables’ share of electricity generation was a near record 35.8 per cent in 2019 Q1, up 5.3 percentage points on the share in 2018 Q1, and reflective of increased capacity. (Chart 6.1)

Renewable electricity capacity was 45.0 GW at the end of 2019 Q1, a 7.9 per cent increase on a year earlier, mostly due to increased capacity for onshore and offshore wind and plant biomass. This was also a 1.4 per cent increase on the previous quarter. (Chart 6.3)

Onshore wind generation increased by 4.8 per cent to 9.8 TWh, whilst offshore wind increased by 7.3 per cent to 8.6 TWh. As a result, total wind generation increased by 6.0 per cent to 18.4 TWh, just short of the record which had been set in the last quarter of 2018. Solar generation increased by 19 per cent, from 1.8 TWh in 2018 Q1 to 2.1 TWh in 2019 Q1. (Chart 6.2). Wind and solar generation was a record 23.6 per cent share of electricity generation.

In 2019 Q1, 119 MW of capacity eligible for the Feed in Tariff scheme was installed, increasing the total to 6.6 GW, across roughly 985,700 installations. (Chart 6.5)

Liquid biofuels consumption provisionally rose by 17 per cent, from 395 million litres in 2018 Q1 to 462 million litres in 2019 Q1. This represented 4.0 per cent of all petrol and diesel consumed in road transport. (Chart 6.6)

Relevant tables

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

Contacts for further information:

Liz Waters
Renewables Statistics
Tel: 0300 068 5735
E-mail: renewablesstatistics@beis.gov.uk

Will Spry
Renewables Statistics
Tel: 020 7215 5394
Total electricity generation from renewables in 2019 Q1 was 31.1 TWh, an increase of 9.2 per cent from 28.5 TWh in 2018 Q1. Renewables' share of total electricity generation increased from 30.5 per cent in 2018 Q1 to 35.8 per cent in 2019 Q1, down 1.0 percentage point on the record generation and share set at the end of 2018.

The increase on a year earlier reflects increased capacity, particularly in plant biomass (by 1.2 GW), offshore wind (by 0.8 GW), and onshore wind (also increased by 0.8 GW). In total, renewable capacity increased 7.9 per cent on the same quarter last year.

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 2019 Q1, generation from onshore wind was 9.8 TWh, up 4.8 per cent on the same quarter last year. Generation from offshore wind was 8.6 TWh, up 7.3 per cent on the same quarter last year. The increase in generation for both can be attributed to increases in capacity (6.1 per cent for onshore and 10.7 per cent for offshore) which more than offset lower wind speeds than in 2019 Q1, which were down 0.4 knots on 2018 Q1. See Energy Trends table 7.2 at: www.gov.uk/government/statistics/energy-trends-section-7-weather.

Generation from solar photovoltaics increased by 19 per cent (0.3 TWh) to 2.1 TWh, compared to 2018 Q1. This can be attributed to both a 6.1 per cent increase in solar PV capacity alongside an increase of 0.6 average daily sun hours compared to 2018 Q1.

Hydro generation increased by 0.2 TWh to 1.8 TWh compared to 2018 Q1, a 15 per cent increase. However, generation in 2018 Q1 had been relatively low, the lowest figure for the first quarter of a year since 2013.

In 2019 Q1, generation from bioenergy was 8.8 TWh, up 13.3 per cent on a year earlier. Within this, generation from plant biomass was up 25.7 per cent 5.9 TWh. This is largely due to the opening of Lynemouth Biomass plant in 2018 Q2 and the conversion of a unit from coal to biomass at Drax in 2018 Q3.

Onshore wind had the largest share of renewable generation with 31.6 per cent, followed by 28.2 per cent from bioenergy, 27.5 per cent from offshore wind, 6.8 per cent from solar PV and 5.8 per cent from hydro.

---

1 Bioenergy consists of: landfill gas, sewage gas, biodegradable municipal solid waste, plant biomass, animal biomass, anaerobic digestion and co-firing (generation only)
At the end of 2019 Q1, the UK’s renewable electricity capacity totalled 45 GW, an increase of 7.9 per cent on that installed at the end of 2018 Q1. Over a third of the increase was from plant biomass (1.2 GW from the opening on the Lynemouth Biomass plant and further conversion work at the Drax power station). Offshore and onshore wind representing a further 25 per cent and 24 per cent respectively of the increase and now stands at a total of 22.3 GW.

In terms of overall growth rates, plant biomass showed the highest growth at 26 per cent. Shoreline, wave and tidal increased by 22 per cent (although from a comparatively small baseline). Offshore and onshore wind increased at 11 per cent and 6 per cent respectively. Solar PV installed capacity also increased by 4 per cent to 13.2 GW.

At the end of 2019 Q1, onshore wind capacity at 13.8 GW represented 30.6 per cent of all renewable capacity, the highest share of renewable technologies. This was followed by Solar PV (29.5 per cent), offshore wind (18.9 per cent) and bioenergy (16.8 per cent).²

² To note that renewable generation and capacity figures include installations accredited on all support schemes (Renewables Obligation, Feed in Tariffs, Contracts for Difference), as well as those not eligible for support or are commissioned but awaiting support accreditation. This should particularly be noted for solar PV (and onshore wind), where figures consist of many installations across several or all of these categories.
Chart 6.4 Renewable electricity load factors (Table 6.1)

At the end of 2019 Q1\(^3\), the load factor for all renewables was 32.2 per cent, the same as this time last year.

In 2019 Q1, onshore wind’s load factor was 32.6 per cent, compared with 34.0 per cent at the same time last year. This fall was partly due to a drop in average wind speeds of 0.4 knots. Similarly, offshore wind’s load factor was 46.3 per cent, compared with 50.3 per cent at the same time last year.

Hydro’s load factor in 2019 Q1 was 43.7 per cent, compared with 39.2 per cent at the end of 2018. However, the load factor in Q1 2018 had been relatively low. Compared with the most recent quarter, 2018 Q4, hydro’s load factor in 2019 Q1 was down 4.6 percentage points from 48.2 per cent.

For plant biomass, the load factor in 2019 Q1 was 60.3 per cent. This is compared with 69.6 per cent in 2018 Q1.

---

\(^3\) Load Factors are calculated using an average of capacity at the start and end of the quarter. Therefore, they can be influenced by the time in the quarter when any new capacity came online.
At the end of 2019 Q1, 6.6 GW of capacity was installed and eligible for the GB Feed in Tariff (FiT) scheme, a 4.3 per cent increase on that at the end of 2018 Q1. The Feed in Tariff scheme closed to new entrants at the end of 2019 Q1 which resulted in a high number of installations during the quarter.

In terms of number of installations, at the end of 2019 Q1, there were roughly 985,700 eligible for the FiT scheme, a 2.5 per cent increase on the 961,500 confirmed at the end of the previous quarter, and 5.9 per cent higher than the 931,000 schemes confirmed at the end of 2018 Q1.

Solar photovoltaics (PVs) represent the majority of both installations and installed capacity confirmed on FiTs, with, respectively, 99 per cent and 81 per cent of the total. The majority of PV installations are sub-4 kW retrofitted schemes, which increased by nearly 19,000 installations (51 MW) during 2019 Q1 to bring the total to around 910,200 (2,600 MW) at the end of 2019 Q1.

Renewable installations confirmed on FiTs (all except MicroCHP) represented nearly 15 per cent of all renewable installed capacity.

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

---

4 Data are for schemes accredited under the Microgeneration Certification Scheme (MCS) and ROOFIT, which are pre-requisites for registering for the FIT scheme; not all of these installations will eventually be confirmed onto the FIT scheme.
In 2019 Q1, 462 million litres of liquid biofuels were consumed in transport, an increase of 17 per cent on the total of 395 million litres in 2018 Q1.

Bioethanol consumption increased by 3.5 per cent, from 177 million litres in 2018 Q1 to 183 million litres in 2019 Q1. Biodiesel consumption increased by 28 per cent, from 218 million litres in 2018 Q1 to 279 million litres in 2019 Q1.

Biodiesel represented 60 per cent of biofuels consumption, with bioethanol taking the other 40 per cent.

In the first quarter of 2019, bioethanol accounted for 4.5 per cent of motor spirit, down from 4.6 per cent in 2018 Q1. Biodiesel represented 3.7 per cent of diesel (DERV) consumption, an increase on the 3.0 per cent in the first quarter of 2018. Their combined contribution was 4.0 per cent, an increase from 3.6 per cent in the same quarter of 2018.

---

Data for the latest quarter are provisional, due to unavailability of the last months’ data at the time of compilation.
Renewables


- Following the March 2019 edition of Energy Trends, where a first estimate was made for renewable electricity for the year 2018 on a Renewable Energy Directive basis, the below shows overall progress against the Directive split by electricity, heat and transport.

- In 2018, renewable energy provisionally accounted for 11.0 per cent of final energy consumption, as measured using the 2009 Renewable Energy Directive (RED) methodology, an increase of 1.1 percentage points on 2017.

- The UK has met its fourth interim target; averaged across 2017 and 2018, the UK achieved 10.4 per cent renewable energy compared to the 10.2 per cent interim target.

- The chart below shows progress to 2018, interim targets and the final 2020 target (15 per cent);

Progress against Renewable Energy Directive and UK targets

- Renewable electricity accounted for 31.1 per cent of total generation (as measured using the RED methodology), an increase of 3.3 percentage points compared to 2017.

- Renewable heat accounted for 7.3 per cent of total heat consumption, an increase of 0.4 percentage points on 2017.

- Renewable energy for transport accounted for 6.2 per cent of total transport energy, an increase of 1.3 percentage points on 2017.