Aggregated energy balances, showing proportion of renewables in production, demand and final consumption

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Key headlines

Renewable sources represented 15.4 per cent of UK energy indigenous production in 2020, The figure has been growing steadily since 2000, when it was less than 1 per cent. A similar trend can be observed in demand, of which renewables represented 14.6 per cent in 2020.

In 2020, 13.3 per cent of final consumption was accounted for by renewables, a 2.5 percentage point increase on 2019, and the highest increase on record.

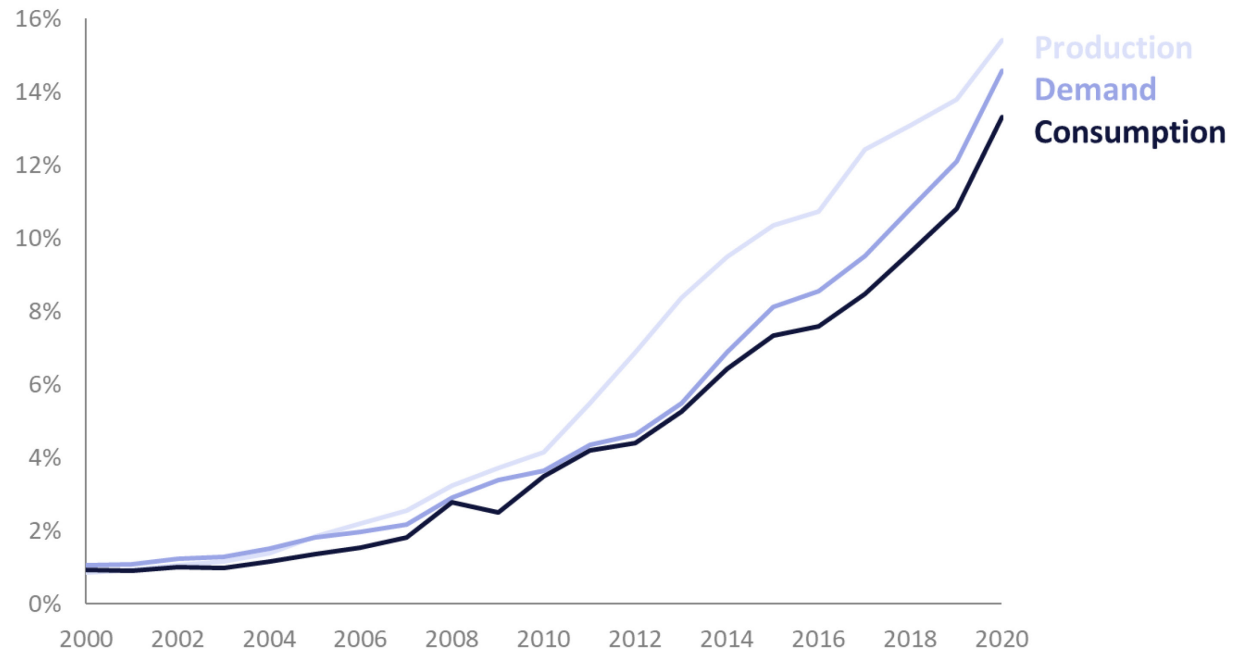
In 2020, for the first time, the renewable proportion in industry was in line with that for other final users (mostly commercial and public administration) at 23.5 per cent and 23.6 per cent respectively.

The proportion of renewable fuels varies across energy production, demand, and final consumption; it also varies across the different sectors, depending on their primary fuel requirement. BEIS has considered that publishing aggregated energy balances together with an “of which renewables” column will provide users with additional insights into renewable energy trends in the UK.

The accompanying spreadsheet contains the supporting data to this commentary mirroring the format of the energy balances.

Highlights and trends

Chart 1. Share of energy supply from renewable sources, 2000-2020.

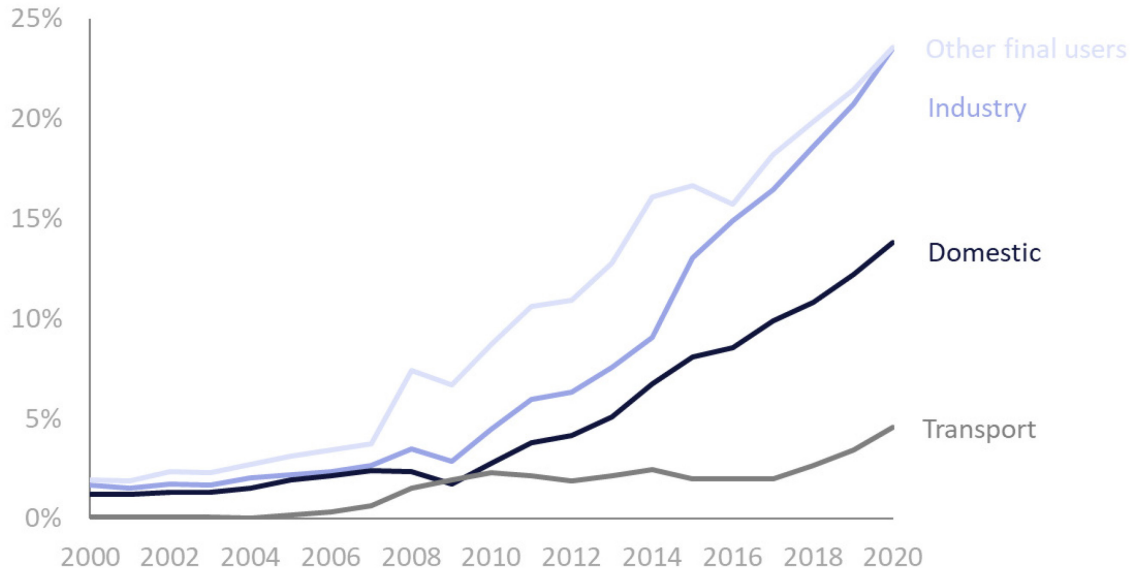


As shown in Chart 1 above, over time, the proportion of renewables in energy supply has been steadily increasing over the years, with production rising from just 0.9 per cent in 2000 to 15.4 per cent in 2020.

For demand, the proportion met through renewables depends on the dominant fuel mix in each sector. The greater the demand met through electricity, in general the greater the proportion of renewables given the relatively high level of renewables within the electricity generation mix, particularly primary renewables such as wind, solar, and hydro; Chart 2 below shows the proportions by sector.

The renewable component of total final consumption varies from a low of 4.5 per cent (for transport, mainly from liquid biofuels) to a high of 23.6 per cent for other final users, which is largely the service and commercial sectors that consume relatively large quantities of electricity.

Chart 2. Renewable component of final energy consuming by sector 2000-2020.



In 2020, the proportion of renewables consumed by industry has aligned with that for other final users (23.5 per cent and 25.6 per cent respectively). This reflects the increasing proportion of electricity consumed in that sector; in 2020 electricity in industry was 28 per cent but this has increased to 34 per cent in 2020, whereas for other consumers, it remained stable over this time scale. Consumption for thermal bioenergy and waste increased to a similar extent for both sectors. Although the proportion of renewables consumed in the domestic sector has increased over the time frame it remains low (at 14 per cent) compared to industry and other sectors reflecting gas' continuing dominance to provide space heating in homes. Although there has been an increase in the proportion of electricity, the bulk of the increase is due to wood being more widely burned to provide at least some space heating.

Chart 2 also shows a fall between the years 2015 and 2016 for other final users. This drop represents an increase in the denominator, i.e. total demand, which resulted in a fall in the renewables proportion. This is due to a re-allocation of oil consumption from the industrial unclassified sector to other sectors including agriculture, public administration, and commerce for 2016 and 2017[1].

[1] See paragraph 1.65 in The Digest of UK Energy Statistics 2019: https://www.gov.uk/government/statistics/energy-chapter-1-digest-of-united-kingdom-energy-statistics-dukes

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