

BP Statistical Review 2018

European Union energy market in 2017

A recovery in carbon prices supported a switch from coal to gas in the power sector, while renewables also increased their share of the generation mix

Fast facts

1. EU energy intensity in 2017 declined for the seventh year running, although this was around half the rate of 10-year average
2. Power from gas and non-hydro renewables increased; all other generation sources declined
3. CO₂ emissions from energy use nonetheless increased by 1.5%, significantly above 10-year average decline of 2% p.a.

+1.6%

Growth in primary energy consumption

+4.3%

Growth in gas consumption

+12%

Growth of renewables in power generation

-0.9%

Decline in nuclear power generation

- Primary energy consumption in the EU increased by 1.6% in 2017, its fastest growth rate since 2003 and well above the 10-year average annual decline of 1.0%.
- Energy intensity (the amount of energy required per unit of GDP) declined by 1.0% compared to 10-year average decline of 2.0% p.a.).
- Oil and gas remained the dominant primary fuel sources, accounting for 38% and 24% of primary energy consumed respectively.
- Gas production declined 3.1% as sharp declines in production from the Netherlands (-12.6%) offset modest increases elsewhere.
- Gas imports increased from 420 bcm to 436 bcm, of which an incremental 10 bcm was delivered via pipeline and 6 bcm as LNG.
- Refining capacity was broadly stable, having declined by 2 Mb/d over the previous decade. Refining throughput increased by a robust 2.3%.
- Total power generation increased by 1.3% to 3290 TWh – Europe's highest output since 2012.
- Non-hydro renewable generation increased by 70 TWh to 670 TWh, more than three times its level in 2007. Of 2017's growth, 80% came from wind.
- Gas-fired generation increased by 8.7%, its third consecutive increase and above the 10-year average annual decline of 1.2%. In contrast coal generation contracted by 3.3%, reflecting large declines in Germany.
- These trends partly reflected a recovery in carbon prices which favoured gas over coal in power generation.
- Nuclear output fell to 830 TWh – its lowest level since 1992 – as shutdowns in Germany and delays to French restarts outweighed increased output in Sweden and the Czech Republic.
- Hydro generation declined sharply by 50 TWh (-14%) owing to low rainfall, especially in Spain.
- CO₂ emissions from fossil fuel consumption increased by 1.5%, their third consecutive annual increase and well above the 10-year average annual decline of 2.0%.