



Statistical Review of World Energy

2021 | 70th edition



Reviewing world energy
data for 70 years

2020 at a glance

The COVID-19 pandemic had a dramatic impact on energy markets, with both primary energy and carbon emissions falling at their fastest rates since the Second World War. Nevertheless, renewable energy continued to grow, with solar power recording its largest ever increase.

Energy developments

- Primary energy consumption fell by 4.5% in 2020 – the largest decline since 1945.
- The drop in energy consumption was driven mainly by oil, which contributed almost three-quarters of the net decline, although natural gas and coal also saw significant declines.
- Wind, solar and hydroelectricity all grew despite the fall in overall energy demand.
- By country, the US, India and Russia contributed the largest declines in energy consumption. China posted the largest increase (2.1%), one of only a handful of countries where energy demand grew last year.

Carbon emissions

- Carbon emissions from energy use fell by 6.3%, to their lowest level since 2011. As with primary energy, this was the largest decline since the end of World War II.

Oil

- The oil price (Dated Brent) averaged \$41.84/bbl in 2020 – the lowest since 2004.
- Oil consumption fell by a record 9.1 million barrels per day (b/d), or 9.3%, to its lowest level since 2011.
- Oil demand fell most in the US (-2.3 million b/d), the EU (-1.5 million b/d) and India (-480,000 b/d). China was virtually the only country where consumption increased (220,000 b/d).
- Global oil production shrank by 6.6 million b/d, with OPEC accounting for two-thirds of the decline. Libya (-920,000 b/d) and Saudi Arabia (-790,000 b/d) saw the largest OPEC declines, while Russia (-1.0 million b/d) and the US (-600,000 b/d) led non-OPEC reductions.
- Refinery utilization fell by a record 8.0 percentage points to 74.1%, the lowest level since 1985.

-4.5% and -6.3%

Decline in global primary energy consumption and carbon emissions, the largest falls since 1945



Natural gas

- Natural gas prices declined to multi-year lows: US Henry Hub averaged \$1.99/mmBtu in 2020 – the lowest since 1995, while Asian LNG prices (Japan Korea Marker) registered their lowest level on record (\$4.39/mmBtu).
- Natural gas consumption fell by 81 billion cubic metres (bcm), or 2.3%. Nevertheless, the share of gas in primary energy continued to rise, reaching a record high of 24.7%.
- Declines in gas demand were led by Russia (-33 bcm) and the US (-17 bcm), with China (22 bcm) and Iran (10 bcm) contributing the largest increases.
- Inter-regional gas trade reduced by 5.3%, completely accounted for by a 54 bcm (10.9%) drop in pipeline trade.
- LNG supply grew by 4 bcm or 0.6%, well below the 10-year average rate of 6.8% p.a. US LNG supply expanded by 14 bcm (29%), but this was partially offset by declines in most other regions, notably Europe and Africa.

Coal

- Coal consumption fell by 6.2 exajoules (EJ), or 4.2%, led by declines in the US (-2.1 EJ) and India (-1.1 EJ), with OECD coal consumption falling to its lowest level in our data series back to 1965.
- China and Malaysia were notable exceptions, increasing their consumption by 0.5 EJ and 0.2 EJ respectively.
- Global coal production was down 8.3 EJ (5.2%). As with consumption, production growth in China (1.1 EJ) was outweighed by sharp declines in several countries, including the US (-3.6 EJ), Indonesia (-1.3 EJ) and Colombia (-1.0 EJ).

Renewables, hydro and nuclear

- Renewable energy (including biofuels but excluding hydro) rose by 9.7%, slower than the 10-year average (13.4% p.a.) but the increment in energy terms (2.9 EJ) was similar to increases seen in 2017, 2018 and 2019.
- Solar electricity rose by a record 1.3 EJ (20%), however, wind (1.5 EJ) provided the largest contribution to renewables growth.
- Solar capacity expanded by 127 GW, while wind capacity grew 111 GW – almost double its previous highest annual increase.
- China was the largest individual contributor to renewables growth (1.0 EJ), followed by the US (0.4 EJ). Europe, as a region, contributed 0.7 EJ.
- Hydroelectricity grew by 1.0%, again led by China (0.4 EJ), while nuclear energy fell 4.1%, driven mainly by declines in France (-0.4 EJ), the US (-0.2 EJ) and Japan (-0.2 EJ).

Electricity

- Electricity generation fell by 0.9% – more than the decline in 2009 (-0.5%), the only other year in our data series (which starts in 1985) when electricity demand fell.
- The share of renewables in power generation increased from 10.3% to 11.7%, while coal's share fell 1.3 percentage points to 35.1% – a new low in our data series.

Key minerals

- Lithium production fell 4.6% on a drop in Australian output, while Cobalt output rose 2.9% as production in the Democratic Republic of Congo partially recovered from its dip in 2019.
- Rare earth metals production expanded by 23.2%, driven by strong growth in Australia and the US.