

12 kWh renewable energy

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Newly installed renewable power capacity increasingly costs less than the cheapest power generation options based on fossil fuels. The cost data presented in this comprehensive study from the International Renewable Energy Agency (IRENA) confirms how decisively the tables have turned.

The key findings are available in Arabic(????),Chinese(), English, French(fran&ccedil;ais), German(Deutsch), Japanese(),Russian (Russkij), Spanish(espa&ntilde;ol).

More than half of the renewable capacity added in 2019 achieved lower electricity costs than new coal. New solar and wind projects are undercutting the cheapest of existing coal-fired plants, the report finds. Auction results show these favourable cost trends for renewables accelerating.

Solar and wind power costs have continued to fall, complementing the more mature bioenergy, geothermal and hydropower technologies. Solar photovoltaics (PV) shows the sharpest cost decline over 2010-2019 at 82%, followed by concentrating solar power (CSP) at 47%, onshore wind at 40% and offshore wind at 29%.

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Electricity costs from utility-scale solar PV fell 13% year-on-year, reaching nearly seven cents (USD 0.068) per kilowatt-hour (kWh) in 2019. Onshore and offshore wind both fell about 9% year-on-year, reaching USD 0.053/kWh and USD 0.115/kWh, respectively, for newly commissioned projects. Costs for CSP, still the least-developed among solar and wind technologies, fell 1% to USD 0.182/kWh.

Along with reviewing overall cost trends and their drivers, the report analyses cost components in detail. The analysis spans around 17 000 renewable power generation projects from around the world, along with data from 10 700 auctions and power purchase agreements for renewables.

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