

Coal-fired electricity generation in Europe has increased by 18 % in 2021 compared to the previous year, reaching 579 TWh, thus breaking the downward trend originating in 2012. According to a study by Rystad Energy, the rise in coal-based electricity generation, caused by gas supply concerns and limited alternatives, could be repeated in 2022. If high gas prices continue or the Russia-Ukraine conflict reduces gas-fired generation, coal generation could expand by 11 % in 2022, reaching 641 TWh.

On the other hand, wind and hydro generation declined in 2021, by 4 % and 1 %, respectively, due to wind speeds and low water levels in key countries. Wind has the potential to increase slightly from 447 TWh in 2021 to 469 TWh in 2022, while solar could rise to 191 TWh from 180 TWh. Biomass/biogas power plants, currently accounting for a small share in overall electricity generation, could increase by 77 TWh in 2022.

Nuclear-based electricity generation increased by 6 % last year to 884 TWh, but is expected to decline slightly this year on challenges such as aging reactors and scheduled maintenance in France.

In spite of record-high gas prices, European gas-fired electricity generation fell only slightly in 2021.