

Coal is renewable energy

For the second year in a row, global coal-fired generation reached an all-time high in 2022, pushing CO<sub>2</sub> emissions from coal-fired power plants to record levels and accounting for more than one-third of total electricity generation. High natural gas prices brought on by Russia's invasion of Ukraine, coupled with extreme weather events, led many regions to turn to coal to secure electricity supplies. While the recent uptick in coal-fired generation is likely to be a temporary glitch in some regions, the overall trend is not on track with the Net Zero Emissions by 2050 Scenario, which calls for immediate reductions and a global decline in unabated coal-fired generation of around 55% by 2030 compared to 2022 levels, and a complete phase-out by 2040.

Countries and regions making notable progress include:

In 2022 CO<sub>2</sub> emissions from coal-fired power plants grew by over 2% from the previous year, led in particular by increases in emerging market and developing economies (EMDEs) in Asia. Gas-to-coal switching in many regions was the main driver of this growth.

Only four commercial coal-fired power plants have been fitted with carbon capture, utilisation and storage (CCUS) to date: the Boundary Dam facility in Canada, the Petra Nova plant in Texas, United States, and the Jinjie Power and Taizhou Power stations in China. The Taizhou project only recently started operation in June 2023 and has a capacity to capture 500 000 tonnes of CO<sub>2</sub> each year.

In 2022 global coal-fired power generation rose by nearly 2%. Though the year-on-year change is far less than the 8% growth seen in 2021 as coal rebounded from Covid-19 lows, last year's growth surpasses the nearly stagnant annual average growth seen in the five years preceding Covid-19. In absolute terms coal-fired generation continued its record-breaking streak for a second year in a row to around 10 400 TWh.

As a result, coal's share of total global generation remained around 36%. This is not on track with Net Zero Scenario, which calls for immediate reductions and a decline in unabated coal-fired generation of around 55% by 2030 compared to 2022 levels, reducing coal to around 12% of global generation by 2030.

Russia's invasion of Ukraine and the ongoing energy crisis have forced the European Union and individual countries to take measures to enhance security of electricity supply amid low nuclear availability and tight gas markets. The United Kingdom and several countries in the European Union have decided - or are discussing plans - to bring reserve capacity back into the market or to postpone closure dates.

Germany accounts for most of the additional coal-fired capacity, with almost 10 GW for the 2022 and 2023 winter. In the Netherlands, the removal of the 35% production cap on coal-fired plants will add another 3.8 GW. Under confirmed plans, overall coal-fired capacity will increase by about 15% (19 GW) to 146 GW in

the European Union and the United Kingdom combined.

In January 2022, Brazil passed legislation to establish a just energy transition programme for the coal-dependent state of Santa Catarina. Under the law, Brazil will phase-out coal-fired power generation by 2040 and set out a plan to prepare the region for the coal phase-out.

In Poland, government and mining union delegates have signed a social contract that sets out a specific timetable for discontinuing hard coal mining at each production unit by the end of 2049.

In the Czech Republic, the European Commission approved the budget of CZK 40 billion (Czech Koruna) to transform the coal regions of Karlovy Vary Moravian-Silesian and ?st? with the aim of increasing the quality of life of its inhabitants, restoring the area, and developing clean energy.

As of end-year 2023, 84 countries had agreed to phase out coal or to not develop new unabated coal power plants, collectively accounting for around 30% of current coal consumption for electricity generation. Of these countries, 37 have incorporated coal phase-out targets with specified dates in national plans -- most are in Europe, and 80% are advanced economies. They include countries with a strong reliance on coal-fired power such as Poland, Czechia and Montenegro.

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