

The European coal 'comeback' that never was...

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Key messages



There has been *no structural coal comeback* in Europe, and phase-out commitments remain intact



In 2022, coal had a *temporary boost* due to hydro and nuclear problems



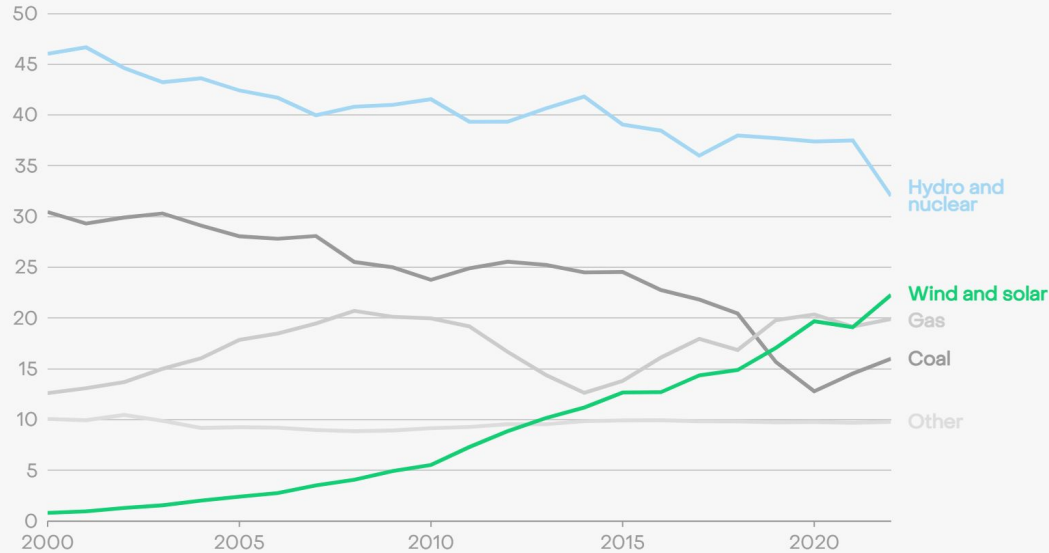
Over the winter, record renewables and energy savings limited the role of coal & gas



Europe's transition to renewables is *accelerating* and is *irreversible*

EU wind and solar generated more than gas for the first time

Share of electricity generation (%)



Wind and solar generated a record 22% of EU electricity in 2022

Wind = 15%

Solar = 7%

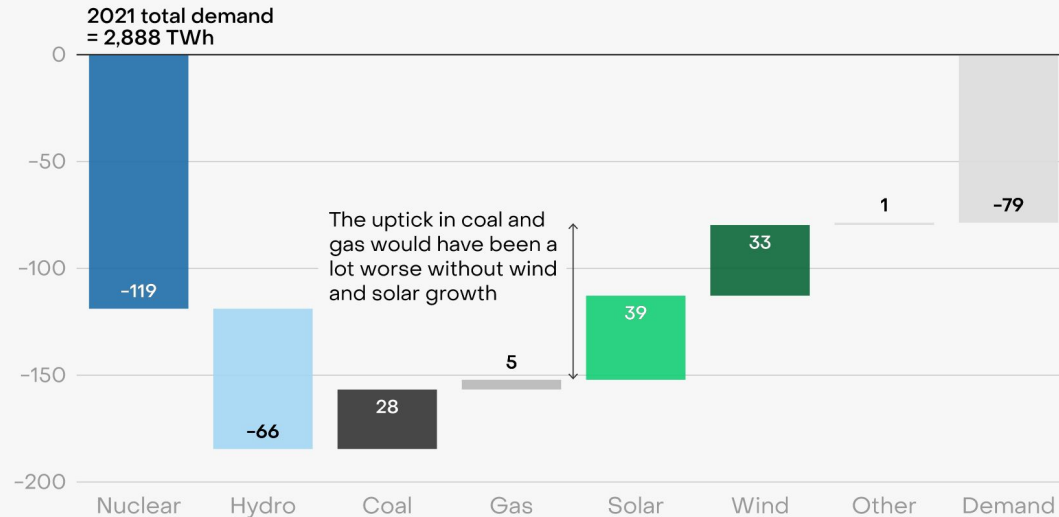
Gas = 20%

Coal = 16%

Source: Annual electricity data, Ember
'Other' includes bioenergy, other fossil fuels and other renewables

The EU's coal generation rose due to a sizeable nuclear and hydro deficit

Year-on-year change in EU-27 generation for 2022 (terawatt hours)



Source: Monthly electricity data, Ember
'Other' includes bioenergy, other renewables, other fossil fuels and net imports

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Overview of 2022

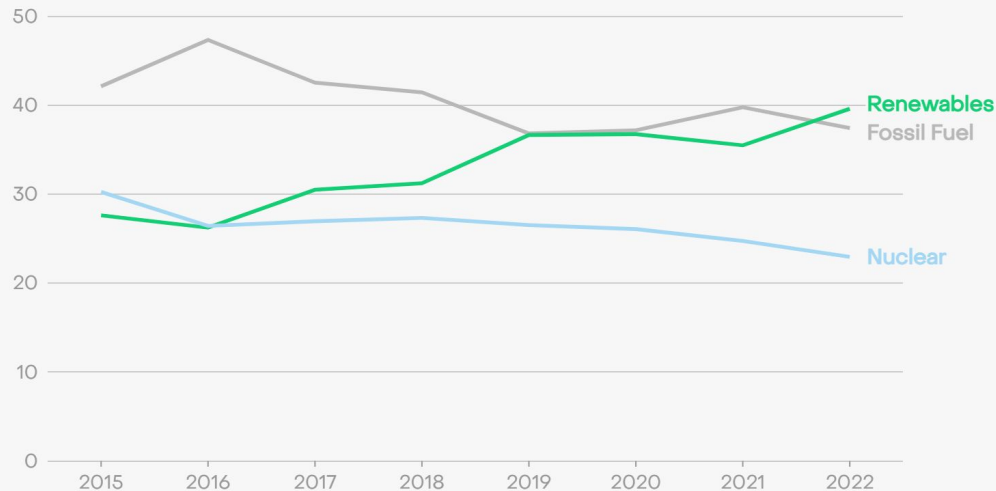
Nuclear and hydro generation fell by 185 TWh = 7% of total EU electricity in 2022.

Demand fell by 2.7% in 2022, the biggest fall since 2020.

80% of the gap caused by hydro and nuclear drop was filled by wind & solar growth.
The rest was filled by coal.

EU renewables generated more electricity than fossil fuels for the first winter on record

Share of power generation for October – March winter period* (%)



Source: Monthly generation data, Ember
 'Renewables' includes wind, solar, hydro, bioenergy and other renewables. *Year indicates winter period start.

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Winter 2022 / 23

Much-anticipated coal comeback did not occur:

- > Coal generation fell 11%
- > Gas generation fell 13%

Renewables provided 40% of electricity

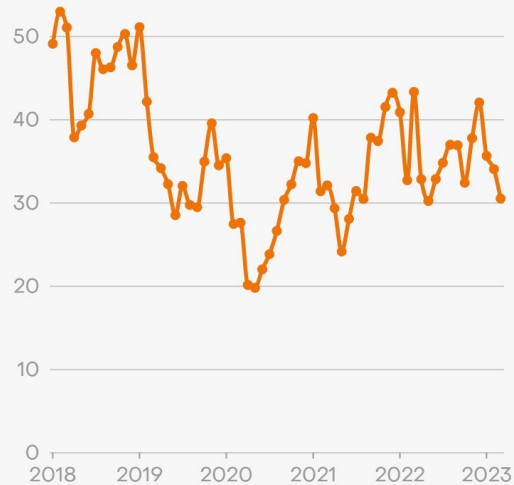
15 out of 18 coal countries decreased coal generation.

Electricity demand was 7% lower than a typical winter, saving an estimated €12bn across the EU

Year-on-year EU coal generation falling again from end of 2022

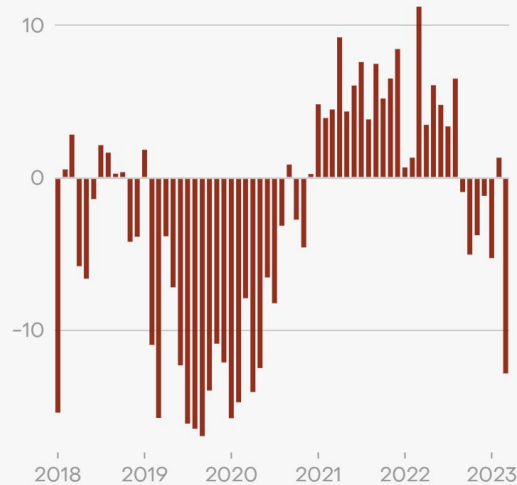
Coal generation

Terawatt hours



Year-on-year change

Terawatt hours



In 2022:

- Coal generation increased 7%
- Most significantly in Germany, Italy, and Bulgaria
- Poland recorded a 3% decline in coal generation
- EU coal power started to fall from September

Over winter 22/23:

- Coal generation was 11% lower than last year.
- Germany and Poland dominated drop in coal
- February was a record low for Polish coal power

Source: Monthly electricity data, Ember

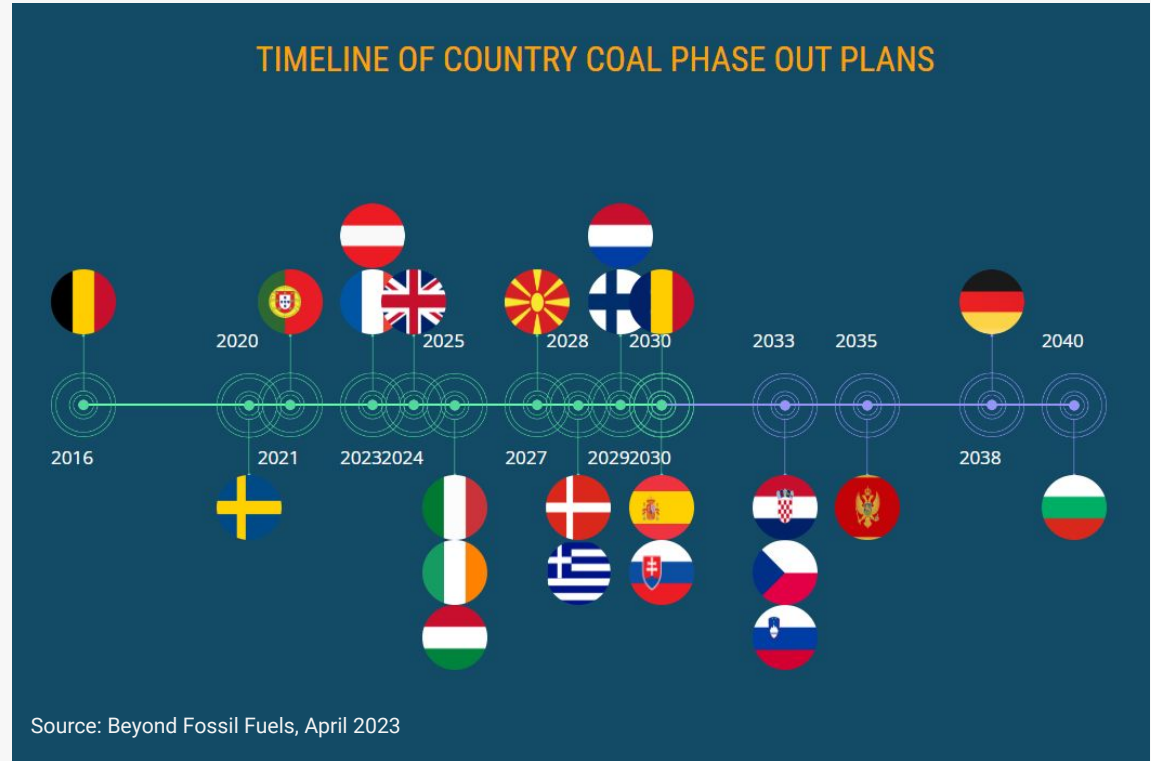
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Coal phase-out plans are not wobbling

German government and RWE agreed to bring phase-out forward to 2030 in North Rhine-Westphalia.

Romania brought coal phase-out forward from 2032 to 2030.

France and UK remain committed to closing final units in 2023 and 2024.



Wind and solar are the future of Europe's power mix

41GW

Record EU solar deployment in 2022

x4

North Sea countries pledge to quadruple offshore wind by 2030

+37%

Dramatic increase in the outlook for solar in 2030, following the gas crisis

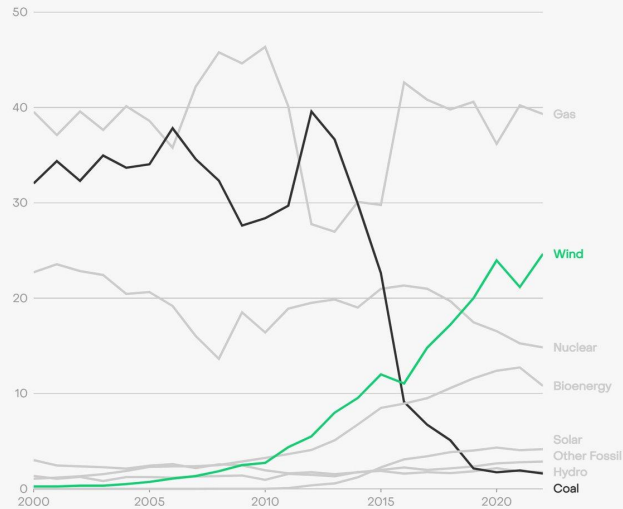
69%

Projected share of renewables in EU power mix by 2030, following REpowerEU

Power sector decarbonisation by 2035 is essential for 1.5C

Wind power leads the UK's rapid switch from coal

Share of electricity generation (%)



Source: Annual electricity data, Ember

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*"The Acceleration Agenda calls for a number of actions... Specifically: No new coal, **the phasing out of coal by 2030 in OECD countries...** ensuring **net-zero electricity generation by 2035 for all developed countries** and 2040 for the rest of the world."*

– UN Secretary-General António Guterres, March 2023.

*"Reaffirm our commitment to achieving a **fully or predominantly decarbonised power sector by 2035**, and prioritising concrete and timely steps towards the goal of accelerating the phase-out of domestic unabated coal power"*

– G7 climate, energy and environment ministers' communique, April 2023



Nishimura Yasuhiro, Japan's Minister of Economy, Trade and Industry, Environment Minister Akihito Nishimura and other delegates attend the opening session of G7 Ministers' Meeting on Climate, Energy and Environment in Sapporo, Japan April 15, 2023, in this photo released by Kyodo. Mandatory credit Kyodo via REUTERS

Thank you

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Ember reports referenced:

- > *European Electricity Review*, Feb 2023
- > *Weathering the Winter*, April 2023

