

Essay topic: Poland's best bets for a coal-free energy

Summary:

Polish energy system heavily relies on coal. It constitutes 65.8% of domestic energy production and 60% of electricity generation (IEA, 2024). Poland is also placed around the tenth place worldwide in terms of annual coal production and on the second place in Europe after Germany (IEA, 2022). Poland's coal production is steadily decreasing and was cut by half between 2000 and 2023 (IEA, 2024). Meanwhile, the country is a net importer of coal from non-EU countries, a strategy that will be penalized from 2026 by the Carbon Border Adjustment Mechanism (European Commission, 2025).

The government has created a plan to gradually phase out domestic hard coal production (excluding coking coal) by 2049 (IEA, 2022) and declared intermediate steps of reducing the share of coal in electricity generation to a range of 37.5-56% in 2030 and 11-28% in 2040 (IEA, 2022 citing Ministerstwo Klimatu i Środowiska, 2022a). Unfortunately, the plans don't concern lignite.

In my essay I want to give an overview of Poland's possible ways forward for a coal-free energy transition. I hope to quantitatively evaluate the potential of ongoing state-level efforts (such as plans for Poland's first nuclear plant, for offshore wind) and of rapid growth of solar power prosumers.

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(The yellow highlighted parts are not formal parts of references, just my translations of authors and titles)

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