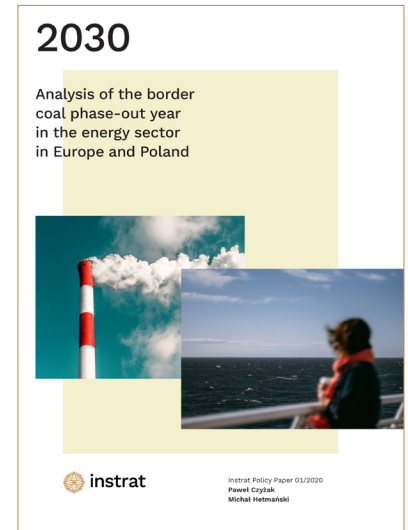


2030. Analysis of the border coal phase-out year in the energy sector in Europe and Poland

Executive summary



Scientists indicate that Poland should move away from burning coal in the energy sector no later than by 2030. To meet the 2030 deadline, the decarbonization pace in the Polish energy industry – heavily reliant on coal – should be faster than in other European countries.

Key conclusions:

1. To meet the Paris Agreement's commitments and counteract climate catastrophe, European Union member states – including Poland – must move away from burning coal by 2030 at the latest. The year 2030 is a conservative estimate.
2. The indicated deadline of Poland's coal phase-out results from studies and in-depth research of recognized institutions such as the Intergovernmental Panel on Climate Change (IPCC), the International Energy Agency (IEA), and Climate Analytics.
3. As Poland has the highest share of coal in its energy mix in the EU, 75%, the decarbonization pace of the Polish energy sector should be faster than in other European countries.

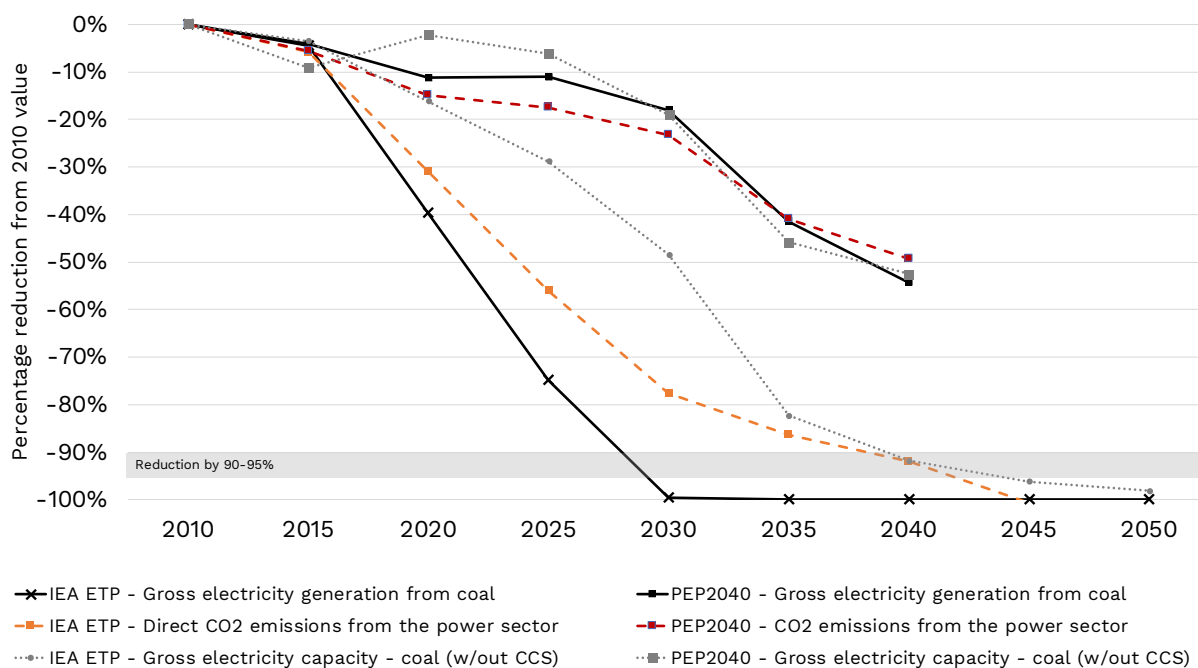
We investigate how much time do OECD and European Union countries – including Poland – have, to move away from burning coal in the energy industry and stay as close as possible to the possible implementation of the Paris Agreement's provisions, including its key requirement: to limit the increase in global temperature below 1.5 degrees Celsius compared to the pre-industrial era.

Our analysis bases on a review of the most important scientific literature presenting climate-energy models and scenarios, along with their conclusions. We investigate modelling scenarios which include Poland (OECD and EU countries) and those that lead to the fulfillment of the Paris Agreement's provisions. The main objective of our analysis was to set a deadline for energy decarbonization, i.e. to move away from burning coal and lignite to produce electricity.

The results of our analysis indicate that the scenarios closest to the implementation of the Paris Agreement's commitments mean that OECD and EU countries – including Poland – should abandon burning coal in the energy sector by 2030. The year 2030 as a deadline for a coal phase-out results from the analysis of studies and databases from recognized institutions and research groups, such as the Intergovernmental Panel on Climate Change (IPCC), the International Energy Agency (IEA) and Climate Analytics in particular.

Currently, the key document that sets out global directions for combating the climate crisis is the IPCC special report Global warming of 1.5°C from October 2018. According to our analysis of the report, the group of scenarios about limiting global warming to 1.5°C assumes that the production of electricity from coal in OECD and EU countries will be nearly completely ceased by 2025, and in the group of scenarios 1.5°C with a slight overrun – by 2030. This group of scenarios is most consistent with the Paris Agreement’s provisions. What follows is that Poland should also move away from burning coal in the energy sector by 2030 at the latest. Meanwhile, the updated draft of the Energy Policy of Poland until 2040 indicates that over 56 percent of electricity produced in 2030 will be still sourced from coal. The graph below shows the limited ambition of such a scenario and its divergence from forecasts of the International Energy Agency (IEA).

Graph: Comparison of scenarios for the power sector resulting from the IEA ETP 2017 – B2DS and the Energy Policy of Poland until 2040 (PEP2040).



Source: own analysis based on IEA ETP 2017 and PEP2040

Reports of an institution widely regarded as highly conservative in its estimates – the International Energy Agency (IEA) – evidence a similar, equally rapid pace of decarbonization.

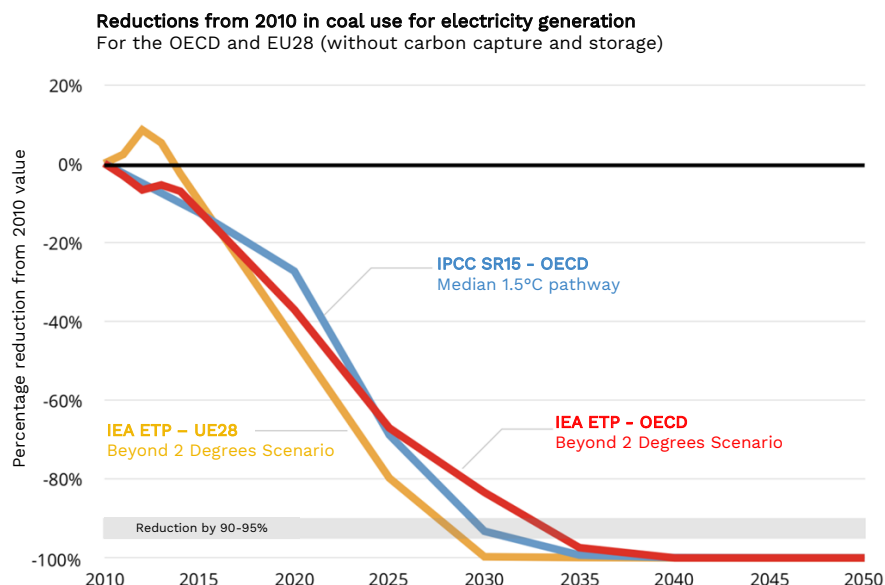
The most ambitious scenario in the IEA’s 2017 report Energy Technology Perspectives assumes global warming below 2°C (Beyond 2°C Scenario; B2DS) and means breaking from the Paris Agreement. Even according to this restrained report, the production of electricity from coal in EU countries – including Poland – ends in 2030. The B2DS scenario assumes not only the elimination of coal from the energy sector in the EU by 2030, but also the almost complete withdrawal of fossil fuels from electricity production in the 2035–2040 period and their replacement with renewable energy sources: wind, solar, and geothermal energy.

The Climate Analytics team reached similar conclusions, including the end of 2030 as the cut-off date for the EU’s and Poland’s departure from coal burning. Climate Analytic presented the findings of its analyses in many reports², which employ their analytical model, along with data and forecasts from the IPCC and IEA. With the use of modeling methods from the IPCC report, Climate Analytics particularly examined the IEA’s B2DS scenario in terms of the achieved warming value. The results of the analyses indicate that the application of decarbonization paths from the B2DS model results in the

1 Including such reports as Stress test for coal in Europe under the Paris Agreement (2017) and Science-based coal phase-out path way for Germany in line with the Paris Agreement 1.5°C warming limit (2018).

stabilization of global temperature increase at 1.6°C after 2060. Under these assumptions, the B2DS scenario is a good approximation of the IPCC 1.5°C scenarios.

Graph. The reduction of coal consumption in the power sector for OECD and EU region.



Source: Climate Analytics. Version without the application of the CCS system.

We may consider the estimate of the 2030 deadline for the European Union to be conservative, given the fact that:

- the Climate Analytics analysis – based on conservative IEA ETP 2017 modeling assumptions for the B2DS scenario and the IPCC assumptions – indicates 2030 as the deadline for the EU’s coal phase-out, five years earlier than for the OECD countries in this scenario,
- the year 2030 is the same one for a coal phase-out according to the 1.5°C scenarios for the OECD countries based on the IPCC report.

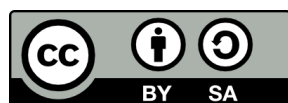
Therefore, the deadline for the EU’s coal phase-out in the energy sector may be even earlier than 2030.

Keeping in mind the year 2030 as the deadline for the EU’s coal phase-out in the energy sector and the fact that Poland currently generates 75% of its electricity from coal (2019), the pace of Poland’s decarbonization should be faster than that of other countries. Only then Poland – as signatory of the Paris Agreement – will not lag behind the rest of the European Union and will contribute in solidarity to counteract the climate crisis.

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