

Poland alone might hamper the EU's 55% GHG emissions reduction target for 2030 – the country plans the biggest expansion of fossil gas use in the entire EU, from 14 TWh (in 2019) to 54 TWh (in 2030). This would make it the EU's third largest gas-generating country by 2030. Polish Energy Policy until 2040 PEP2040 undermines the role of renewables in the transition. It also, rather peculiarly, fails to acknowledge the current trajectory of PV growth.

The new “high EU-ETS prices” scenario in PEP2040 shows that Poland plans to produce 75 TWh of electricity from coal in 2030. The unambitious “low EU-ETS prices” scenario expects 113 TWh, in line with Poland's National Energy and Climate Plan published in 2019 and submitted to the EU.

As highlighted by the Climact's analysis of the EU Commission's Impact Assessment on raising the EU 2030 climate target, to achieve the 55% GHG reduction target, electricity generation from coal needs to fall to ~ 55 TWh by 2030. That is for the entire EU.

PEP2040's new scenario shows that Poland plans to produce 75 TWh of electricity from coal in 2030. This is far from, for example, modelling performed by Forum Energii, which lays out a pathway to reach 54 TWh (gross) from coal in 2030 even without the deployment of nuclear power. Last year, Poland's wholesale electricity prices rose to the highest in Europe, driven by a reliance on expensive domestic coal and rising EU-ETS prices. Moreover, thermal coal mining in Poland is not likely to become any cheaper and the forthcoming EU-ETS reform is likely to push the carbon prices even further. This puts Poland in a position where the country's addiction to coal might soon lock it in a vicious cycle where subsidising expensive coal generation will deprive it from resources needed to invest in a fast and effective energy transition.

Rather unusually for a country that lacks significant fossil gas resources, Poland plans the biggest expansion of fossil gas use in electricity generation in the entire EU, from 14 TWh (in 2019) to 54 TWh (in 2030). This would make it the EU's third largest gas-generating country by 2030. This marks a significant shift in the strategy, as previously Poland planned to generate 21 TWh from fossil gas in 2030.

The strategy outlines that it aims to achieve a capability to include biomethane and hydrogen as fuels to a level of 10% of all gas transported through the gas infrastructure. However, there are no further details about corresponding requirements for the new projects; e.g. CCS or full hydrogen compatibility. We also stress that Poland's track record with fossil fuel phase-out and likely delays in the investments signal that Poland might lock in gas dependency beyond 2050, failing to achieve net-zero.

Volatility of gas prices present an additional risk. This is reflected by the document itself.

The low EU-ETS prices scenario uses 2017 World Energy Outlook's (WEO's) price forecasts and the high EU-ETS prices scenario uses 2019 WEO's data. These scenarios vary considerably, with the 2019 WEO's data assuming significantly lower gas prices from 2025 and beyond. Lacking its own significant resources, gas price volatility means increased geopolitical risk for Poland.

Additional GHG emissions caused by gas leakages along the supply chain add to the threat that gas projects will be more expensive to operate in the future. The EU's ambition to legislate these through the EU Methane Strategy signals this likely trajectory. Although the scale of ambition of the methane strategy is yet to be seen, satellite images of methane leaking from operation sites and gas pipes leave no doubt that the EU will aim to use legislative tools to curb methane emissions along the entire supply chain.

Why so little renewables?

Rather dishearteningly, PEP2040 undermines the role of renewables in the transition, putting a disproportionately large emphasis on the security of supply instead of focusing on the solutions to the balancing problem. Interestingly, the projections of renewables deployment are almost identical to the old scenarios which assumed much lower CO₂ prices.

One encouraging development is that in contrast to 2019's version of the document, the final version acknowledges that renewables deployment will lead to a decrease in wholesale electricity prices. As we noted in our commentary, Poland's wholesale electricity prices for 2020 were the highest in Europe, further exacerbating the struggle of energy-intensive businesses in the country.

On wind power, we welcome Poland's ambition on offshore deployment and recent legislative steps that would help to achieve that aim. However, any progress is somewhat overshadowed by the disappointment about the evidence-deprived claims of public disapproval for onshore wind. Since 2016, Poland's onshore growth is hampered by a so-called "distance act" which blocks the growth of wind farms within a radius smaller than 10x the total height of the turbine. As highlighted in an analysis performed by a modelling expert, Paweł Czyżak, the most attractive areas for onshore deployment are now blocked by the act.

PEP2040 notes that the distance act may be modified. Whether or not the high EU-ETS price scenario takes the modification into consideration is not clear. The newest strategy shows that between 2019 and 2030, onshore generation is expected to rise just from 15 TWh to 23 TWh.

With regard to solar, and on a more positive note, we would like to applaud Poland's effort to incentivise small scale PV installation last year. By the end of 2020, Poland reached almost 4 GW of installed capacity from solar, rising by 2.5 GW year-to-year. With this trajectory, surpassing the 2025 target of 5.1 GW outlined by the newest scenario presented in PEP2040 seems inevitable. However, it is disturbing to see that the new scenario presented by PEP2040 fails to acknowledge the potential of PV in electricity generation, expecting no rise in installed capacity from PV between 2025 and 2035. This is peculiar and rather hard to understand given Poland's high wholesale electricity prices, and the potential of renewables to help address that, as previously noted. The scale of this oversight in PEP2040 is made clear by comparison with IEA's forecast which estimates that by 2025, Poland will reach 12.6 GW of installed capacity from solar.

Caveats

Two major caveats need to be taken into consideration when discussing the new PEP2040 scenario

Firstly, it seems that PEP2040 fails to acknowledge the recent dynamics of the EU-ETS prices. Even though the document was signed in 2021, 2020 carbon prices for the low EU-ETS prices scenario have not been updated. On this basis, we rejected this scenario completely, using it only as a reference to show how a change in carbon market conditions shapes Poland's energy policy.

As for the new high EU-ETS prices scenario, we note that today's carbon prices are oscillating around 40 EUR/tonne, making the assumptions for 2025 look particularly out of step. However, the 2030 price for the new scenario (54 EUR/t), is not far from the assumptions used by the EU to outline targets for 2030 55% GHG emissions reduction. Secondly, the report lacks an alternative scenario if the government fails to deploy nuclear power by 2033 as outlined. Poland's history with nuclear projects is rather discouraging, and so far not even a site for the project has been chosen.

Source: ember-climate.org