GREENPEACE:

POLAND COULD PHASE OUT COAL BY 2035 IN BUSINESS AS USUAL

IT NEEDS TO SPEED IT UP

GREENPEACE

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1 EXECUTIVE SUMMARY

The Polish government is preparing a restructure plan for the energy sector. The plan envisages the separation of coal assets from three state-controlled energy companies - PGE, Enea and Tauron. Coal plants owned by these utilities account for approximately 94% of the installed coal capacity in Poland (excluding the capacity of combined heat and power plants).

Greenpeace has analysed publicly available information regarding already existing plans for conventional coal power stations owned by these utilities. **The outcome of this analysis shows that Poland could phase out coal by 2035 in a Business As Usual (BAU) scenario**, as part of standard business activity as dictated by technical conditions and the economic and market environment.

In light of these findings, Greenpeace demands that no state aid is provided for coal plant closures that do not take place ahead of the BAU scenario and are not in line with the 2030 coal phase out date that is required in order to fulfill the Paris Agreement[1].

1 "The most cost-effective way of restricting global warming to 1.5 deg C in accordance with the Paris Agreement and the IPCC 1.5 Deg C Report is for the EU and all OECD countries to phase-out coal by the year 2030 (and the rest of the world by 2050)", http://www.caneurope.org/energy/coal-phase-out

2 POLITICAL BACKGROUND

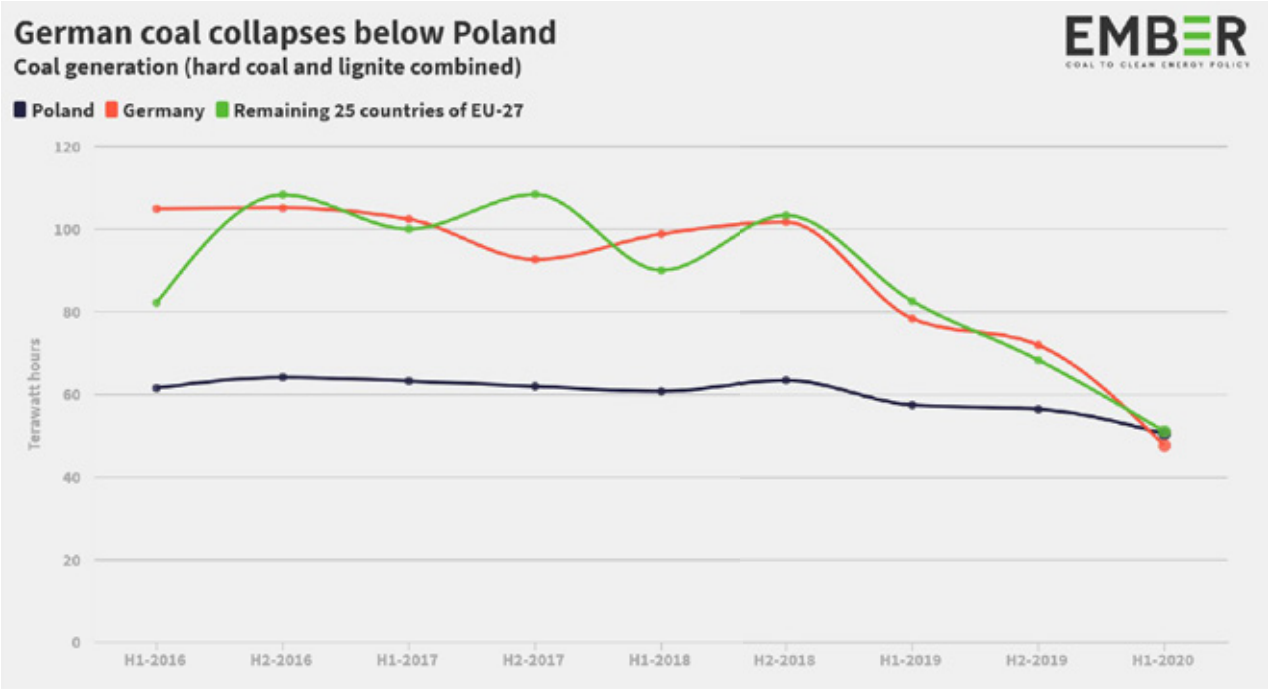
Poland does not currently have an up to date energy strategy.

Poland does not currently have an up to date energy strategy. The last official strategic document, "Poland's energy policy until 2030", was adopted in 2009[2]. In 2018, the Polish climate ministry published the 1st draft of "Poland's energy policy until 2040"[3]. The document has been publicly consulted and reviewed, but the final version has not yet been adopted. In the meantime, in accordance with the requirements of European Union (EU) law, Poland presented the "National Energy and Climate Plan" (NECP), which is not consistent with the draft "Poland's Energy Policy until 2040". Shortly after its submission to the European Commission, the Minister of Climate, Michał Kurtyka, announced that the document will be revised[4]. The NECP was widely criticized[5] for example, for its envisioned slow coal capacity decline that is detached from the economic environment or significantly overestimated energy demand. It also includes new coal capacity from 1 GW Ostroleka C plant project, which has since been canceled.

While the European Union is accelerating the shift away from coal, Polish policymakers continue to argue that coal will remain the backbone of the energy sector in Poland. The Minister of State Assets was recently quoted saying that coal could remain part of the Polish energy mix as long as up to 2060[6]. Such comments are completely detached from business and economic realities, as well as from the need for urgent climate action and the situation of the energy sector.

2 https://www.gov.pl/web/klimat/polityka-energetyczna-polski-do-2030-roku
3 https://www.gov.pl/web/aktywa-panstwowe/polityka-energetyczna-polski-do-2040-r-zapraszamy-do-konsultacji
4 https://biznesalert.pl/ministerstwo-klimatu-weryfikacja-kpeik-neutralnosc-klimatyczna-energetyka/
5 http://zielonasiec.pl/2019/02/08/krajowy-planu-na-rzecz-energii-i-klimatu-czy-stagnacji-i-dramatu/
6 https://biznes.interia.pl/gospodarka/news-sasin-kres-wegla-w-polsce-najpozniej-w-2060-r-odchodzimy-od-,nld,4647548

In recent years, coal energy production in the EU has been dropping dramatically and now most of the Member States have a coal phase out date of 2030 at the latest[7]. According to recent analysis by think tank Ember, in the first half of 2020, Poland became the largest coal energy producer among all EU countries (up to this point the German energy sector had been in the lead)[8]. Poland currently produces as much energy from coal as the remaining 25 EU Member States combined (excluding Germany).



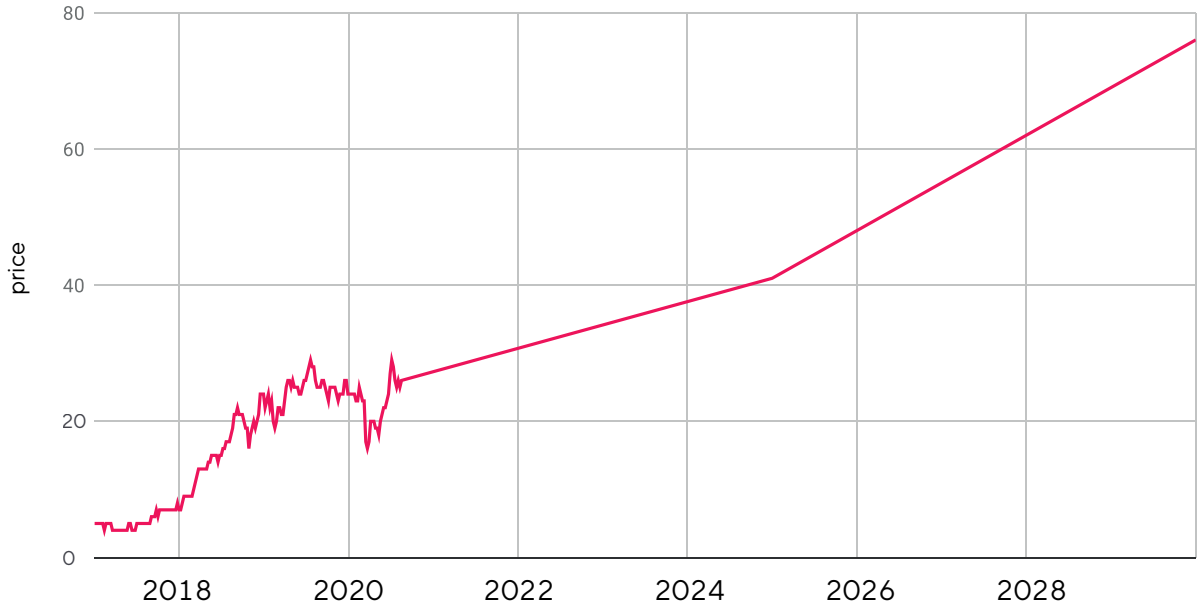
Graph 1
Ember: in the first half of 2020, Poland for the first time produced more energy from coal than Germany

7 https://beyond-coal.eu/coal-exit--tracker/?type=maps&layer=4
8 https://ember-climate.org/project/renewables-beat--fossil-fuels/

The actions of the Polish government remain in contradiction with EU trends. Historically, the production of energy from coal in Poland was heavily subsidized, and power plants benefited from many derogations from EU environmental regulations[9]. However, with the tightening of EU climate, energy and environmental legislation, these subsidies and derogations will soon end[10].

An additional factor that has a negative impact on the profitability of coal-based energy companies are the high prices of carbon dioxide emission allowances, which continue to grow after the 2017 system reform.

EU ETS prices



Graph 2

Historical price of CO_2 emission allowances and future projection based on the assumption that the EU increases its 2030 reduction target to 55%. Source for projection: Climate CAKE report "Revision of reduction targets and emission allowance prices resulting from the "European Green Deal" of March 2020.

9 http://wise-europa.eu/2017/09/19/ukryty-rachunek--wegiel-premiera-raportu/

10 Only in 2013-2018 from the state budget we subsidised coal energy with 30 bln", Report by ClientEarth, https://www.pl.clientearth.org/doplacamy-do-energetyki-7-mld-zlotych-rocznie-az-dwie-trzecie-wsparcia--trafia-do-energetyki-konwencjonalnej/

These changes mean that coal as an energy source is no longer viable from an economic point of view, even in Poland. Polish energy companies are already experiencing losses on their coal assets and are noticing that coal energy is becoming unprofitable. Recently, the head of the largest energy producer in Poland - PGE - warned that without radical decisions regarding the transformation of the energy sector, the company's situation will deteriorate significantly over the next two years[11].

Over the last five years, Polish energy utilities' value has decreased significantly - in the case of PGE and Enea, the shares of companies have fallen by more than a half. This shows how the market has valued the operational strategy of Polish energy groups.

Graph 3
Energy utilities stocks prices / stooq.pl

11 https://serwisy.gazetaprawna.pl/energetyka/artykuly/1486306,prezes-pge-transformacja-energetyczna-upadlosc.html

3 NABE: TOWARDS THE TRANSFORMATION OF THE ENERGY SECTOR OR ANOTHER LIFELINE TO COAL?

In recent months, the heads of Polish energy companies have called for plans to restructure the energy sector, which would include the separation of coal assets[12].

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In light of rising CO_2 prices and the cost of energy production from coal, diminishing private finance for coal and shrinking coal subsidies, coal assets have become a burden that utilities would like to get rid off. In response to these calls, the Ministry of State Assets prepared a concept for the establishment of the National Energy Security Agency (NABE)[13] to which the coal assets of three Polish energy companies are to be transferred: PGE, Enea and Tauron. The proposal that was leaked to the media assumes that most of the coal power plants transferred to NABE will be closed by 2040 with the use of additional subsidies under the so-called 'Early Decommissioning Mechanism'. According to the leaked documents, new coal units that have been built in the last few years, or those that are still under construction, could also still operate after 2040[14].

This proposal is yet another attempt to throw a lifeline to the coal energy sector, for which politicians will once again pay with the money of citizens. As shown in the analysis below, the vast majority of coal-fired power plants owned by PGE, Enea and Tauron are to be closed, according to the already existing plans, by 2035 at the latest.

12 https://serwisy.gazetaprawna.pl/energetyka/artykuly/1486306,prezes-pge-transformacja-energetyczna-upadlosc.html

13 https://biznesalert.pl/energetyka-reorganizacja-wegiel-oze-pge-tauron-enea-energa-orlen-pgnig/

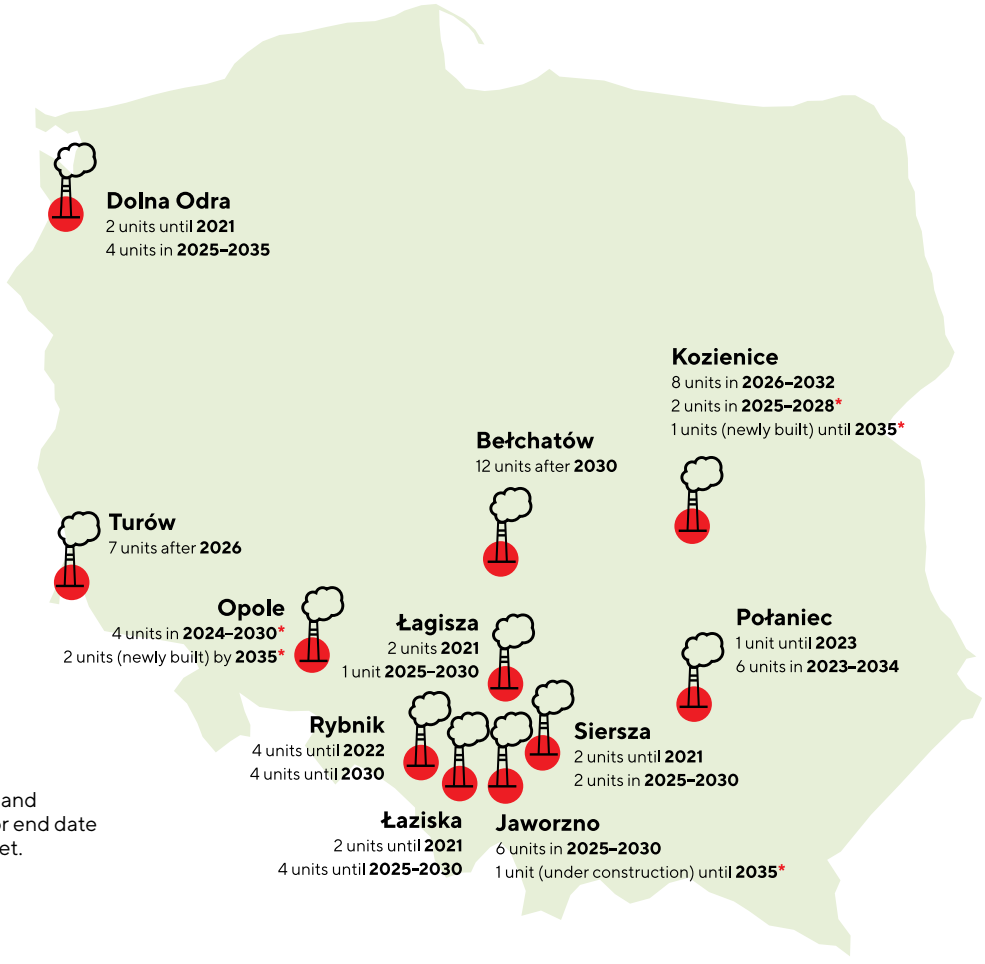
14 In the recent years the following new coal units were built : unit at Kozienice (owned by: Enea, 1075 MW, put online in 2017),2 units at Opole (owned by PGE, 2 x 900 MW, put online in 2019), 1 unit at Jaworzno (owned by Tauron, 910 MW, still under construction), 1 unit at Turów (owned by PGE, 496 MW,still under construction).

4 POLAND COULD PHASE OUT COAL BY 2035 IN BUSINESS AS USUAL

Most of Poland's conventional coal-fired power plants (CHPs excluded) already have a closure date which is scheduled for 2035 at the latest.

Most of Poland's conventional coal-fired power plants (CHPs excluded) already have a closure date which is scheduled for 2035 at the latest. At the same time, economic analyses clearly indicate that without subsidies after 2030, further production of coal energy will be uneconomic. Conventional coal-fired power plants owned by PGE, Enea and Tauron (along with the Jaworzno and Turów units that are currently under construction), which are to be transferred to the National Energy Security Agency (NABE), amount together to approx. 23.9 GW, so to about 94% of conventional coal capacity in Poland. As a result, it seems that the discussions regarding the creation of NABE and the potential closure schedule, which is part of this process, will form the basis for setting the date of coal energy phase out in Poland. In this analysis, we decided to focus on reviewing the current data and publicly available information that may indicate the schedule of closures of coal plants that are owned by PGE, Enea and Tauron according to the Business as Usual scenario.

Graph 3
Closure schedule of coal plants owned by Enea, PGE and Tauron



* Dates dictated by Climate Analytics and Carbon Tracker recommendations or end date of contracts from the capacity market.

PGE, Tauron and Enea together own 11 conventional coal power plants (with a total installed capacity of approx. 23.9 GW), which account for approx. 94% of the conventional coal capacity in Poland. Specific planned closure dates are available for seven power plants: Dolna Odra, Siersza, Łagisza, Łaziska, Rybnik, Połaniec and Jaworzno (excluding the new unit that is currently under construction) as well as part of Kozienice power plant. Information has been provided by the Ministry of State Assets, communicated by the utilities in official announcements or submitted to the Polish Energy Grid Operator (PSE) and through REMIT announcements, or announced during the company's official conference (as in the case of power plants owned by Tauron). As for the Bełchatów power plant, the largest coal-fired power plant in Europe, its continued existence depends on the availability of lignite deposits which are currently running out. PGE in the updated motion for the change of the integrated permit (IPPC permit) for the Bełchatów power plant from November 2019, indicated that due to the diminishing lignite deposits, the power plant will be shut down after 2030. The lifetime of Turów Power Plant as a lignite-fired power plant is also limited by access to local lignite deposits. The license for the extraction of lignite from the Turów open pit has been extended this year by six years, until 2026. Turów Power Plant is seeking a further extension. Taking into account the negative impacts of the open pit mine to the environment, with arguments raised as to its non-compliance with EU law and the protests of the Czech local community affected by its activities (in January 2020, the Czech Republic city of Liberec submitted a complaint to the European Commission, stating that Poland had breached EU directives, which gives grounds for the initiation of proceedings by the CJEU[15]), it should be expected that the mine's concession will not be renewed again. The Czech Republic Ministry of the Environment has also officially opposed the mine extension, which is considered an unprecedented step in international relations between Poland and the Czech Republic[16]. In July, the Czech Republic's Environmental Protection Commission recommended filing a lawsuit against Poland. This is still to be decided by the Republics parliament[17].

At the same time, for economic reasons (discussed in more detail below), it should be assumed that the Turów power plant units will cease their operation at the latest at the end of their capacity market contracts.

15 https://wyborcza.pl/7,155287,26033380,przygraniczny-konflikt-o-gigantyczna-kopalnie-zaostrza-sie.html
16 https://wroclaw.wyborcza.pl/wroclaw/7,35771,25574992,czesi-nie-chca-truciciela.html?_ga=2.213812436.1142934308.1597930115-560080103.1591115510
17 https://wroclaw.wyborcza.pl/wroclaw/7,35771,26087904,czechy-coraz-blizej-pozwania-polskiego-rzadu-do-trybunalu-sprawiedliwosci.html

There are still no closure plans available for the Opole power plant, part of the Kozienice power plant and the newest unit of the Jaworzno power plant (that is still under construction), but as the economic analysis presented below shows, utilities should not delay scheduling their closures. The analysis of the profitability of coal investments carried out by think tank Carbon Tracker shows that 80% of European coal power plants are already unprofitable[18]. Annual losses on this account are calculated in billions of PLN. Experts clearly recommend that politicians and investors completely withdraw from coal energy by 2030, because in the absence of subsidies, coal-fired power plants will not survive competition from renewable energy[19]. Further lifetime extension of coal-fired power generation will only generate additional costs. Already, Poland's dependence on coal and the lack of appropriate investments in renewable energy cause Polish citizens to pay one of the highest electricity bills in Europe. In the first half of 2020, the Polish wholesale electricity price was 73% higher than the German one, and only Greece has higher prices. Polish hard coal mines operate below profitability limits and are not able to compete with cheaper, imported coal[20].

The estimates of Carbon Tracker also indicate that an earlier withdrawal from coal energy, as agreed in the Paris Agreement, would allow Poland to save over 10 billion PLN[21]. The report[22] also points out that some Polish power plants do not generate losses only due to a long stream of subsidies. Experts from Carbon Tracker recommend specific closing dates for some power plants in order to avoid losses: the four oldest units of the Opole power plant owned by PGE should be closed by 2024, and the remaining two - by 2029 and 2030[23]. According to another report[24] by think tank Climate Analytics, the Kozienice power plant, owned by Enea, should end its operations by 2028 at the latest, similarly to the Jaworzno power plant owned by Tauron.

18 https://carbontracker.org/powering-down-coal--the-economic-global-coal-phase-out-stronger--than-ever/?fbclid=IwAR2_8KHNate_yj7N-CLOmv2PWK5BwyBF8NXTg6YZTfU8ztWI-fCT55fwaqH2A

19 https://biznesalert.pl/carbon-tracker-80-procent--elektrowni-weglowych-w-ue-jest-nierentownych/

20 https://ember-climate.org/project/renewables-beat--fossil-fuels/

21 https://carbontracker.org/reports/lignite-living-dead/

22 „The coal plants which remain profitable include: those in Poland which receive relatively high subsidies. Polish generators will also benefit from generous capacity market payments from next year onwards, which could see the percentage of profitable units increase from ~50% to ~80%", Report "Apocalypse Now", https://carbontracker.org/four-in-five-eu-coal-plants--unprofitable-as-renewables-and-gas-power-ahead/

23 https://companyprofiles.carbontracker.org/PGE

24 https://climateanalytics.org/media/eu-coalstresstest--report-2017.pdf

It should also be noted that assuming that the newly built units (two units at the Opole power plant, a unit at the Kozienice power plant, a unit at the Jaworzno power plant) would remain in the system until the end of their capacity market contracts (which is a form of subsidies), that would be until 2035. In light of numerous economic analyses indicating the unprofitability of coal-based energy after 2030, it can be assumed that after the end of the support period from the capacity market, these units will also cease their operations.

As our analysis shows, most plants have already set closure dates by 2035 at the latest. This shows that Poland, already under the Business As Usual scenario, and without additional effort and changes to existing practices, could phase out coal in electricity generation by 2035. It is necessary to further accelerate this process so that Poland, like the entire European Union, departs from coal energy by 2030 which is necessary to fulfil the goals of the Paris Agreement[25].

25 https://instrat.pl/en/2030-en/

Plant name	Owner	Planned closure date	Source
Bełchatów	PGE	12 units after 2030	Updated motion for the update of the integrated permit (IPPC permit) for Bełchatów power plant from November 2019 (attachment nr2).
Rybnik	PGE	4 units until 2022 4 units until 2030	Reply of the Ministry of State Assets of February 11, 2020 to a parliamentary question[26].
Dolna Odra	PGE	2 units until 2021 4 units in 2025–2035	Information from Polish Energy Grids operator[27] / Letter by the Ministry of Treasury of 5 August 2013[28] /Press Statement by PGE GiEK[29]
Połaniec	Enea	1 unit until 2023 6 units in 2023–2034	One unit is in derogation from Article 33 of the Industrial Emissions Directive; after its completion, the unit will be shut down as required by the directive [30]/ Response of the Ministry of State Assets of May 11, 2020 to a parliamentary question[31]
Łaziska	Tauron	2 units until 2021 4 units in 2025–2030	REMIT data[32] /Reply of the Ministry of State Assets of February 11, 2020 to a parliamentary question [26]/ Conference for investors and analysts - TAURON Group's financial results for 2019 - on April 2, 2020[33]
Kozienice	Enea	8 units in 2026–2032 2 units in 2025–2028* 1 units (newly built) until 2035*	Response of the Ministry of State Assets of May 11, 2020 to a parliamentary question[31] /Analysis by Climate Analytics[34]/ completion of the capacity market contract for the newly built unit
Opole	PGE	4 units in 2024–2030* 2 units (newly built) by 2035*	Analysis by Carbon Tracker[35] / completion of the capacity market contract for the newly built units

26 http://orka2.sejm.gov.pl/INT9.nsf/klucz/ATTBLRJQB/%24FILE/io1047-01.pdf
27 https://www.pse.pl/documents/20182/f6bcb852-387b-4158-be1c-8ef58d25adb0?safeargs=646f776e6c6f61643d74727565
28 http://www.senat.gov.pl/gfx/senat/userfiles/_public/k8/dokumenty/stenogram/oswiadczenia/sztark/35020a.pdf
29 https://www.cire.pl/item,189016,1,0,0,0,0,0,pge-analizuje-oferte-konsorcjum-polimeksu-i-ge-dot-budowy-blokow--gazowych-w-dolnej-odrze.html
30 Dyrektywa Parlamentu Europejskiego i Rady 2010/75/UE z dnia 24 listopada 2010 r. w sprawie emisji przemysłowych (zintegrowane zapobieganie zanieczyszczeniom i ich kontrola)
31 http://sejm.pl/Sejm9.nsf/InterpelacjaTresc.xsp?key=BPKJ7Q
32 http://en.tauron.pl/tauron/about-tauron/REMITi/Pages/start.aspx
33 https://www.youtube.com/watch?v=fMIzAbKBgzQ&t=2705s
34 https://climateanalytics.org/media/eu-coalstresstest-report-2017.pdf
35 https://companyprofiles.carbontracker.org/PGE

Plant name	Owner	Planned closure date	Source
Jaworzno	Tauron	6 units in 2025–2030 1 unit (under construction) until 2035*	Conference for investors and analysts – TAURON Group's financial results for 2019 – on April 2, 2020[33] / completion of the capacity market contract for the newly built unit
Siersza	Tauron	2 units until 2021 2 units in 2025–2030	REMIT data[32] / Conference for investors and analysts – TAURON Group's financial results for 2019 – on April 2, 2020[33]
Turów	PGE	7 units after 2026	The current concession to extract coal from the Turów opencast mine has been extended until 2026. Taking into account the controversy over the operation of the opencast mine and its alleged non-compliance with the Water Framework Directive, it should be assumed that there will be no further extension of the mine's operation. This would entail the necessity to shut down the power plant
Łagisza	Tauron	2 units 2021 1 unit 2025–2030	REMIT data[32] / Conference for investors and analysts – TAURON Group's financial results for 2019 – on April 2, 2020[33]

* Dates dictated by Climate Analytics and Carbon Tracker recommendations or end date of contracts from the capacity market.

5 CONCLUSION

In light of the presented analysis, it should be stated that 2035 as the date of Poland's departure from coal-fired energy should be treated as the so-called Business as Usual scenario, i.e. a plan that will be implemented as part of standard business activities dictated by technical conditions and the economic and market environment.

In the case of state intervention, in the form of the creation of the NABE and state aid in the form of the so-called Early Decommissioning Mechanism, it should be expected that it will accelerate the departure from coal energy in Poland. State intervention and public aid should not contribute to normal business activities. However, according to Art. 107 paragraph. 3 TFEU, such state aid could be considered as targeted if it were to support the implementation of important projects of common European interest. An example would be the achievement of the EU's goal of climate neutrality and accelerating the reduction of greenhouse gas emissions. The direction of such intervention should therefore be clear and should lead to faster closure of coal-fired power plants than results from standard business operations (BAU).

From the point of view of climate protection, due to Poland's obligations to achieve the goals of the Paris Agreement and in light of the available scientific knowledge, it is necessary that Poland and other European Union countries abandon coal combustion in the energy sector by 2030 at the latest. This is a goal not only necessary to prevent the most catastrophic effects of climate change, but it is also - as the recently published report "Building a Paris Agreement Compatible (PAC) energy scenario", prepared by Renewables Grid Initiative (RGI), European Environmental Bureau (EEB) and Climate Action Network (CAN) Europe - technically feasible[36]. The above presented analysis confirms that this goal remains within reach.

36 https://www.pac-scenarios.eu/scenario-development.html?L=0#Chapter2:EnergySupply

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