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Lignite in the Polish energy industry – a premature goodbye

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Abstract

Despite decarbonisation, coal (including lignite) still plays an important role in Europe in stabilising energy systems and guaranteeing energy security of many countries. The present article outlines the importance of lignite in Poland, the volume of extraction over several decades and its share in the production of electricity against the background of a changing energy structure. Due to the growing importance of renewable energy sources, lignite mining is declining year after year. However, during unfavourable periods for renewable energy sources, especially in winter, energy is produced primarily in conventional power plants. In 2023, over 21 per cent of Polish energy was generated from lignite. Therefore, first, lignite mining and electricity production are here characterised. Then, the short-term liquidation of existing mining and energy complexes is indicated, as a result of the exhaustion of lignite resources. Within two decades, 8.2 GW of lignite-based power will be lost from the Polish energy system. The geological resources of lignite deposits in Poland are described, paying particular attention to deposits whose extraction is possible and rational in the future. Finally, arguments are presented for maintaining lignite mining in Poland, as supported by the constantly growing demand for energy and the ability to flexible adjustment of electricity generation to variable production from renewable energy sources. Moreover, the possibility of minimising the environmental impact of both lignite mining and electricity generation from it need to be considered. Geopolitical events during the last decade, in particular the Russian aggression against Ukraine, have shown that domestic energy resources play an important role in ensuring the country's energy security. Hence, the current study is an attempt to provide answers to the question whether it is not too early to say goodbye to Polish lignite.

Keywords: lignite deposits, lignite mining, energy production, energy deficit, energy security

1. Introduction

During the current climate crisis, it is inappropriate to talk about coal in general and lignite in particular. Meanwhile, the world is extracting more and more coal and other fossil fuels, producing increasingly more electricity from these (Carbon Brief, 2024; GEM, 2024). Also in Europe, lignite still plays an important role as it guarantees the energy security of many countries. Large amounts of lignite are still mined in the European Union (EU). Poland, with an extraction of approximately 50 Mt (million tonnes) per annum, ranks second after Germany (Widera, 2021).

Due to the systematically growing share of renewable energy in the Polish energy system, lignite mining and energy production from it show a decreasing tendency. In 2022, extraction amounted to 57.7 Mt, and in 2023 only 42.5 Mt (Bilans, 2024). In the EU, Germany has been the leader in this industry for years. In 2023, 102 Mt of lignite was mined for energy purposes in three main German basins (DEBRIV, 2024). Also in this case, a significant decrease may be observed. A decade ago, lignite extraction in Germany amounted to over 180 Mt annually, and in 2021 it was only 130.8 Mt (Euracoal, 2024).

In recent years, after decades of prosperity, the lignite industry in the EU has been in crisis. In accordance with the climate policy of Poland and the EU, issues related to lignite mining and the generation of electricity from it are passed over in silence. Therefore, the main goal of the present paper, in addition to showing the role of lignite in the Polish economy, is an attempt to answer the following two questions: first, will it be possible to fill the gap in the national energy system in the near future when the resources of available lignite deposits are exhausted and, secondly, in the face of approaching energy deficit, should the development of further lignite deposits be considered to ensure the country's energy security in the coming years?

2. Material and methods

The main source of data used in the present study are annual statistical reports published by the Polish Grid Company (PSE, 2024). Information on lignite mining in the world and selected European countries comes from the Global Energy Monitor and Eurocoal reports, respectively (e.g., DEBRIV, 2024; Euracoal, 2024). The resources of exploited Polish lignite deposits are described on the basis of previous publications by the authors, while the production of electricity is based on information published by energy companies.

The material and results are presented in graphical and tabular form. The resources of Polish lignite deposits are described on the basis of published contributions by the Polish Geological Institute (Bilans, 2024) and publications by the authors (Naworyta, 2011, 2022, 2024; Naworyta & Badera, 2012; Urbański & Widera, 2016; Urbański, 2018; and other references therein). Information on the forms of environmental protection occurring in areas with lignite deposits has been prepared on the basis of publications of the Polish Central Statistical Office (CRFOP, 2024) and others (e.g., Ochrona Środowiska, 2024).

Methods typical of opinion research are used in the present study. An analysis has been carried out of the possibilities of developing the national energy system based on sources other than fossil fuels. The directions of energy development adopted by the Polish government in the National Energy Policy have been used. In view of the rapidly occurring changes, not only are published materials used, but also the most up-to-date opinions of national scientific and decision-making bodies, to which the present authors belong.

3. The share of lignite in the Polish energy sector

Since the end of World War II, lignite has been an important raw material for energy in Poland. Currently, it is used for energy production only in commercial power plants. In 2023, 21.13 per cent of Polish electricity was generated based on lignite. The capacity installed in four Polish power plants (8,243 MW), which constitutes a 12.22 per cent share, puts lignite in third place after renewable sources (40.16 per cent) and hard coal (37.05 per cent) (Table 1).

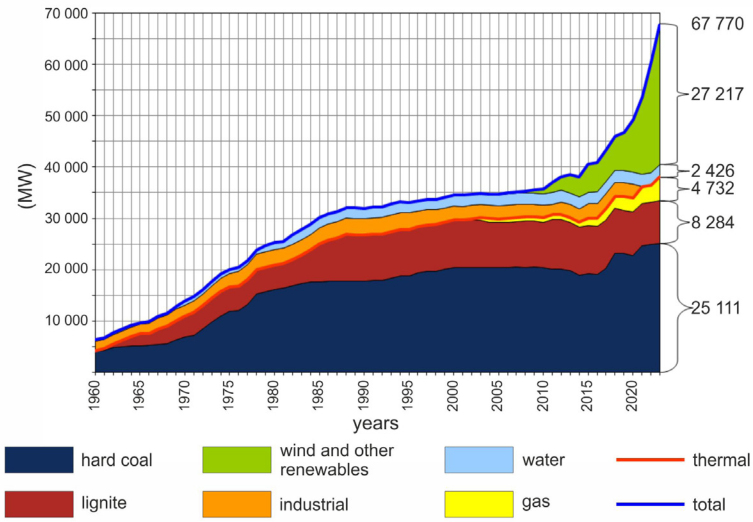
Following economic and political changes in Poland in 1989, annual extraction of lignite was at the level of 55–70 Mt (e.g., Widera et al., 2024a, b). The volume of mining was a function of the power installed in power plants that produced energy in the immediate vicinity of the lignite opencasts. This changed in the last decade when significant renewable energy capacities appeared in the Polish energy system (Fig. 1). Wind power plants and photovoltaic (PV) installations have priority in EU countries. When the generation of electricity from renewable energy is high, power plants based on fossil fuels are forced to reduce production. In this way, energy generation, and therefore lignite mining, was adjusted to energy fluctuations resulting from unstable production from renewable energy sources. In Poland, the installed capacity of renewable energy plants has recorded an unprecedented increase over the last decade (Fig. 1). These are mainly wind farms, PV installations and biomass combustion plants. However, the increase in installed capacity does not translate directly into the amount of energy generated. This is due to the fact that renewable energy power plants are highly dependent on weather conditions (e.g., Naworyta, 2022).

In 2023, only 21.52 per cent of the national electricity (out of 40.16 per cent of installed capacity) was generated from renewable sources (Table 1). Despite this, 2023 was an exceptional year in the history of the Polish energy industry. For the first time, the installed capacity of renewable energy sources, amounting to 27,217 MW with a share of 40.16 per

Table 1. Installed capacity and electricity production in Poland in 2023 by source (PSE, 2024).

Energy source	Share in installed capacity (%)	Share in electricity production (%)
Renewable	40.16	21.52
Hard coal	37.05	46.82
Lignite	12.22	21.13
Gas	6.98	8.34
Water	3.58	2.20

Fig. 1. Changes in the structure of power installed in the National Power System over the years 1960–2023 (modified from PSE, 2024).



cent in the national energy system, exceeded the capacity of hard coal-fired power plants, which amounted to 25,111 MW and 37.05 per cent, respectively. In addition, for the first time, non-emission sources produced more electricity (21.5 per cent) than lignite-based power plants (21.1 per cent) in 2023 (Table 1; Fig. 2). There is a clear upward trend in electricity generation from renewable sources. This results in a downward trend in electricity production in power plants based on fossil fuels, mainly hard coal and lignite. In 2023, lignite extraction amounted to 42.5 Mt, the lowest figure over the last 35 years (Bilans, 2024). Of this amount, lignite-fired power plants produced a total of 34,571 GWh of electricity (PSE, 2024).

Despite the general downward trend in recent decades, it should be noted that the role of coal, including lignite, is still significant (Figs. 1, 2). In

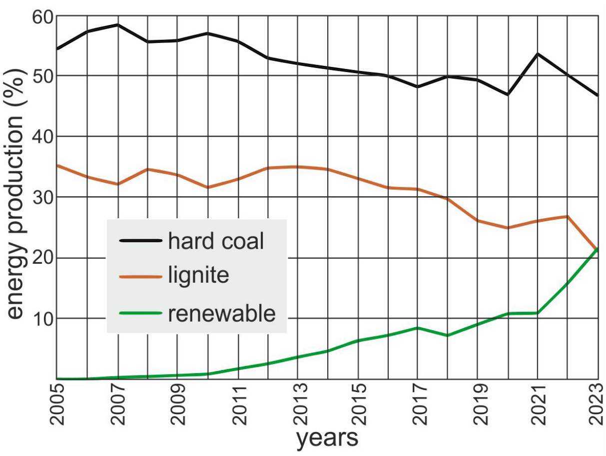


Fig. 2. Share of hard coal, lignite and renewable energy sources in electricity production in Poland over the years 2005–2023 (modified from PSE, 2024).

Poland, where there are four seasons that clearly differ in solar conditions, wind strength, day length, temperature, etc., the demand for power varies seasonally. Of course, the most electricity is needed in winter, when conditions for energy generation from renewable sources are unfavourable (Fig. 3). On the other hand, the volume of energy production based on fossil raw materials and renewable energy sources differs significantly. This is demonstrated well by data obtained for individual months of 2023 (Fig. 4). As demand for energy increases in winter months, electricity production in fossil fuel power plants increases. In contrast, renewable energy plants generate electricity at a relatively constant level, regardless of season (Fig. 4).

Renewable energy from both solar and wind sources has an intermittent nature of operation. To ensure continuity of electricity supply in the national energy system, weather-independent power sources are necessary, capable of quickly releasing power reserves. In periods of low electricity production from solar and wind installations, it becomes necessary to use fully all available sources. Therefore, the Polish energy mix must include various energy sources, including those based on lignite.

In Poland, lignite is mined using the opencast (surface) method in four mines: Konin, Bełchatów and Turów, as well as the small Sieniawa mine. In the Konin Lignite Mine (central Poland), mining has focused since mid-2023 on the Tomisławice deposit. Lignite is burned by the Pątnów I power plant with a capacity of 644 MW and Pątnów II – 474 MW (data from Pątnów power plant). The demand is supplemented with supplies from the Sieniawa Lignite Mine in the amount of approxi-

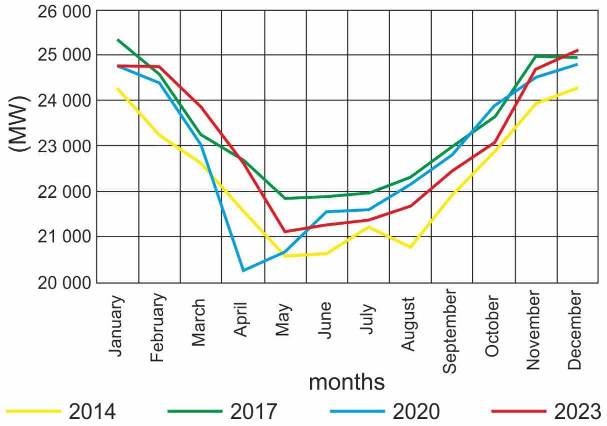


Fig. 3. Average monthly national power demand during daily load peaks on working days in selected years: 2014, 2017, 2020 and 2023 (PSE, 2024).

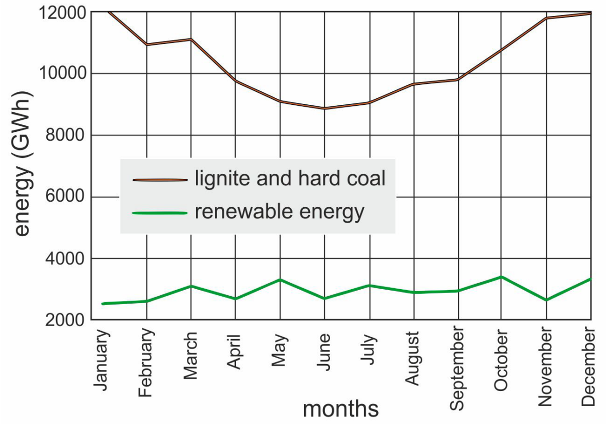


Fig. 4. Production of electricity from coal (hard coal and lignite) and renewable energy sources in 2023 (PSE, 2024).

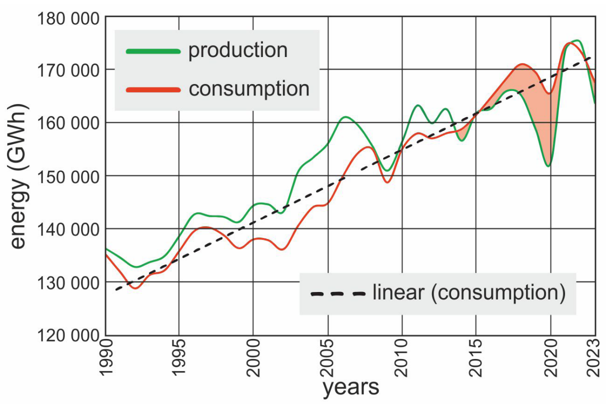


Fig. 5. Production and consumption of electricity in Poland over the years 1990–2023.

mately 0.5–1.0 Mt of lignite per year (Widera et al., 2024a, b; Kasztelewicz et al., 2025). The mining and energy complex in the Konin region is expected to cease operations in 2026–2027 (Frydrychowicz et al., 2024).

The largest opencast in Poland and Europe, i.e. the Bełchatów Lignite Mine, exploits lignite from the Bełchatów and Szczerców deposits to approximately 35–45 Mt per year. It is used to produce energy in the largest conventional power plant in Poland with a capacity of 5,097 MW (data from Bełchatów power plant). The concession for lignite mining from both of the above-mentioned deposits expires in 2038. However, the possibility of an early termination of mining and electricity production in the Bełchatów region is taken into account. This is due to the deteriorating economic conditions related to the purchase of increasingly more expensive CO_2 emission certificates.

The Turów Lignite Mine exploits lignite from the Turów deposit to approximately 7–10 Mt per year. Energy based on this raw material is produced at the Turów power plant with a capacity of 2.029 MW (data from Turów power plant). In this case, the concession for lignite mining expires in 2044 (Widera, 2021). The information presented above indicates that in just 2–3 years the Polish energy system will lose 1,118 MW. Moreover, in around 10 years' time, another 5,097 MW, and in 2044, 2,029 MW of installed capacity in lignite-fired power plants will disappear from the Polish energy system. In total, by 2044 at the latest, the national energy system will have lost 8.2 GW of stable, weather-independent generation capacity.

Ensuring Poland's energy security will require supplementing the above-mentioned (8.2 GW) generation capacities. However, simply supplementing the same amount of power/energy is not enough, as the increase in electricity demand must be taken into account. Statistical data show that in the years 1990–2023 the demand for electricity constantly grew by 1.2 TWh per year (Widera et al., 2024a). Despite significant fluctuations, the upward trend in energy consumption is clearly visible (Fig. 5). The same holds true for the deficit in the national energy system after 2014. This is a new phenomenon over the years 1990–2023. If the upward trend in energy consumption continues and the above-mentioned lignite-fired power plants are turned off one by one, the Polish energy system will experience a large power shortage/deficit over the next two decades.

4. Resources and exploitation of lignite deposits in Poland

4.1. Resources of lignite deposits

Poland is rich in lignite, occurring in Jurassic, Cretaceous, Paleogene and Neogene deposits. Currently, only lignites from Cenozoic formations (mainly of Miocene age) are of economic importance (Ciuk & Piwocki, 1990; Widera et al., 2016, 2024a, b; Kasiński et al., 2019; Widera, 2021; Kasiński & Urbański, 2022). The largest lignite deposits are located in the western and central parts of Poland. The main lignite regions cover a total of approximately 22 per cent of the country's area (Fig. 6). Due to its suitability for energy purposes, Polish lignite deposits mined using the opencast method are documented after meeting the following criteria:

- depth up to 350 m,
- thickness of a single lignite seam no less than 3 m,
- the ratio of overburden thickness to lignite thickness is a maximum of 12:1,
- calorific value of raw lignite no less than 6.5 MJ/kg (Bilans, 2024).

There are over 23.0 Gt (billion tonnes) of lignite resources in Poland that meet these criteria (Bilans, 2024; Table 2). The accuracy of documentation of

Table 2. Polish lignite deposits and resources by voivodeship at the end of 2023 (modified from Bilans, 2024).

Voivodeship	Lignite resources (Mt)		Number of lignite deposits		Lignite output (Mt)
	Anticipated economic resources	Economic resources	Total	Exploited deposits	
Lower Silesia	6,188.6	253.2	14	1	7.8
Kuyavian-Pomeranian	902.4	0	8	0	0
Lublin	0.2	0	2	0	0
Lubusz	5,906.7	15.5	21	1	0.8
Łódź	1,944.8	484.7	9	2	33.0
Masovian	92.6	0	4	0	0
Opole	2.6	0	2	0	0
Wielkopolska	8,003.3	20.4	31	1	1.0
Poland	23,041.3	773.7	91	5	42.5

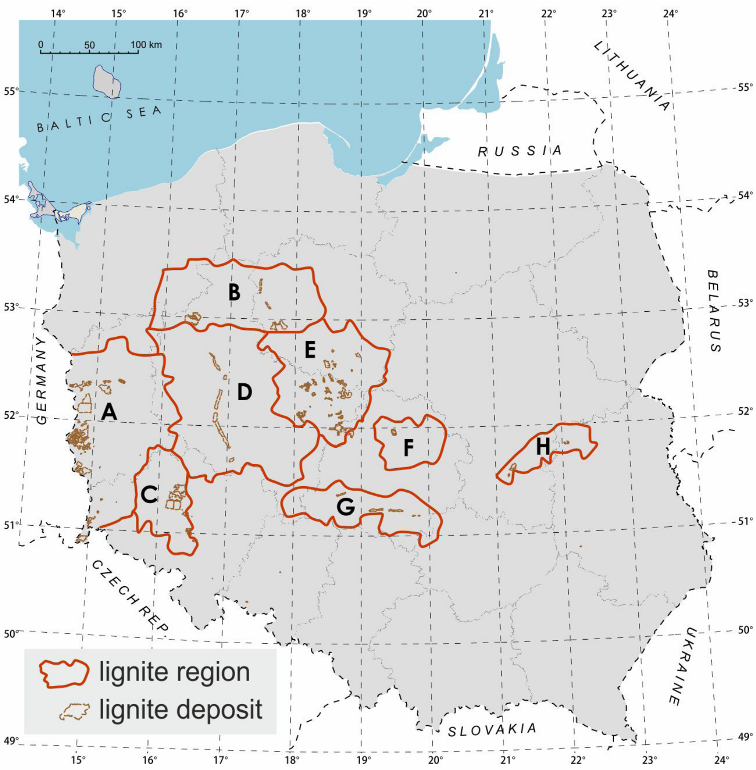


Fig. 6. Regions of lignite deposits in Poland (modified from Kasiński et al., 2006). Lignite regions: A – West, B – Northwest, C – Legnica, D – Wielkopolska, E – Konin, F – Łódź, G – Bełchatów, H – Radom.

most Polish lignite deposits is low. About 69 per cent of these resources were recognised in the C_2+D category. For category C_2, the error in estimating the amount of resources reaches up to 40 per cent, and for deposits identified in category D, it is over 40 per cent. Regardless of the accuracy, the amount of lignite theoretically allows exploitation and energy production at the current level for several hundred years (Table 2).

The availability of lignite deposits mined in Poland depends on the use of the area overlying the deposit and on the impact of the mine on the environment. Lignite deposits are often located in areas of great natural value. In Poland, approximately 10.1 million hectares (32.3 per cent of the country's area) are subject to legal protection (Ochrona Środowiska, 2024). They include 23 national parks and 126 landscape parks, 407 protected landscape areas, 1,524 nature reserves, 7,766 ecological areas, 33,948 natural monuments, 189 documentation sites, as well as 275 nature and landscape complexes. Natura 2000 areas constitute a special form of nature protection, including 867 for habitat protection and 145 for bird protection (CRFOP, 2024). Soils of high quality grades, the share of which in arable land is estimated at approximately 30 per cent, are also subject to legal protection. This comparison shows that the development of new mineral deposits using the opencast (surface) method, not only lignite, encounters many obstacles and often has to be the result of compromise solutions (Uberman & Naworyta, 2012).

4.2. Lignite deposits unlikely to be exploited in the future

The documented lignite deposits include those with very diverse resources, i.e. from several tens of thousands of tonnes to almost two Gt (Bilans, 2024). The exploitation of small deposits located far from the power plant is not rational under current conditions. However, noteworthy are lignite deposits with large resources which, due to the value of the natural environment and soils and the great importance of land for agriculture, have for years been considered as deposits whose exploitation in the future is unlikely. These are the Czempiń, Krzywiń and Gostyń lignite deposits. Their total resources are as much as 3.69 Gt, which constitutes approximately 16 per cent of all Polish lignite resources (Urbański & Widera, 2016; Urbański, 2018). The areas of protected nature often occur above the most lignite-rich deposits in Poland (Fig. 7).

For example, to the north of the mentioned deposits (Czempiń, Krzywiń, Gostyń), is the Mosina lignite deposit with resources of 1.5 Gt. This deposit is located under the Wielkopolski National Park. The Naramowice lignite deposit (296.3 Mt) is situated under the city of Poznań, and the Szamotuły (746.3 Mt) lignite deposit, north of Poznań, covers several nature protection areas. The total resources of these deposits (Czempiń, Krzywiń, Gostyń, Naramowice, Mosina and Szamotuły; Fig. 7) amount to 6.23 Gt, which constitutes 26 per cent of the total Polish lignite resources (Bilans, 2024).

The situation of four lignite deposits in the western region is similar: Rzepin (249.5 Mt), Torzym (843.9 Mt), Cybinka (237.5 Mt) and Sądów (226.5 Mt) (Fig. 7). The DK 92 national road and the A2 motorway, as well as the Świebodzin–Słubice railway line, run through the Rzepin and Torzym deposits. The town of Torzym is located above the Torzym lignite deposit. Moreover, large areas of these lignite deposits include protected nature areas, for example, the Puszcza Rzepińska in the westernmost part of Poland (Fig. 7).

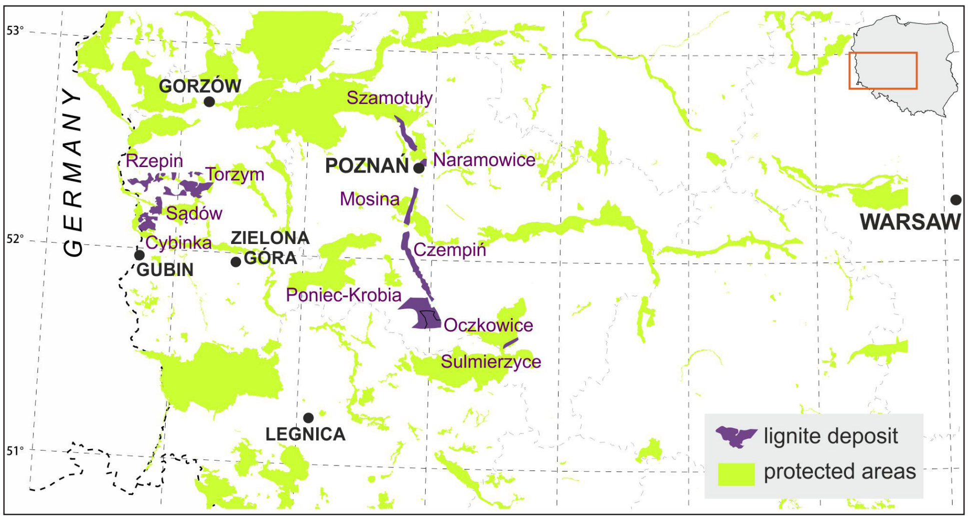


Fig. 7. Lignite deposits and protected areas (modified from Kasiński et al., 2019).

Among the Polish lignite deposits, there are 17 with medium and large resources, the exploitation of which is unlikely due to the development of the area and forms of nature protection (Table 3). They constitute nearly 40 per cent of the geological balance resources of Polish lignite deposits. This leaves approximately 14.2 Gt of lignite, of which approximately 0.9 Gt constitutes resources in currently exploited deposits (Bilans, 2024). Therefore, if in the future it would be necessary to exploit new lignite deposits in Poland, the documented resources (14.2 Gt) guarantee the sufficiency of the raw material for at least 200–300 years. These include the Gubin 2 deposit (approximately 1.0 Gt), the complex of deposits in the Legnica region (approximately 3.4 Gt) and the Złoczew deposit (approximately 0.6 Gt) (Kasiński et al., 2008; Kasiński, 2010; Kasztelewicz, 2011; Uberman & Naworyta, 2012; Greinert ed., 2015; Urbański & Widera, 2016; Urbański, 2018). Thus, this group of Polish lignite deposits, as strategic deposits to ensure the country's energy security, should be protected. Above all, the areas above the lignite deposits should remain undeveloped to enable future surface (opencast) mining if necessary (Piwocki & Kasiński, 1994; Uberman, 2011; Widera et al., 2024b).

Table 3. Medium- and large-sized lignite deposits whose exploitation is unlikely (modified from Bilans, 2024). For the location of the lignite regions in Poland, see Figure 6.

Lignite deposit	Lignite region	Lignite resources (Mt)
Morzyczyn	Konin	26.1
Uniejów	Konin	42.0
Chełmce	Konin	44.3
Mosty	West	175.0
Sądów	West	226.5
Cybinka	West	237.5
Rzepin	West	249.5
Naramowice	Wielkopolska	296.3
Trzcianka	Northwest	300.1
Lubsko	West	340.7
Więcbork	Wielkopolska	509.1
Krzywiń	Wielkopolska	666.5
Szamotuły	Wielkopolska	746.3
Torzym	West	843.9
Czempiń	Wielkopolska	1,034.6
Mosina	Wielkopolska	1,495.4
Gostyń	Wielkopolska	1,988.8
Total		9,223.1

5. Discussion

5.1. The importance of lignite for the country's energy security

Having your own weather-independent energy sources is very important to ensure the country's energy security. Russia's attack of Ukraine in February 2022 meant a test of the state of energy security of many European countries (Grudziński, 2023; Bednorz, 2023; Naworyta, 2024). The reduction in gas supplies revealed the high dependence on Russia of countries such as Germany, Austria, Slovakia and Hungary. Poland survived this gas energy crisis without major damage because the Polish energy system is not very dependent on gas (see Table 1).

In Poland, electricity is produced largely from its own hard coal and lignite resources. Therefore, in the crisis year of 2022, the Polish energy industry generated surplus electricity that could be exported to neighbouring countries. In the autumn of 2024, some EU countries, including Germany, were again faced with energy deficit due to the phenomenon known as 'Dunkelflaute', i.e. dark flaute (e.g., Jankowska, 2024; Juszczak, 2024; Modler, 2025). In the first weeks of November 2024, due to unfavourable weather conditions, wind farms and PV installations, which are the main pillar of Germany's energy system, did not produce electricity. This country would not have suffered from a lack of energy if the last three nuclear power plants had not been closed (Emblemsvåg, 2024). Moreover, on the way to decarbonisation, Germany limits energy production from hard coal and lignite every year (DEBRIV, 2024; Euracoal, 2024). These activities result in a periodic lack of energy, which must be compensated for from neighbouring countries, including Poland, where energy is generated from hard coal and lignite. Despite the growing capacity installed in renewable sources, problems with lack of electricity in Germany are becoming more serious (Witsch, 2021; Modler, 2025).

Electricity production in conventional power plants is independent of weather. It can be produced when needed, i.e. at night and during winter months. Unlike conventional power plants, renewable sources do not provide energy security when electricity is essential. Without coal/lignite energy in Polish climatic conditions, most inhabitants would suffer from cold, especially in winter. In the near future, energy storage facilities will not be built to store surplus electricity produced in the summer from renewable sources. Simply put, the world is still unable to store energy on an industrial scale (e.g., Naworyta, 2024).

Since 1997, lignite has been mined in Poland exclusively using the opencast method (Widera, 2021). Despite numerous disadvantages, this method allows to reduce most of the negative impacts on the environment. Even the impact of groundwater drainage, underground dewatering and the associated depression cones can be controlled effectively. Mining takes place in a precisely defined area of the lignite deposit, where, after completion of exploitation, a water reservoir will be created that can perform various functions for nature and society. Good examples are numerous post-mining areas in eastern Germany (Drebenstedt & Kuyumcu, 2014), and in Poland numerous water reservoirs in former opencast mines in the Konin-Adamów Lignite Basin (Frydrychowicz et al., 2024; Kasztelewicz et al., 2025).

An important advantage of lignite mines is the ability to control the amount of exploitation flexibly. Opencast mining allows for quick responses to market needs, for example, in periods of the dark flaute (Emblemsvåg, 2024; Jankowska, 2024; Juszczak, 2024). The Polish lignite industry proved this in 2022, when due to the energy crisis related to Russian aggression in Ukraine, energy deficits occurred throughout Europe. It was the lignite mines that, by significantly increasing extraction, resulted in Poland achieving a surplus in electricity generation (Widera et al., 2024a). At the same time, hard coal mines could not increase production. This cannot be achieved in underground mines without prior investments and many months of preparations (Bednorz, 2023).

5.2. Problems related to expansion of installations for renewable energy sources and nuclear power plants in Poland

During the last decade, energy installations based on renewable energy sources have been developing very dynamically in Poland (see Fig. 1). However, one cannot draw hasty conclusions from this for the future. Both wind farms and PV installations encounter technical difficulties. Currently, on sunny days, especially in summer, it is necessary to turn off PV installations in order not to overload the electricity grid with excess energy produced (Oksińska, 2021). These restrictions also apply to the expansion of wind farms. As part of the energy transformation, there are plans to build offshore farms in the Polish zone of the Baltic Sea, which encounters great difficulties. In 2024, for example, Sweden announced the suspension of the programme to construct 13 new offshore wind farms in the Baltic Sea due to defence-related problems. This is a consequence of Russia's aggressive behaviour in recent times (Blaczkowska, 2024).

Biomass-based energy production, especially the so-called primary woody biomass, is also controversial (Kojzar, 2022). Obtaining wood from the forest in order to burn it in installations described as zero-emission is an 'ecological absurdity'. It simply has nothing to do with climate protection. Additionally, the time of forest growth should be taken into account *vs* short-time, rapid burning of wood mass. At the same time, Poland still has not reached EU's average level of afforestation (35 per cent), which it committed to during its accession. For Poland in 2024, this index was about 30 per cent (Ochrona Środowiska, 2024).

Therefore, under pressure from scientists and non-governmental organisations, the European Parliament voted in September 2022 on amendments to the directive regulating the use of biomass in the energy industry. In accordance with the directive, the share of the so-called primary woody biomass in the energy mix should gradually decline by 2030. Energy from burning this biomass will also cease to be subsidised from public funds (Kojzar, 2022). It is therefore difficult to expect that biomass-based energy will fill the gap that will arise after the liquidation of lignite-fired power plants in the future.

For over a decade, Polish governments have been planning to build several nuclear power plants (Polityka, 2009). According to these official plans, the construction of the first of such power plants is to start in 2028. Three units with a total capacity of 3.7 GW are to be put into operation in 2036–2038 (Badowski, 2024). This first Polish nuclear power plant will not generate even half of the power that will disappear from the national energy system after the withdrawal of the lignite-fired power plant (8.2 GW). Therefore, compensating the lost lignite capacity by nuclear units is unlikely or even impossible in the next 15–20 years.

6. Conclusions

The situation in the Polish energy industry is quite pessimistic from the point of view of energy security. The existing lignite mines, i.e. Konin, Turów, Bełchatów and Sieniawa, will cease their operations in the near future. This has only a slight connection with the decarbonisation process. Simply put, the resources in the exploited lignite deposits will be exhausted in a relatively short time.

Thus, in the next few to a dozen years, Poland may face a serious energy crisis that could jeopardise security and further development of the country, and providing energy through imports from neighbouring countries facing similar problems will not possible.

Taking into account the information provided in the present article, the following arguments are offered in support of maintaining lignite sources for the Polish energy sector until an appropriate number of nuclear power plants have been built:

– constantly growing demand for electricity;
– technical and environmental limitations of further development of renewable energy, i.e. PV installations, wind farms and biomass-based power plants;
– improving the technique of lignite exploitation and generation of electricity in modern power plants;
– controlled, spatially and temporally limited impact of lignite mines on the environment;
– controlled and limited environmental impact of lignite-fired power plants;
– possibility of flexible adjustment of energy production in lignite-fired power plants to the needs of the domestic market;
– having reliable energy sources based on weather-independent, own energy raw material, which in Poland (apart from hard coal) is definitely lignite.

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