AGH UNIVERSITY OF SCIENCE AND TECHNOLOGY

Polish Mining Industry.

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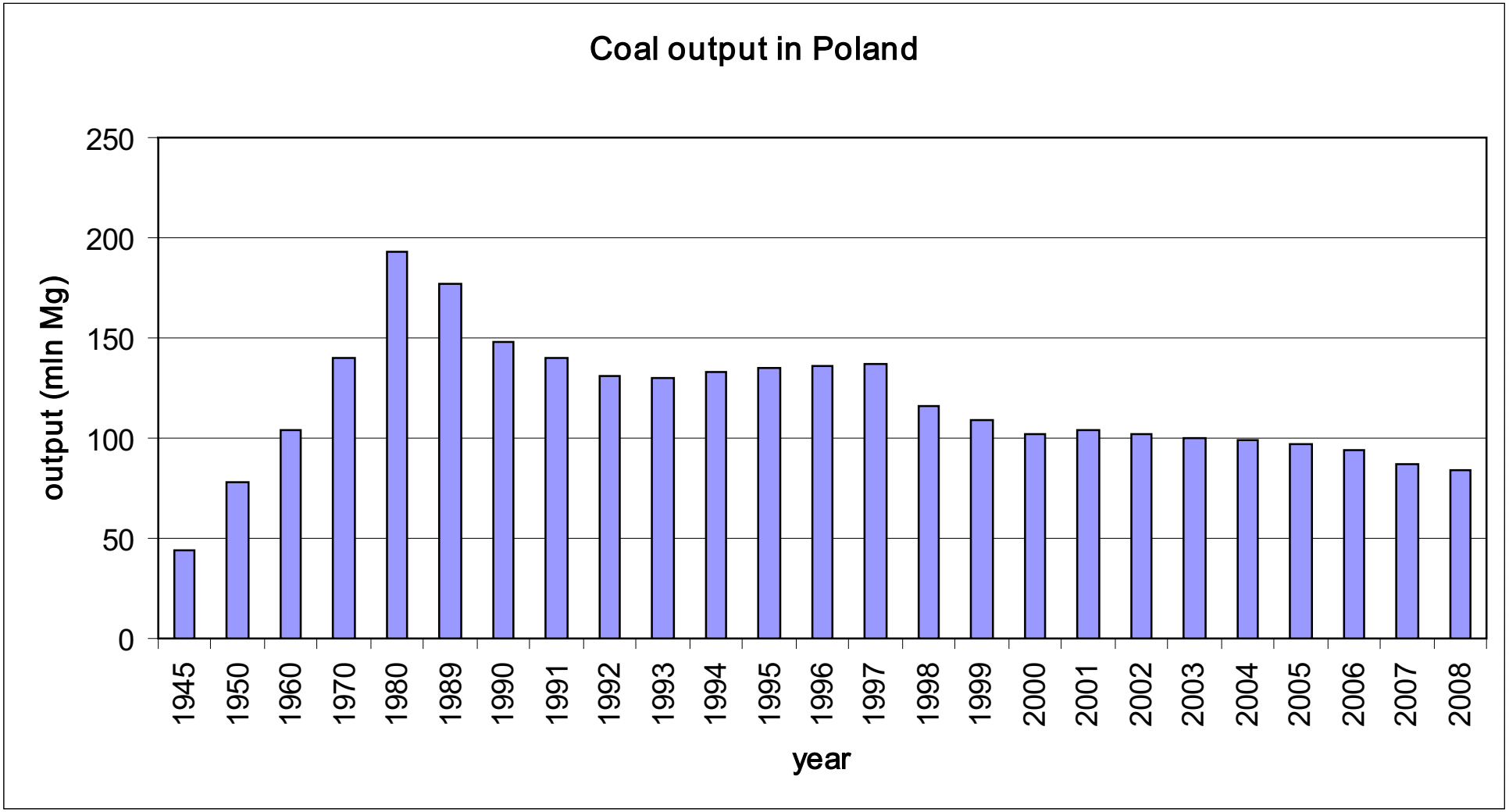
Introduction

- Poland is one of the countries rich in various minerals. There are **significant deposits of hard coal and brown coal, copper ore**, zinc and lead ore, rock salt, native sulphur, gypsum, kaolin, rock minerals, remedial and geothermal waters, some deposits of natural gas and small volume of oil.
- The boom of the mining industry in Poland came for 1950s and continued until 1980s. Than, a drop in or even abandoning of their extraction was recorded for many raw minerals. This was due to, on one hand, the **economic transformation of the country and implementation of the market economy principles**. On the other side, it was related to low quality of some minerals as referenced against world standards, depletion of deposits, as well as environmental conditions and spatial management.

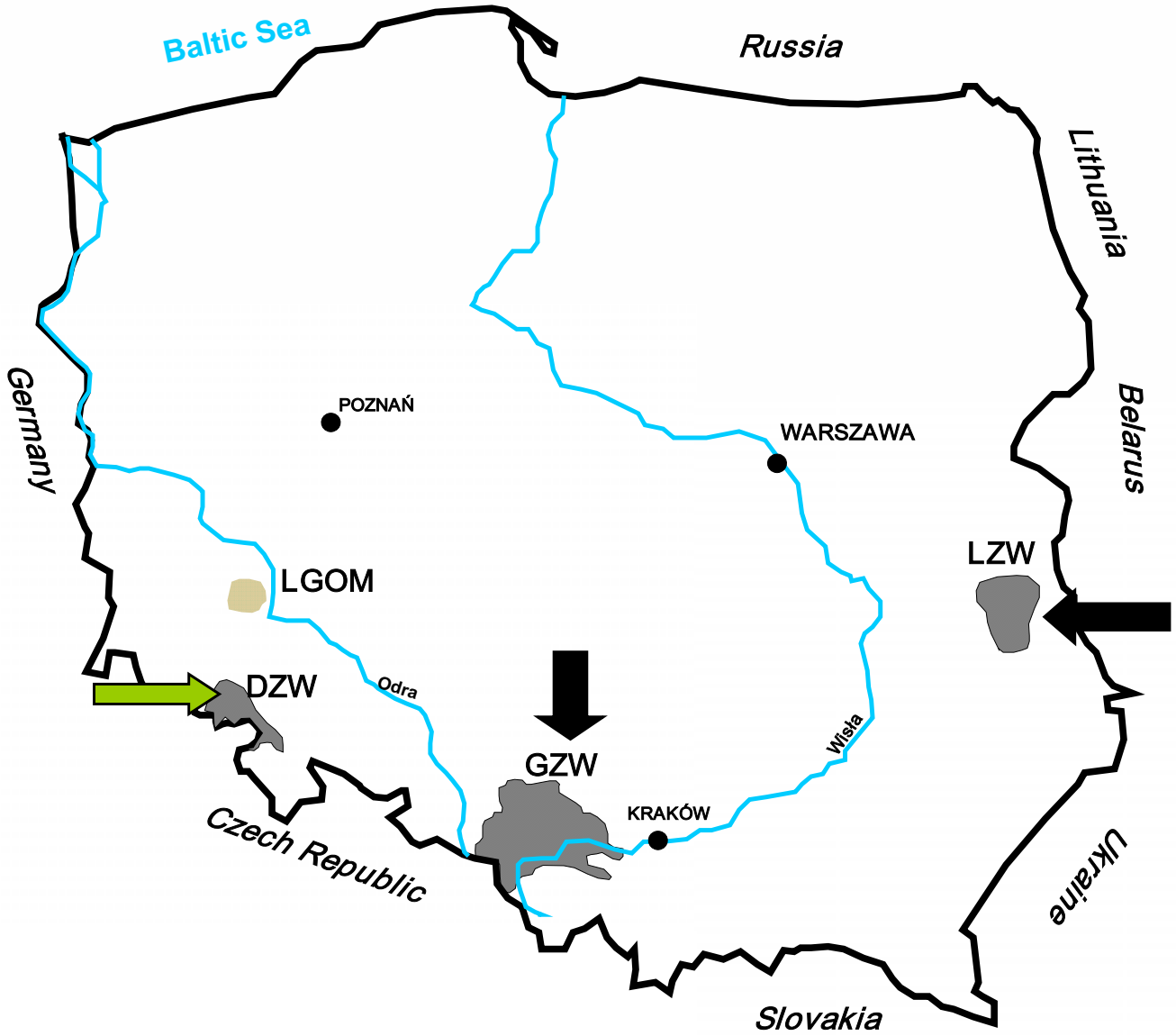
Introduction

- Over **95% of electricity** is generated in power plants based on hard coal and brown coal (hard coal at 63.13%, brown coal at 32.63% and gas at 3.02% in 2007)
- The share of hard and brown coal in the span of **20-30 years will practically not change** in the sector of generating electricity
- Achieving this result will **require increase in production of coal by over 30%,** mostly in the coming 15 years.
- This immense increase in demand for electricity will be **(???)** compensated **with almost three-times increase in use of natural gas**, energy from renewable sources and nuclear energy (???).

Hard coal


Coal output in Poland
output (mln Mg)
250
200
150
100
50
0
1945
1950
1960
1970
1980
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
year

Hard coal deposits



Hard coal

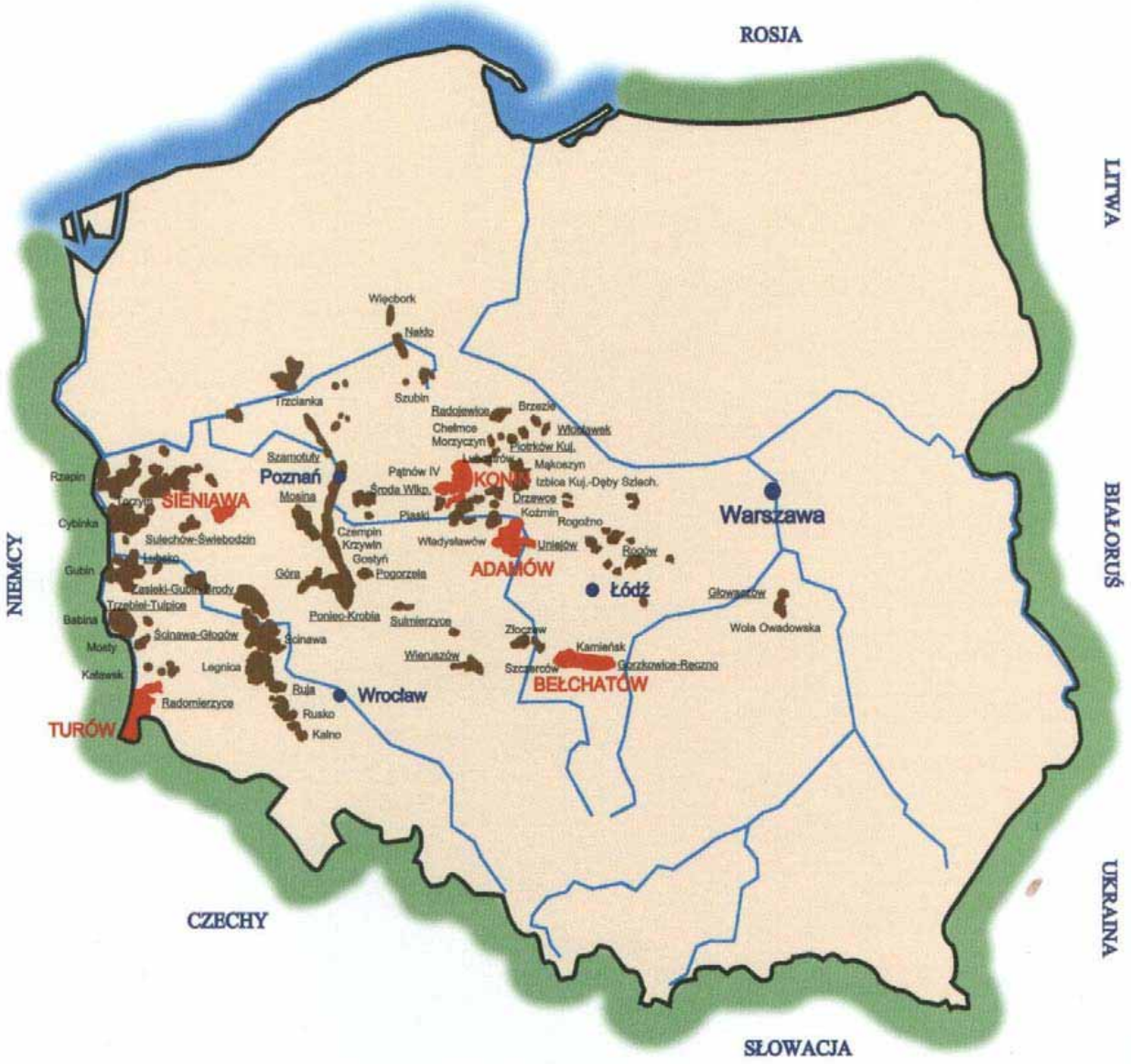
- The documented deposits of hard coal amount to 41.996 bn Mg. The developed deposits amount to 15.35 bn Mg, 5.057 bn Mg of which comes for industrial deposits. Operational extractable deposits, mostly due to the currently used exploitation systems, are 3.1 bn Mg.
- After **2015, the number of active mine facilities will quickly** drop due to depletion of operative deposits on active levels and due to the lack of investments in the coal industry. It is expected that in **2028** hard coal output will bring up about **60 m Mg**.
- **Without significant investments**, mostly in construction of new exploitation levels, extending or constructing new shafts, **halting the decrease in the output from the Polish mines will not be possible**. The investment decisions have to be made already now, as construction of a new mine can take several years, and a new shaft will take 3-5 years.

Hard coal

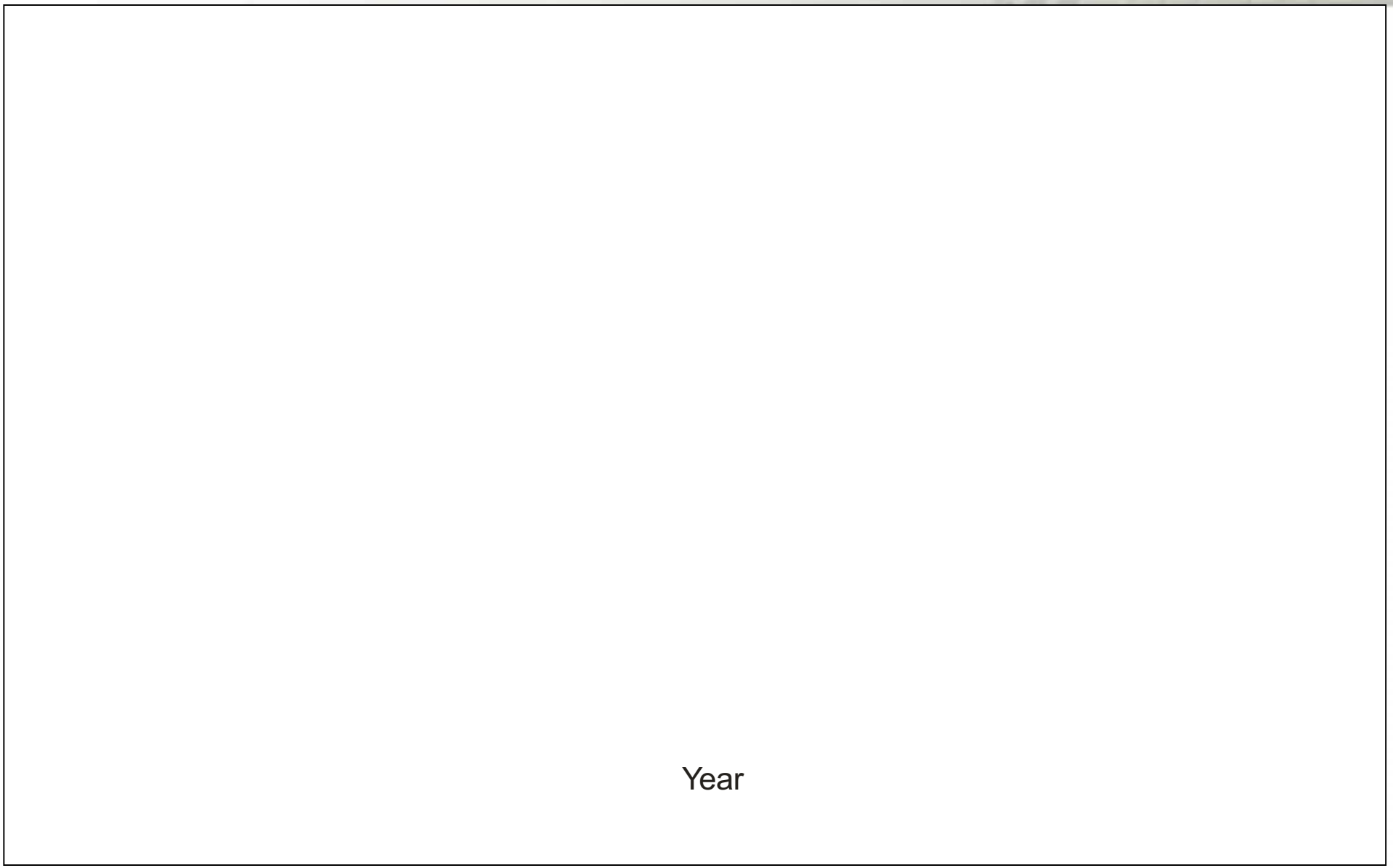
- If money is not found for the investments, despite quite significant deposits, **the output from the Polish mines will drastically drop within a few years' time, which will result in major decrease in the level of power safety of Poland**.
- It has to be stated that the proper economy with relatively large industrial deposits of hard coal (investments, protection of deposits, etc.), should ensure sufficient production of coal for the needs of Poland, as well as nearby countries in Europe.
- Otherwise, major import of hard coal will be necessary, which will definitely **reduce power safety of Poland and Europe** as well. The first symptoms of this process are already noticeable. It is estimated that about **8 m Mg of hard coal was imported from Russia** to Poland last year.

Brown coal

- The **calculated deposits** of brown coal in Poland are **13.7 bn Mg**, including ca. 0.8 m Mg of bituminous coal, 2.5 bn Mg of briquetted coal and 1.5 bn Mg of low-temperature carbonisation coal.
- The active and developed documented deposits hold 1.88 bn Mg of calculated deposits, including 1.49 bn Mg into industrial deposits.



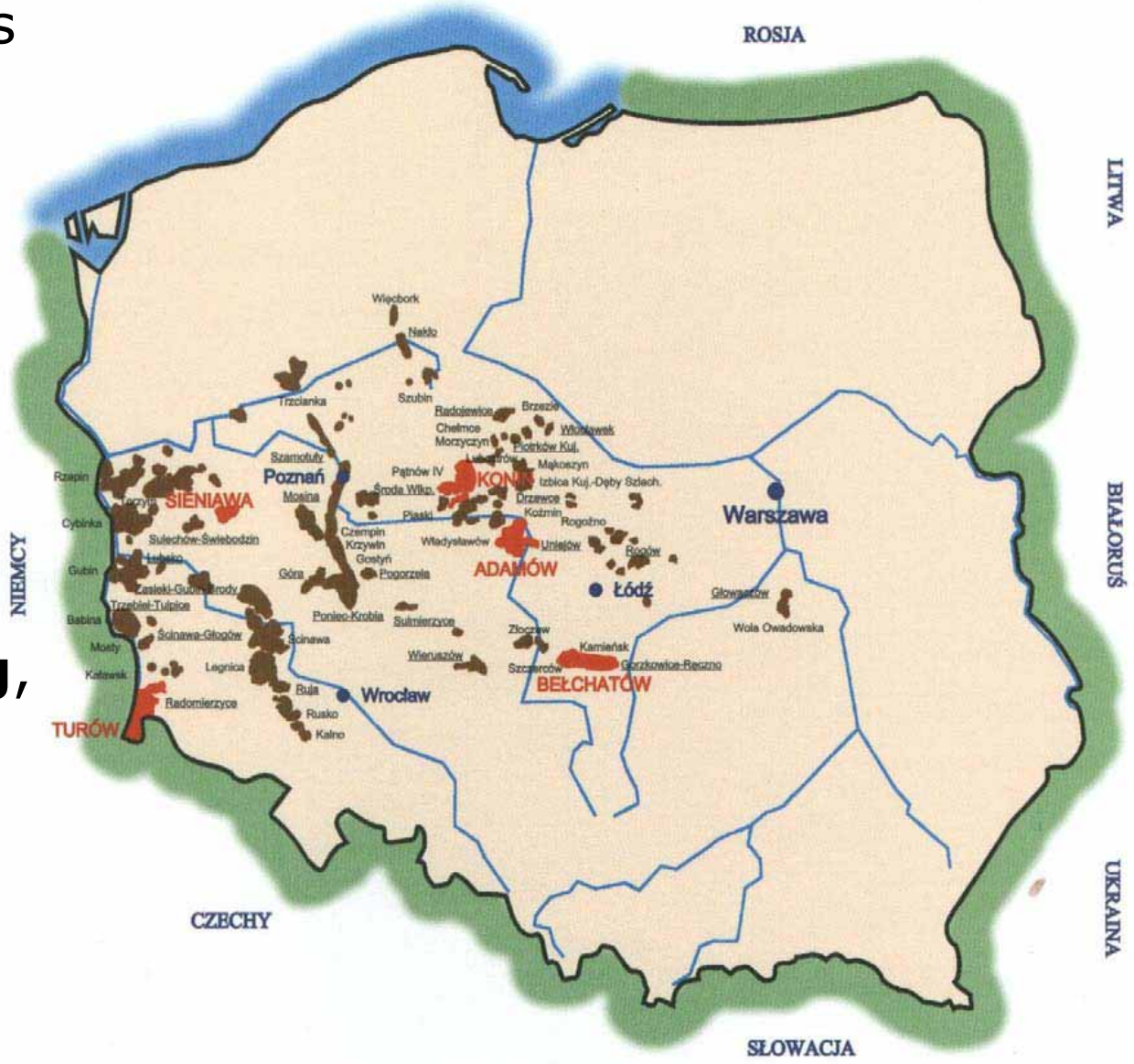
Brown coal



Brown coal

The perspective coal basins and their deposits include:

- Legnica-Głogów,
- The Western Coal Basin
- The Wielkopolskie Coal Basin
- The total documented calculated brown coal deposits in these three coal basins are **12 bn Mg**, and the forecast deposits with calculated parame-ters are ca. **21 bn Mg**.



Brown coal