

Wind energy in Poland has been developing since the early 1990s. Of the twentieth century. The first windmill in Poland producing electricity was built in 1991 at the previously existing Hydropower Plant in Żarnowiec. Intensive development of this type of energy in Poland takes place in the 21st century. Since 2015, it has been the largest branch of the power industry based on renewable energy sources in the country. The best wind conditions for the development of wind farms are in the north of Poland and in the central and western parts of the country. The first professional wind farm in Poland was the Barzowice Wind Power Plant, located in the Zachodniopomorskie Voivodship, in the Darłowo commune, launched in April 2001. It consisted of six turbines with a total capacity of 5 MW. In the same year, also in the Darłowo commune, in the Cisowo Wind Power Plant, 9 Vestas V80 2 MW turbines were launched, which increased its capacity by 18 MW, to nearly 19 MW. In 2013, Poland was ranked 9th among the European Union countries in terms of installed capacity in wind energy. In the first years of the 21st century, there was a dynamic development of wind energy in Poland. The installed capacity increased from 83.3 MW in 2005 to 5005 MW in 2015. In 2015, wind turbines in Poland generated over 10,000. GWh of energy, which meant an increase compared to the production in 2014 by about 40%. According to the data of the Energy Regulatory Office, at the beginning of October 2015, there were 981 wind installations in Poland (both single turbines and large farms) with a total capacity of 4,117.4 MW. The situation changed in 2016, when as a result of the record-breaking oversupply of green certificates, the change of the support system to an auction one in the absence of migration auctions and unfavorable tax changes (then withdrawn in 2018), the profitability of the existing wind farms significantly deteriorated. At the same time, the introduction of restrictive location restrictions (including the so-called "10H" rule) resulted in the abandonment of activities related to the development of new wind projects. At the end of 2018, the first major auction for the sale of electricity from renewable sources was held, in which wind farm projects above 1MW could participate. The average price of energy contracted at the auction was approx. PLN 196/MWh and was lower than the then price of energy on the power exchange, despite the impossibility of building the most modern turbines due to the provisions of the "Distance Act".

On December 20, 2022, a wind farm consisting of 14 Vestas V126 wind turbines with a hub height of 132 meters and a unit capacity of 3.6 MW was launched by the Spaniards, 80 km from Warsaw in the Mazowieckie Voivodeship in Korytnica II with a hub height of 132 meters and a unit capacity of 3.6 MW. This gives a total capacity of 50.4 MW. Energy from Korytnica II will be sold under an electricity purchase agreement (PPA) to Norwegian Statkraft. It was supported by a contract for difference obtained in an auction conducted by the Energy Regulatory Office in June 2021. Full commissioning of the Korytnica II wind farm scheduled for the first quarter of 2023. The Korytnica II project increases Iberdrol's wind farm portfolio in Poland to 163 MW. The Spanish company already has the Zopowy wind farm (30 MW) in the Opole region and Korytnica I (82.5 MW) in our country

The biggest advantages of wind farms include:

- No pollutants harmful to the environment, windmills reduce CO2 emissions and related costs.
- A single turbine takes up less space than a regular power plant
- The wind farm can be built on "difficult" terrain
- Landowners have many benefits of renting their land
- The development of new technologies in the field of renewable energy sources may have a positive impact on the economy

The most frequently reported defects in power plants by people are:

- Wind energy is not cheaper
- Lowering the value of land and real estate
- Threat to birds and insects
- Low-frequency noise produced by turbines
- The generated electromagnetic field
- Poor well-being of people living near windmills
- Lack of work

Wind energy is converted into electricity by means of wind turbines, as well as used as mechanical energy in windmills and wind pumps, and as a source of propulsion in sailing yachts. The first place in the ranking of wind farms in Poland by capacity is occupied by the Potęgowo WF with a capacity of 219 MW, commissioned in December 2020. It is located in the Słupsk and Sławno counties. It consists of 81 General Electric turbines with the following capacities: 2.5 MW and 2.75 MW. The investment was carried out by the Potęgowo company belonging to the Israeli fund Mashav. The total cost of the investment amounted to PLN 1.25 billion. In November 2018, the farm won an auction to supply electricity. The second largest wind farm in Poland is located in Margonin in the Wielkopolskie Voivodeship. It has been operating since 2009. It consists of 60 windmills with a total capacity of 120 MW, which allows it to meet the energy needs of 90,000 households. The windmills are grouped in two areas. Each of them covers an area of over 50 sq km. The farm is managed by EDP Renewables Polska. The third of the largest wind farms in Poland is located in Banie in the West Pomeranian Voivodeship. Established in 2016. The investor is Wiatromill - a subsidiary of Energix Renewable Energies from Israel. The farm consists of 53 turbines with a total installed capacity of 106 MW.