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Power and grid investment: a smooth transition towards Poland's low-carbon future

Polish business is vocal about the need to accelerate the expansion and modernisation of distribution and transmission power grids as a prerequisite for investment in zero-carbon generation sources – renewable and nuclear energy

As part of ING Bank's project with the European Economic Congress in the first quarter of this year, journalists of the WNP.pl portal conducted 19 in-depth interviews with managers of Polish companies from various industries and two chambers of commerce (Scandinavian and Italian) operating in Poland.

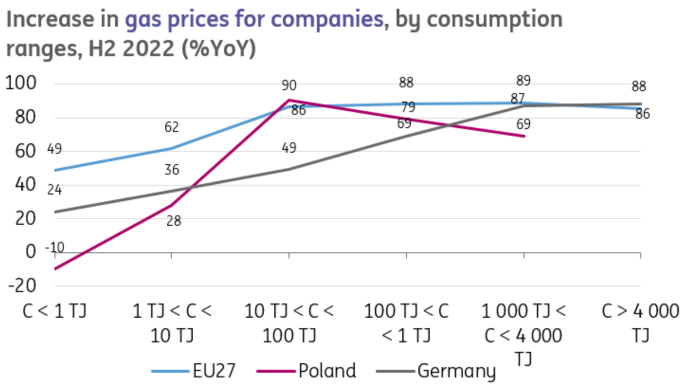
The report, titled: "The Response of Polish Business to the Energy Shock. Prospects for energy investments" reflects the voice of business and the reaction of companies to the energy shock. We have also gathered suggestions for changes in energy investments.

Price shock and searching for energy independence

Russia's invasion of Ukraine and restrictions on Russian energy imports have led to an energy price shock in Europe. All Polish companies were affected by this situation, and some of them reacted proactively. Due to the energy "shields," especially for small businesses, the increase in energy prices varied widely across EU countries. The decisive factor was the size of the company and the value of its annual consumption.

For example, in the second half of 2022, natural gas prices for companies in Poland consuming no more than 1 TJ (terajoule) of gas per year fell by 10% compared to the second half of 2021, while for the consumption range between 10 and 100 TJ, they rose by almost 90% over the period. Average increases in gas prices for companies last year varied depending on the volume of consumption in other countries as well, for example, in Germany very markedly – from 24% to almost 90% year-on-year.

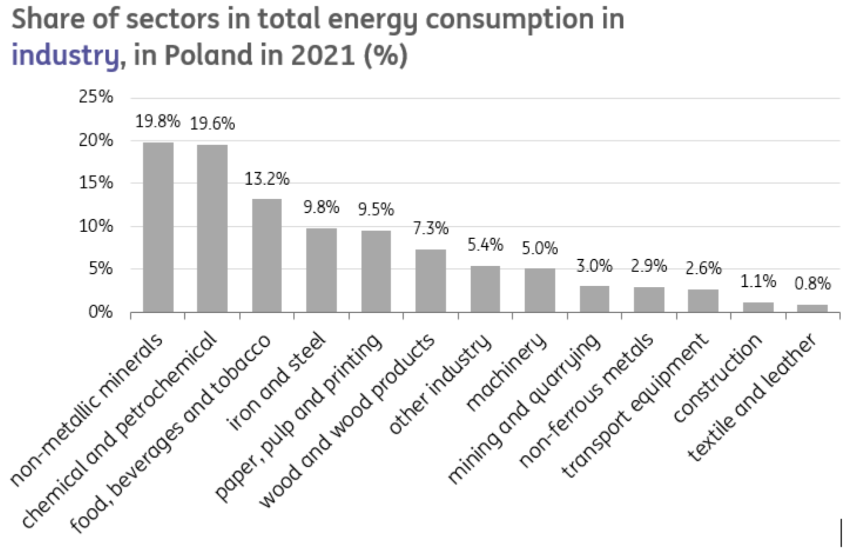
Natural gas prices



Source: ING calculations based on Eurostat data. Consumption ranges in TJ (terajoules) per year. Energy prices include all fees and taxes.

The scale of the shock at the company level, among other things, depended on the energy intensity of production processes and the energy carriers used. Companies have made efforts to improve energy efficiency (to use less energy in production activities) or to build their own renewable energy sources (an attempt to become partially independent from the electricity from the grid). About 80% of the total energy in Polish industry is consumed by a total of six sectors: non-metallic minerals, chemicals and petrochemicals, food, iron and steel, paper and wood.

Energy consumption by sector



Source: Own calculations based on Eurostat data.

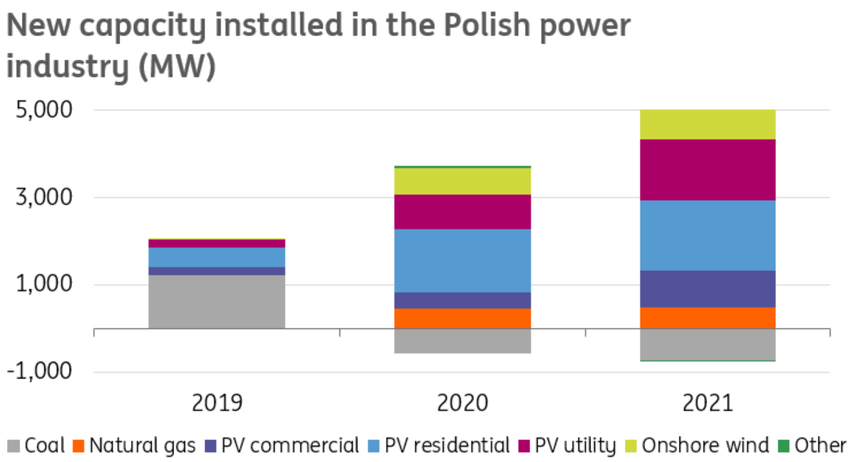
Our report summarises the business response to expensive energy and the significant risks of energy shortages, particularly natural gas in 2022. In the publication, we also answer the questions:

- What is holding back energy investment in Poland?
- What can segmentation of the energy market caused by differentiated public support – depending on the size of the company – lead to?
- What are companies' expectations for prices and availability of energy carriers in 2023?
- What will Poland's energy mix be in two decades?
- Why is greening and ESG criteria not a fad, but a necessity for maintaining competitiveness and cooperation in global supply chains?

We need to speed up the energy transition

In energy investments, companies have not infrequently encountered regulatory barriers, and have often bumped up against the inadequacy of power grids to accommodate more distributed energy sources. In the report, we emphasise the need to accelerate the expansion and modernisation of distribution and transmission power grids as a sine qua non for investments in zero-carbon generation sources: RES and nuclear. Investment in renewable energy has increased significantly in recent years. In 2022, we had more than 9 GW of capacity in photovoltaics, compared to just over 1 GW in 2019.

New capacity installed



Source: BNEF

Polish business is vocal about the need to accelerate the expansion and modernisation of distribution and transmission power grids as a prerequisite for investment in zero-carbon generation sources. Renewable and nuclear energy are expected to be key elements of Poland's energy mix in two to three decades.

Beyond that, electrification remains key to decarbonisation by 2050. In the coming decades, electricity-based technologies will gradually replace current energy carriers in transportation (electric vehicles), industry (e.g. electric arc in metallurgy) or buildings (e.g. heat pumps).

Tandem power generation and grids

We saw what an unequal tandem, i.e. RES development without a corresponding increase in grid investment, can lead to already in late April. In an environment of lower demand for electricity, it was RES power that was being blocked by the system operator. Coal or gas-fired power plants cannot be flexibly switched on and off. Such a situation is economically inefficient and environmentally disadvantageous. It's high time to accelerate investments in distribution and transmission networks so that the power and grid tandem will smoothly lead Poland towards a low-carbon future.

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