

The reaction of Polish businesses to the energy shock

Prospects for energy investments



Report by ING Bank Śląski and the European Economic Congress

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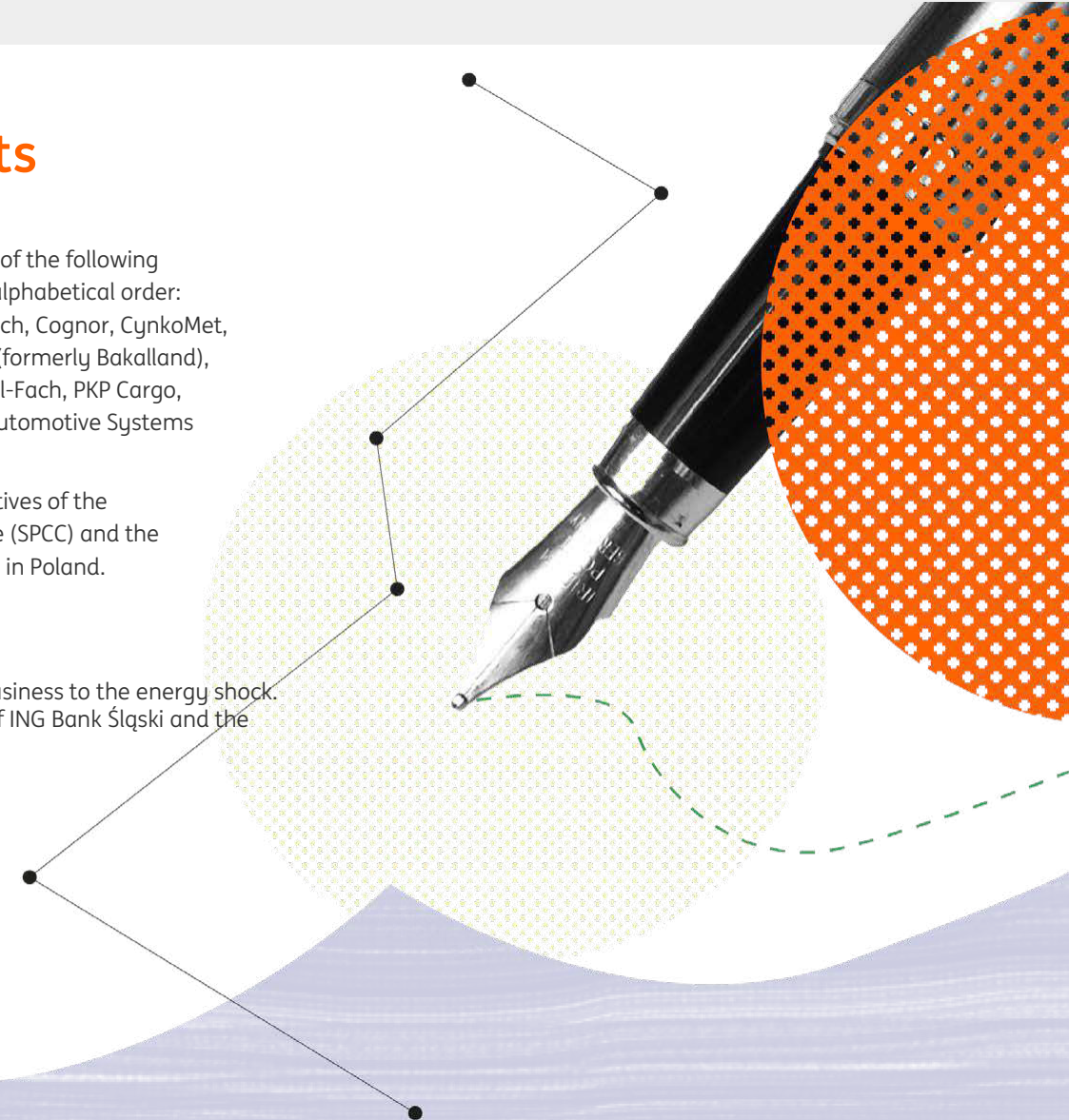
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Introduction

All Polish companies, without exception, were affected by the energy shock in 2022, and some of them reacted actively to it. The scale of the shock at the company level was mostly dependent on the energy consumption of production processes and the energy carriers used. Companies have made efforts to improve energy efficiency or build their own renewable sources. When deciding to invest in energy, they have often encountered regulatory barriers and the problem of the inadequacy of power grids to more dispersed energy sources.

Many companies, especially from the SME sector, took advantage of government shields, but still - like large companies that did not receive such support - they passed higher energy costs onto the prices of their products and services.

Conclusions - based on macroeconomic data and analysis of trends in energy markets - were developed using information taken directly from Polish businesses (representing the management representatives of 19 companies from various industries) and two chambers of commerce (Scandinavian and Italian) operating in our country.

Journalists from PTWP Group portals conducted in-depth interviews commissioned by ING Bank Śląski (January-March 2023). The full interviews are available in the open formula - through links included in the report.

The report summarises the business response to expensive energy and significant scarcity risks, and answers the following questions:

- What holds back energy investment in Poland? (→ bureaucracy, regulations, unsuitable networks)
- What can segmentation of the energy market caused by differentiated public support lead to - depending on the size of the company? (→ temporary relief, distorted market signals)
- What are the expectations of companies as to the prices and availability of energy carriers in 2023? (→ stabilisation and a rather downward trend)
- What will the Polish energy mix be in two decades? (→ based on RES with a significant role in nuclear energy, including SMR)
- Why greening and ESG criteria are not a fad but a necessity to stay competitive and collaborate in global supply chains (→ larger companies are already subject to specific practical requirements)

Without an adequate energy strategy and unlocking the potential for investments in energy efficiency, renewable energy sources and modernisation of energy networks, we may lose opportunities for the independence and competitiveness of the Polish economy. Let us emphasise: Polish companies are already facing more and more restrictive ESG requirements from partners in their supply chains.

In the report, we emphasise the need to accelerate the expansion and modernisation of distribution and transmission power grids as a sine qua non-condition for investments in zero-emission generation sources: RES and nuclear.

ING Bank Śląski and the PTWP Group, the organizer of the European Economic Congress, stood by the side of Polish business in difficult and demanding times on energy markets and in building the anti-crisis resilience of our economy. As a bank, we offer financing, consulting, and access to multi-sector knowledge and experience. As a publisher, event and media company, we organise a platform for knowledge exchange, social dialogue and in-depth public discussion.

We hope that our joint report will support a constructive debate about today's energy system in Poland and its future.

Michał Mrożek

Vice President, ING Bank Śląski

Wojciech Kuśpik

Initiator and organiser of the European Economic Congress
CEO, Group PTWP

Our narrative

1. Energy shock in 2022 and normalisation in 2023

- Russia's invasion of Ukraine and the reduction of Russian fuel imports have led to an unprecedented energy price shock in Europe.
- The actions of the European and Polish authorities mitigated the impact of the shock on the economy; a warm winter helped to normalise energy prices at the end of 2022 and in the first half of 2023.

2. Reaction of Polish companies - adjusting prices and own energy investments

- All Polish companies were affected by the energy market turmoil, albeit to an uneven degree.
- Companies shifted the higher costs of energy carriers onto contractors; those from the SME sector benefited from the energy "shield". Many companies have undertaken investments in energy efficiency and their own renewable energy sources, while encountering many barriers.

3. Qualitative research of ING Bank Śląski and EEC - interviews with Polish companies

- We know this thanks to listening to the voices of Polish businesses. In addition to macroeconomic and sectoral analysis, these opinions and facts are a key source of information for us. In the first quarter of 2023, journalists from the WNP.pl portal conducted in-depth interviews with 19 companies and two chambers of commerce operating in Poland.

4. Barriers to green investments by enterprises

- The actions of Polish companies are part of the global or European megatrends when it comes to investments in clean energy, however, larger companies complain about burdensome procedures, unequal treatment or low capacity of power grids.

5. Priority - expansion and modernisation of power grids

- Polish business strongly points to the need to accelerate the development and modernisation of distribution and transmission power grids as a sine qua non-condition for investments in zero-emission generation sources: RES and nuclear. Electrification remains the key to decarbonisation until 2050 - this applies to the world, Europe and Poland. Modern networks are a key element of the energy transition.



A photograph of a complex industrial facility, possibly a refinery or chemical plant, with a strong blue color cast. The image shows multiple levels of steel structures, walkways with yellow railings, and large pipes. Thick white steam or smoke is rising from several points, particularly from a large horizontal pipe in the center and from a vertical stack on the left. The overall scene is one of intense industrial activity.

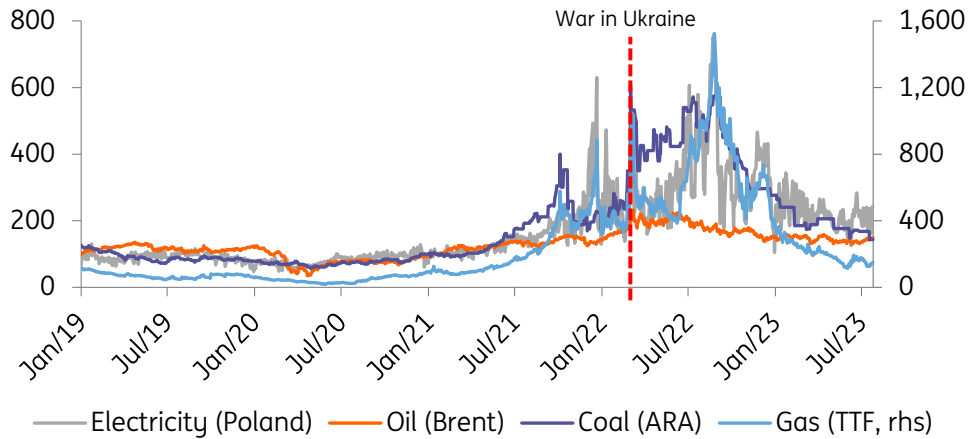
Energy shock of 2022

and normalisation 2023

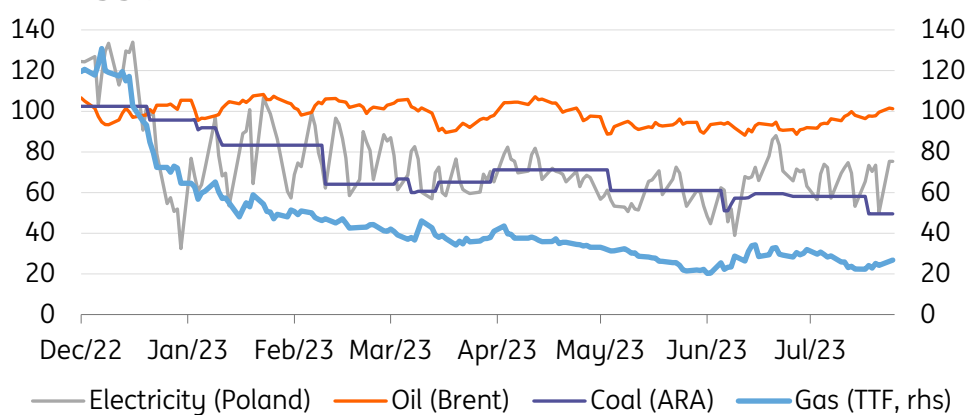


Energy shock in 2022 and normalisation of the situation in 2023

Energy prices: January 2021= 100



Energy prices: December 2022 = 100



Source: Macrobond.

The war caused an explosion in energy prices, mainly natural gas, in 2022, but its prices this year will be lower, dropping to pre-war levels.

- The record-high prices of energy carriers were the main "channel of influence" of the war on Polish companies. Price fluctuations had already started before Russia's aggression against Ukraine, but the local peak was in the summer of 2022 (A sixteen-fold increase in gas prices and a six-fold increase in coal and electricity prices on the wholesale market than at the beginning of 2021). In autumn 2022 prices began to stabilise.
- In December 2022, a systematic downward trend began, which lasted until June this year. At the beginning of June, TTF natural gas prices (€27/MWh) were 77% lower than in December 2022, ARA coal prices (US\$112/tonne) 43% lower, electricity prices on the TGE wholesale market in Poland (PLN424/MWh) by 50%, and Brent crude oil prices (US\$76/bbl) were 7% lower than at the end of 2022.
- Gas prices have returned to pre-war levels, but not pre-pandemic levels.

” Zinc has always been the biggest cost in the galvanizing process at Cynkomet - it accounts for about 60%, and other costs (including energy) have receded into the background. But when energy prices increased several times, they significantly changed the cost structure in the company.

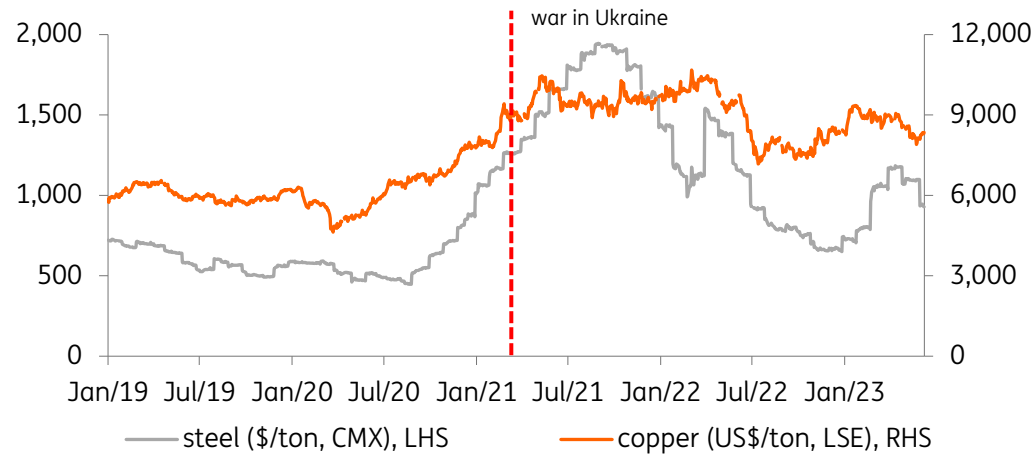
Everyone around is saying: "gas prices have fallen", "electricity prices have fallen". But compared to what? If electricity in 2022 was "booked" for PLN 400, and today it is about PLN 700 for 1 MWh, then nothing has fallen for us, but has increased by over 70%! We bought gas in the spot, where it was even PLN 1,500 ... Today, its price is actually about PLN 250, but let's note that in 2021 we bought it for PLN 70.

Mariusz Dąbrowski
President, CynkoMet



More expensive energy has resulted in higher costs of other raw materials or components

Global steel and copper prices



Source: Macrobond.

” It must be remembered that after the start of Russia's invasion of Ukraine, there was also a drastic increase in steel prices, which reached PLN 8-9 per kg (then they fell). Except that year on year (2021-22) we record an increase here again - this time almost 70%. In addition, none of our suppliers have lowered their prices, on the contrary, they have increased them. So - contrary to the expectations of some customers - we do not anticipate price reductions for our products for the time being.

Mariusz Dąbrowski
President, CynkoMet

The impact of the war on the prices of non-energy raw materials

- The war in Ukraine also translated into an increase in world food prices, especially in categories where the country is an important supplier (oils, cereals). Significant increases were also recorded in the market of steel and metals in general, in which Russia had a significant share in world trade (e.g. nickel or copper).
- Primary supply shocks also affected other prices through so-called second-round effects.
- In 2023, the situation also stabilized on the non-energy commodity market. In June this year metal prices are clearly lower than before the war, which can be attributed to the slow recovery of the Chinese economy after the pandemic.

” Electricity itself does not account for a large share of our costs, but it has a large share with our suppliers and when suppliers start to raise the prices of our products, we have to raise the prices of machines - and here it starts to become a vicious circle.

Janusz Kaźmierowski
Wiceprezes Zarządu, Metal-Fach

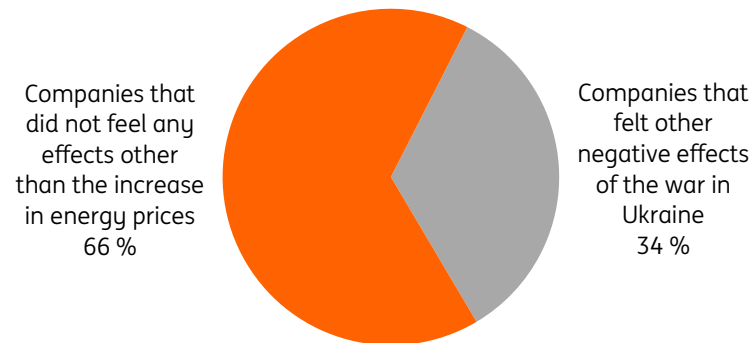
” It can be estimated that production costs have recently increased by about 20%, with raw materials around 25%. However, the increase in packaging prices is already about 40%.

Magdalena Brzezińska,
Corporate Affairs Director, Grupa Żywiec



Energy shock the main effect of war in SME company surveys

SME companies affected by the war in Ukraine GfK survey, August 2022 , N=300



Source: GfK survey commissioned by ING Bank Śląski. More: <https://ekonomiczny.ing.pl/publikacja/773031>

Increased energy and fuel costs are the most common effect of the war in Ukraine on Polish companies.

- In a quantitative survey in the SME sector conducted in August 2022 by GfK Polonia on behalf of ING Bank Śląski, 2/3 of companies felt no impact from the war in Ukraine other than a sharp increase in energy prices.
- Expectations of potential electricity or coal imports from Ukraine did not materialise after Russia's massive attacks on Ukraine's energy infrastructure in 4Q22 and the damage to some 40% of power installations.
- The magnitude of energy market disruption at companies was directly proportional to the share of energy in the total cost structure.

”

Our country was very much counting on cheap energy from Ukraine, but it's well known what Russia has done to the power grid there - and the Ukrainians themselves are now facing big problems in this regard, so energy imports are out of the question. We still have big problems with our power units (e.g. Jaworzno), so I have some concerns about whether a blackout threat will be created in Poland, however.

Janusz Kaźmierowski

Wiceprezes Zarządu, Metal-Fach

”

The share of energy in the cost structure of our company should be considered in the period of the last three years and soaring energy prices. Here, in 2020, this share was in the vicinity of a little more than 1%. In 2021, it was more than 2%. 2022 proved to be a breakthrough: the cost of electricity - depending on the month - ranged from 5% to even 10%! This indirectly indicates an incredible jump in energy prices... But higher energy costs did not translate proportionally into product prices.

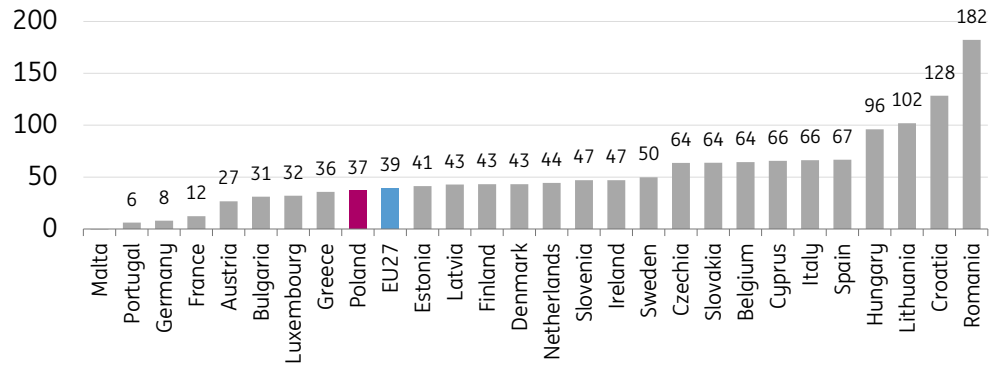
Wiktoria Daniłowska

Finance Team Manager, Makarony Polskie

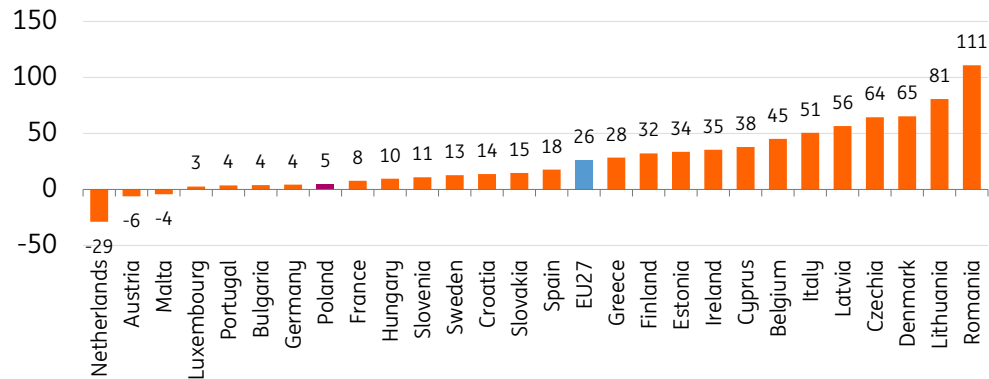


EU and national authorities mitigated the impact of the energy shock on the economy

Increase in electricity prices for companies in the EU, H2 2022 (%YoY)



Increase in electricity prices for domestic households in the EU, H2 2022 (%YoY)



Source: Own calculations based on Eurostat data. Data including fees and taxes. For companies, data for the annual consumption range 20MWh < C < 500 MWh. For households 1 MWh < C < 2.5 MWh. For households in the Netherlands - data for all consumption ranges.

Moderate increases in electricity prices for businesses and households in 2022.

- If prices for the economy were closely linked to wholesale electricity prices, they would have increased several times in 2022. Due to tariff controls and the introduced energy "shields" in H2 2022, electricity for companies became more expensive in the EU by an average of 39% year-on-year, and for households by 26%. In Poland, they rose by 37% and only 5%, respectively.

“ Some of our customers have taken advantage of the rate freeze and are now resentful, because they are subject to a rate of 750 PLN/MWh, while today it is about 720 PLN/MWh in the market (and last week - even below 700 PLN/MWh). I don't know what effect this segmentation will have. We are a large company, so we were not even affected by such an eventuality. We didn't even have the opportunity to take advantage of subsidies for energy-intensive enterprises... Because someone decided that a company that consumes gas 24 hours a day 12 months a year doesn't count as energy-intensive!

Mariusz Dąbrowski
President, CynkoMet

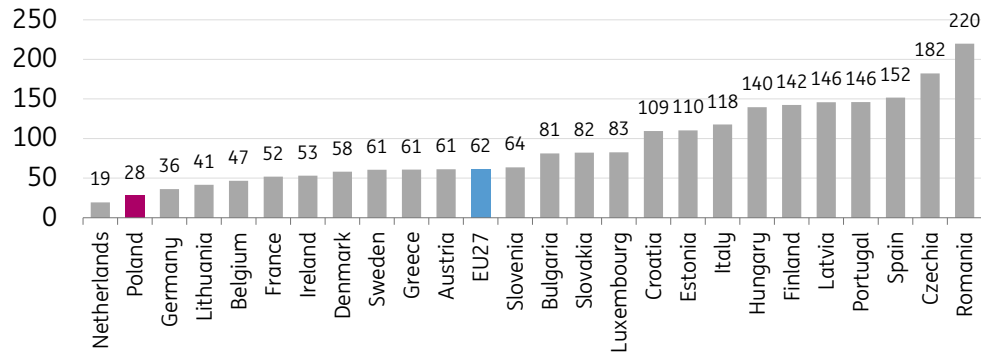
“ The cost of energy carriers has increased in our company by several hundred % over the past year. Fortunately, our production is not very energy-intensive. Our main costs are still raw materials, materials or technology. We place a strong emphasis on R&D and new product development. Nevertheless, the increases have meant that costs in energy - which were previously a less important item on the list of burdens - have obviously begun to be more noticeable.

Michał Wypychewicz
President, ZPUE

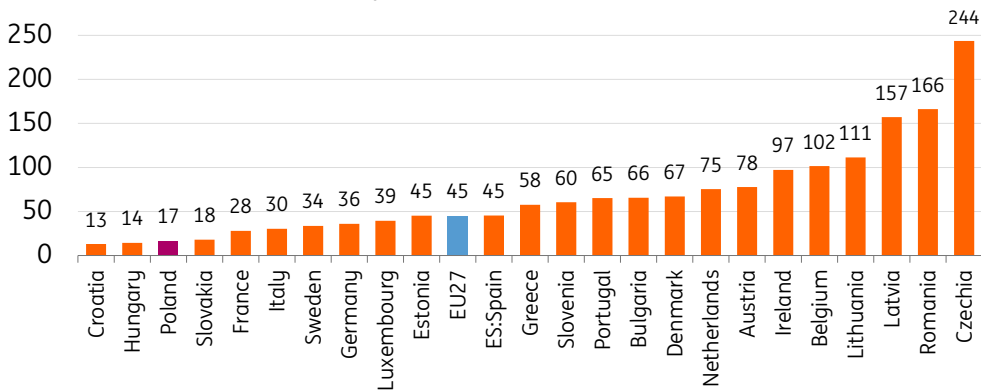


Energy market interventions and a warm winter calmed the situation in late 2022 and 2023

Increase in natural gas prices for companies in EU, H2 2022, (%YoY)



Increase in natural gas prices for domestic households in the EU, H2 2022 (%YoY)



Source: Own calculations based on Eurostat data. Data including fees and taxes. For companies, data for the range of annual consumption 1,000 GJ < Consumption < 10,000 GJ. For households 20 GJ < C < 200 GJ.

Neither companies nor households have experienced absurd gas prices from the wholesale market, although high increases were inevitable.

- The scale of natural gas price increases for businesses varied widely - from about 20% in the Netherlands (and 28% in Poland) to 220% in Romania and 62% on average in the EU. Price increases for households varied even more - from 13% in Croatia (and 17% in Poland) to more than 240% in the Czech Republic and 45% on average in the EU.



Efforts by the European Commission and member states to curb the crisis (such as price caps, tariffs for selected groups of consumers or support for the hardest-hit sectors) have been reasonably successful. The EU ETS and energy directives are creating further pressure - both on conventional energy producers and on industry, especially energy-intensive and CO2-emitting industries. The decarbonisation forced on these sectors of the economy means a sharp increase in demand for "non-carbonised" electricity, with no way to meet it harmoniously. In this sense, the Union's policy does not contribute to market stabilisation.

Tomasz Ślęzak

Board member, ArcelorMittal Poland



The differences between specific companies on issues related to energy cost burdens are significant. In the last year, however, all companies have been affected by the increase in energy prices, which, according to my findings, have been rising since 2018, however. The leveling off of energy prices in Europe remains another important factor affecting Italian business investments in Poland. It used to be that energy prices in Poland were much lower than in Italy, which is why large energy-intensive companies located part of their production over Vistula.

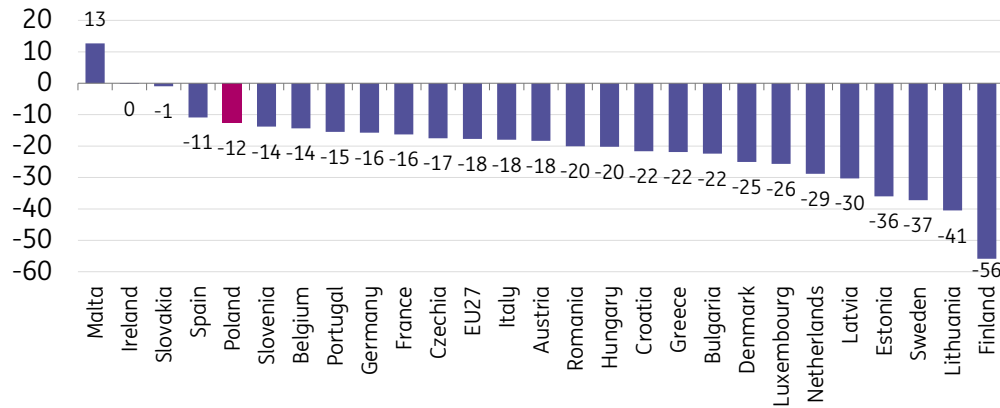
Elisabetta Caprino

Managing Director, Italian Chamber of Commerce and Industry in Poland



The risk of energy shortages in the economy was real during 2022

Reduction of gas consumption - Aug 2022-Mar 2023 vs average over the years 2017-22 (%)



Source: ING calculations based on Eurostat data.

” On the one hand, energy prices and their stability will be negatively affected by the geopolitical situation. On the other hand, we see positive actions by the European Union, such as the provision of gas stocks, the restoration of operational gas ports and changes in the existing nuclear policy. At the end of February this year in the TTF market, gas cost half as much as on February 24, 2022(...).The Old Continent's cutoff from gas supplies from the East is not yet fully offset by LNG supplies. Therefore, the high-risk period in the gas market will be in the winter season of 2023/24.

Sebastian Szymanek
President, Polpharma

The EU has replaced Russian imports with supplies from other directions, mainly the US

- In a survey by GfK Polonia last summer, some 70% of SME companies were concerned about access to energy during the heating season. However, these concerns passed as other suppliers began to effectively replace Russian gas. The US has become the largest supplier of LNG to Europe and Poland. During the heating season, the EU strongly reduced its gas consumption (by 17.7% compared to the five-year average), while Poland reduced it by 12.5%. A warm winter helped, and gas storage facilities were fuller than in previous years.
- The decisions of the EC and EU countries in 2022 made Europe independent of fuel imports from the East and accelerated the energy transformation (via the Re-Power programme). For Poland, the earlier construction of LNG terminals and the Baltic Pipe gas pipeline turned out to be crucial.
- Black scenarios for the future are still linked to the course of the war in Ukraine.

” I think this [gas] market should stabilize now. It turns out that in this case, Poland has shown foresight. After all, long before the outbreak of war, we concluded LNG supply agreements with Qatar and the United States. Therefore, I expect that we will not run out of gas.

Krzysztof Gablankowski

Director, Electronics Department, ZF Automotive Systems Poland Częstochowa

” Like any responsible company, we considered so-called "black scenarios" and prepared for all eventualities. As long as the geopolitical situation in Europe is unstable, the risk will remain with us. It is good that the blackest scenario did not come true and gas supply interruptions did not occur.

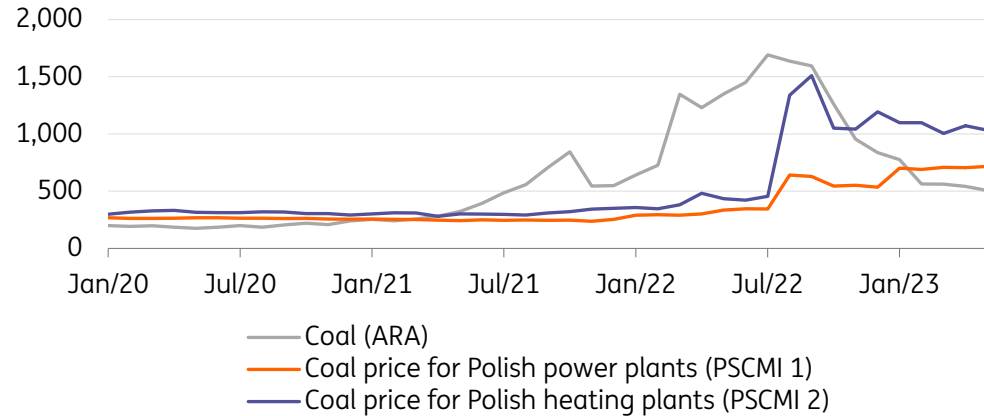
Magdalena Brzezińska

Director of Corporate Affairs, Grupa Żywiec



Detachment of domestic coal prices from global rates may sustain high prices

ARA coal benchmark price and for power plants and heating plants in Poland, in PLN/ton



Source: Macrobond i ARP.

Coal “peak” has passed in global markets, but not in Poland

- At their peak in the summer of 2022, global thermal coal prices reached nearly PLN 1,700 per ton (ARA contracts) and were six times higher than at the beginning of 2021. Since then, they have begun to fall rapidly and steadily - to around PLN 500 on average in May 2023.
- For more than a year, Poland chose to keep coal prices low - despite record highs around the world - and began adjusting (“upward”) when the ARA downtrend began in the summer of 2022.
- In May 2023, coal prices for Poland's electric power industry (PSCMI1) were 40% higher, and coal prices for heating plants (PSCMI2) were 110% higher than the ARA benchmark. This situation will slow the pace of disinflation in Poland.



Any attempt to manually steer the economy raises problems... In the Union and in Poland, for years we generally did this under certain rules - in the long term, resulting in adaptability for particular groups of companies or sectors. It was a policy to preserve competitiveness between countries and companies, taking into account the wealth of specific groups or sectors and their scale of operation.

In my opinion, current actions are carried out too quickly, often without prior analysis. Such actions cause a significant imbalance in competitiveness, not only internationally or regionally, but even nationally. From the consumer's point of view, the described situation is good, but in the short term. In the long term, similar market interventions will result in a decrease in market competitiveness and an increase in prices.

Wiktor Daniłowski

Finance Team Manager, Makarony Polskie



However, if coal prices are kept artificially high in Poland, energy may not get cheaper. In succor, however, photovoltaics and windmills will come strongly.

We are present in the energy market all the time, because we have a license; we remain a company that actively participates in the purchase of electricity, so sometimes - when the sun is shining hard or the wind is blowing - we are able to purchase energy at very attractive prices in the sports markets.

Przemysław Sztuczowski

President, Cognor

A utility worker is seen from a low angle, climbing a metal ladder that is suspended from a power line. The worker is wearing a light-colored shirt, dark pants, and safety gear, including a blue helmet and gloves. They are holding onto a thick yellow rope. The background consists of several parallel power lines stretching across the frame against a bright, overcast sky. Two orange text boxes are overlaid on the image, containing white text.

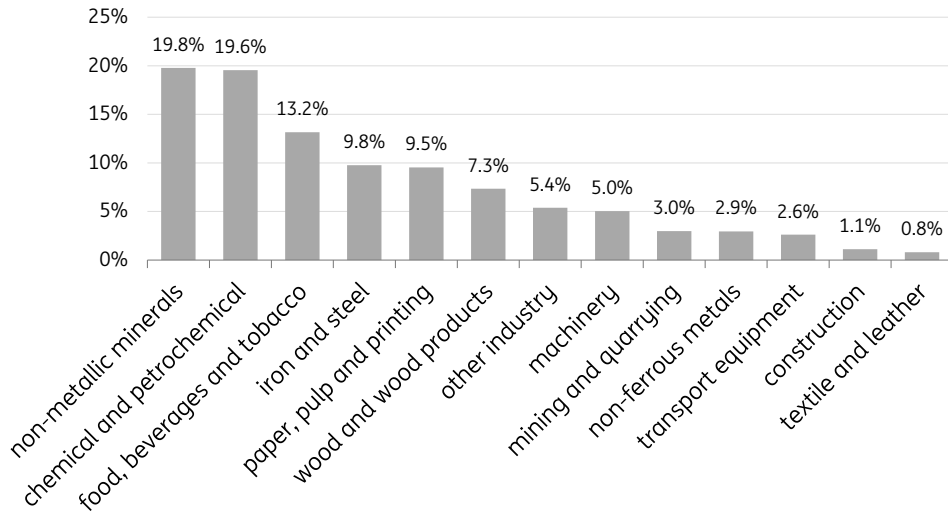
Polish companies' response

Price adjustment and energy investments



All Polish companies have felt the disruption in the energy market, although to an uneven degree

Share of sectors in total energy consumption in industry, in Poland in 2021 (%)



Source: Own calculations based on Eurostat data.



We have signed a new electricity contract with a different "purchasing profile" and we have started - previously planned - investments in RES: installation of photovoltaics; we have also decided on cogeneration systems. With the current geopolitical situation affecting energy prices, those who have made investments in RES in the past are, of course, some kind of "winners" - due to their partial or even complete independence from the energy market....

Tadeusz Baranowski
członek zarządu, SuperDrob

Record energy prices have hit energy-intensive industries the hardest

- Energy disturbances were felt in all industries, especially energy-intensive ones - including. non-metallic minerals, chemicals, steel or metals.
- For some energy-intensive companies, one way to cope with absurdly high energy prices in 2022 was to reduce production (ArcelorMittal Poland).



The forced reduction in other operating costs, due to the specific nature of the plants, does not create much potential to compensate for such a large jump in energy prices. In order to limit losses, we, like many other European producers, have decided to stop the operation of some plants and reduce production.

Tomasz Ślęzak

Board Member, ArcelorMittal Poland



As for electricity: we are a large company, so we couldn't count on the statutory rate (785 PLN/MWh) for SMEs, so we had to cope on our own - including through well-negotiated agreements with trading companies to buy as cheaply as possible. And for January and February of this year, we will come out more or less at this statutory rate (about 800 PLN/MWh) in purchases, but - compared to last year - is still a price about twice as high, because at that time the rates from our electricity supply contract oscillated around 460-480 PLN/MWh.

Another factor affecting electricity prices remains distribution, and this is beyond our control; it cannot be negotiated, as it is monopolised in Poland. The price here has increased year-on-year by 37%..

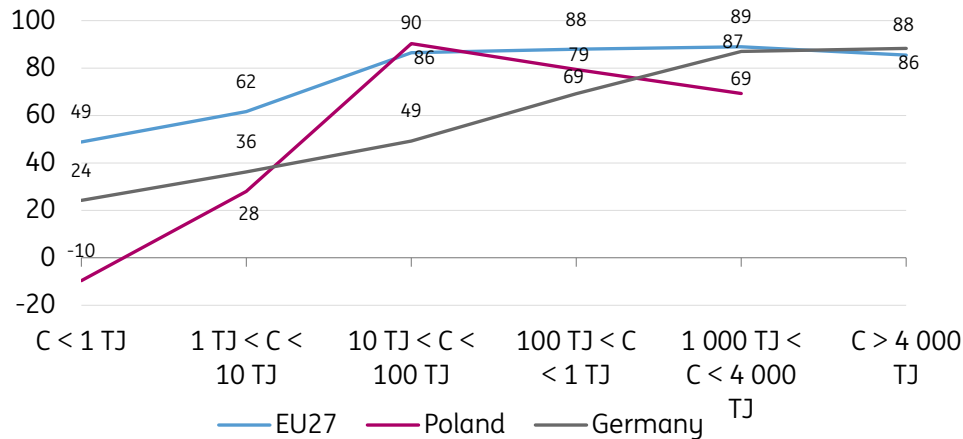
Janusz Kaźmierowski

wiceprezes zarządu, Metal-Fach



Scale of shock dependent on energy intensity and company size

Increase in gas prices for companies, by consumption ranges, H2 2022 (%YoY)



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

” (Public support for some consumers - SMEs) - These are anti-crisis measures that will end at some point - and in this context it is difficult to consider any systemic risks. More worrying is the chaos in the energy market in the European Union and the over-regulation of this market. It has become necessary to quickly overhaul the energy market model, which has proved inefficient during the crisis. It is important to us that large energy-intensive companies in Poland do not diverge - in terms of energy costs - from competitors in other EU countries.

Tomasz Ślęzak
Board Member, ArcelorMittal Poland

High energy prices have forced optimisation measures by companies

- A common response from companies to rising energy costs has been optimisation measures directed at reducing energy consumption or substituting natural gas with biogas or coal with biomass (e.g. Polpharma).
- Companies tried to actively manage their energy purchases. During the period of record high costs, the appropriate strategy for purchasing electricity was spot market purchases (CynkoMet, Makarony Polskie). This involved a greater risk of price fluctuations, but protected the companies from the trap of entering into a contract with a high price for a longer period. PKP Cargo plans to renegotiate the long-term contract. There were also supplier changes.
- Some companies have taken advantage of previous long-term contracts for gas or electricity supply (Cognor). Metal-Fach and CynkoMet conducted an in-depth energy audit and introduced many solutions to reduce energy consumption. It happened that the companies set up internal teams to analyse the reduction in the use of energy carriers. They also decided, among other things, to meter the plant or make thermo-modernisation.
- To the extent possible, companies diversified sources of natural gas (Bizon).

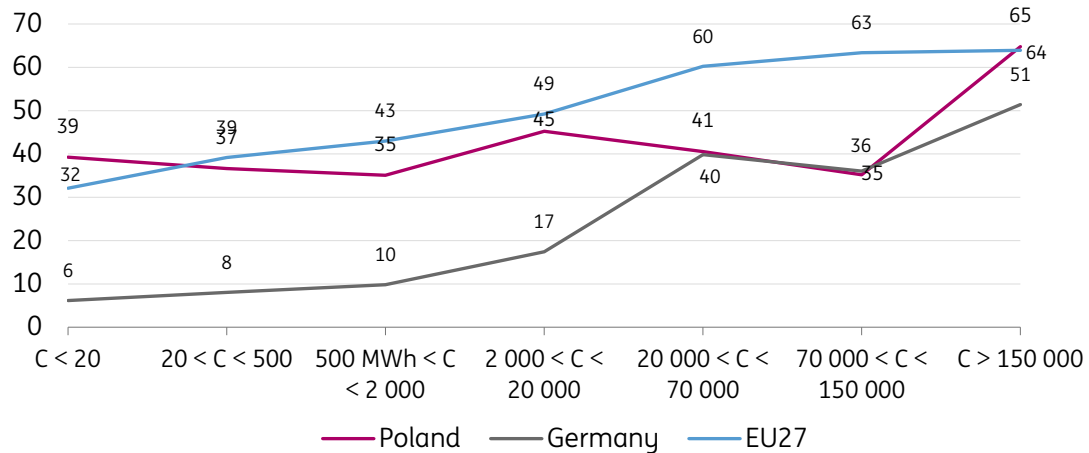
” We are constantly conducting optimization activities, helped by data collection and analysis systems. We have a total of 600 utility meters (energy, electricity, gas, water and compressed air) at the plant, from which we download information on current consumption every 15 minutes. This allows us to create graphs, analyse trends and look for places where optimisation is still possible.

Adam Krępa
President, Federal-Mogul Gorzyce



Segmentation of the electricity market by company size (its annual consumption)

Increase in electricity prices for companies, by consumption ranges, H2 2022 (%YoY)



Source: Own calculations based on Eurostat data. Consumption ranges in MWh per year. Energy prices include all fees and taxes.

” Many large companies were hoping for equal treatment. I am looking for a justification why I should - as a businessman - buy energy more expensively than as a private consumer.... Honestly: it's still difficult for me to find one, because I know that sooner or later it will also be reflected on the consumer - through rising prices of goods and services. But if this is the "need of the moment," then we must adapt to it.

Michał Wypychewicz
President, ZPUE

The increase in electricity prices for large companies was about 25pp higher than SMEs.

- Large energy-intensive companies in Poland, especially those with consumption of more than 150,000 MWh per year, faced significantly higher increases in eclectic energy prices (65% y/y in the second half of 2022) than companies with lower energy consumption, often in the SME sector, for which prices rose by about 30-40%.
- In EU countries, the average price of electricity also rose more strongly for companies belonging to the higher consumption bracket, but the variation of increases (within consumption brackets) was smaller (the curve of price increases after consumption brackets is more "smoothed"). For example: German companies experienced significantly lower increases in electricity prices than Polish companies or the EU average.
- The large companies we interviewed indicated a possible loss of international price competitiveness.

” In our view, the exclusion of large companies from protection mechanisms ultimately projects to raise the price of goods for consumers.

Tadeusz Baranowski
Board Member, SuperDrob

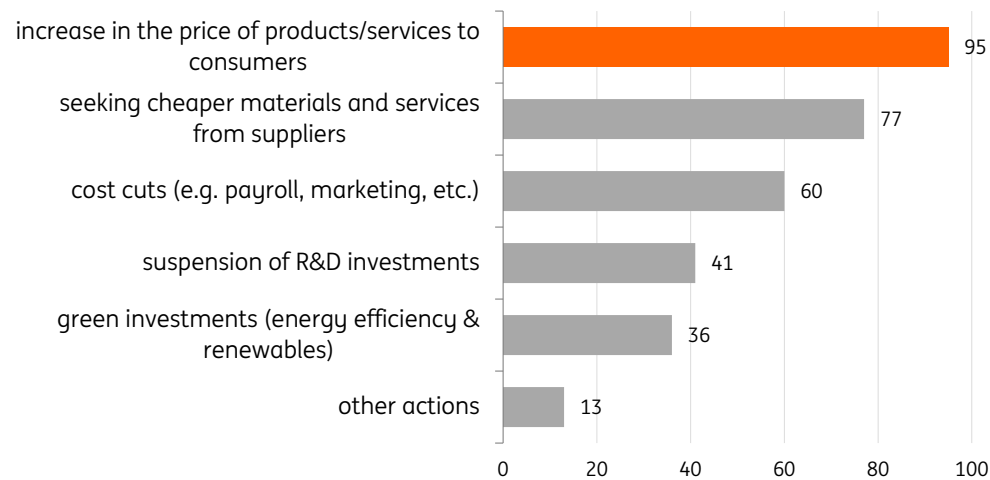
” The segmentation of energy markets - due to the introduction of public support of varying scales - will not strain Polpharma's competitive position on a national scale. But this selective policy results in the Polish state failing to help companies like this one compete with similar, medium-sized global rivals in international markets; it even hinders faster development of our companies (...).

Sebastian Szymanek
President, Polpharma



Almost all companies passed on higher energy costs to contractors

Reaction of SMEs to higher energy and fuel prices , in % of respondents, N=300



Source : Survey GfK Polonia for ING Bank Śląski <https://ekonomiczny.ing.pl/publikacja/773031>

” Like many companies, we had no choice but to raise the prices of our products, but the amount of our increases stayed in line with inflation rates in the industrial sector. Had we not done so, we simply would not have been able to survive. We rely mainly on metals in our manufacturing processes, and some equipment contains semiconductors. Their prices have risen sharply - we felt this and had to react. We also have several concrete plants, and, as we know, the prices of raw materials such as sand and cement have also gone up.

Michał Wypychewicz
President, ZPUE

Higher energy costs forced increases in the price of goods and services.

- GfK's summer 2022 quantitative survey of SME companies found that almost all companies responded to increased energy and fuel costs by increasing the price of products or services; only 5% avoided it.
- The second most common way to cope with the energy market situation was to look for cheaper materials and suppliers (77% of companies), followed by cutting other costs (60%) and halting investments in company growth (41%).
- More than one in three companies intend to invest in solutions that will help save energy or secure their own RES sources in the future.

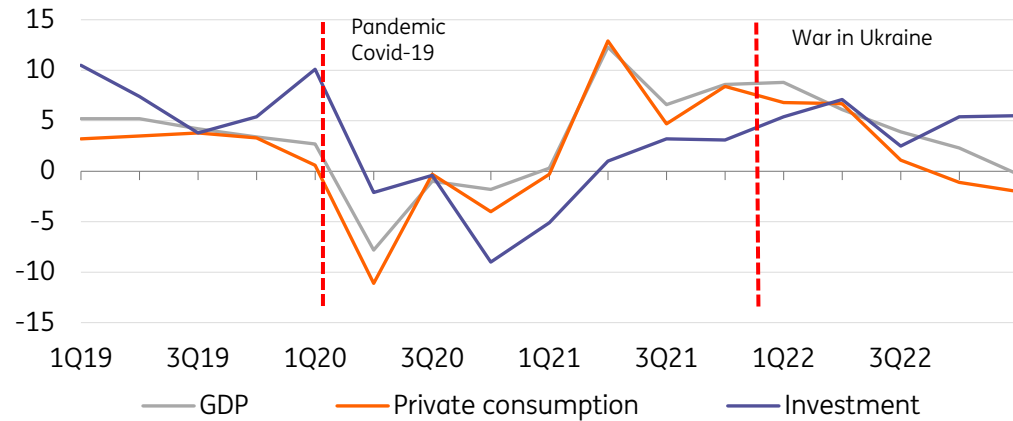
” Increases in the prices of energy carriers have caused significant changes in the prices of materials and transportation, which the construction market now has to deal with. The prices of strategic materials have gone up between 20-40% in 12 months - for example, cement by as much as 36%, concrete by 24%, aggregates by 35%, and transportation by nearly 40%. These are significant changes that translate into the pricing of current tenders and the profitability of contracts already started.

Ewelina Karp-Kręglińska
Director of purchasing, quality and environment office, Budimex



But in 2023, price increases began to face a growing barrier to demand

GDP, consumption, investments (%ch YoY)



Source: CSO.

” You can already see at this moment that "we are reaching the limit of customers' financial endurance". And that's what beating inflation is all about - we were spending too much, the market was "accepting" certain increases all the time, but today you can already see in various segments of the market that we're already reaching that final barrier somewhere, and customers are saying "we're not buying, we're waiting."

Mariusz Dąbrowski
President, CynkoMet

The weakening economy during 2022 and the first half of 2023 limited the room for increases in prices of goods and services - despite strong cost pressures.

- Passing on energy cost increases in 2022 to contractors or final consumers has encountered a growing demand barrier.
- Private consumption declined year-on-year in real terms in Q4 2022, a rare phenomenon to date, except during pandemic periods.
- Decent investment dynamics are sustained by infrastructure spending.
- In addition, the room for price increases is defined by the strength of competition from foreign suppliers in energy-intensive sectors (mainly from Asia).

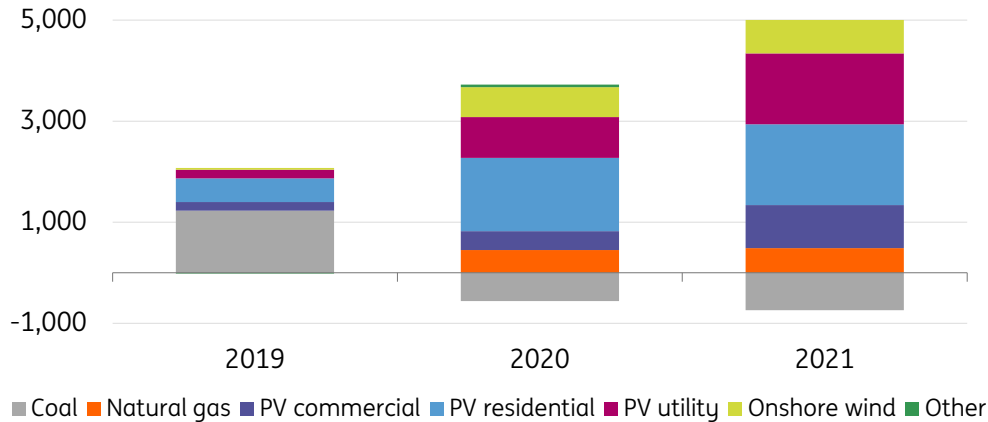
” Unfortunately, our company has had to respond to higher operating costs.... The increase in fuel, energy and raw material prices, of course, we tried to pass on to the market, but this is only possible as far as the market will accept it. If the market is open to the supply of similar products to ours from other parts of the world, which were not affected by cost turbulence similar to ours, then the prices of our products could not adjust proportionally to the cost increase - our company had to "accommodate" part of the cost increase; it could not "pass it on to the market." The best proof is today's decline in demand.... As a company, we are very seriously threatened by imports from the Far East (...).Our competitors who work in other regions of the world, unfortunately, have not had any such drastic increase in costs - so we are the ones who are subject to pressure from competing products from other areas.

Piotr Komierowski
Company Founder, Bizon



Companies have rapidly increased the scale of investment in RES, but from a relatively low level

New capacity installed in the Polish power industry (MW)



Source: BNEF.

” Through industry organisations we have taken many steps to ensure access to electricity and gas for the food sector. We also requested the introduction of a mechanism to stabilize gas and electricity prices, including for large entrepreneurs. On the other hand, paradoxically, this sudden and rather unexpected scenario could significantly accelerate the energy transition of our country and other countries that depend on fossil fuels and import them from countries where the risk of political instability is increased.

Grzegorz Bobek
Environmental and Sustainability Manager, Danone

Poles have become convinced of photovoltaics.

- The drop in the price of PV installations and the government's "My Electricity" programme launched in the summer of 2019 influenced the expansion of PV, particularly residential PV. New capacity in commercial and utility PV also grew in the following years. According to BNEF data, at the end of 2021, installed capacity in Polish PV reached almost 8GW, while in 2019 it was only 1.3GW.
- The terms of public support have evolved over time, also the prices of PV installations stopped falling noticeably in the era of disruption in global supply chains in 2020-21, reducing the attractiveness of these investments. Nevertheless, record energy prices in 2022 were a factor in favour of these projects. Distribution network capacity has become a key barrier to new installations.

” The energy transition is accelerating. And the more expensive fossil fuels become, the faster the transition will be. And the constraints? The biggest problem here remains the lack of sufficient capacity and the number of energy storage facilities, as well as the state of the power grid. Entrepreneurs will increasingly think about investments aimed at producing electricity themselves. Geothermal will also develop, where entry costs are high, but later operation remains cheap (...). It is important to remember that the development of renewable energy sources will destabilise the networks. Besides, the question remains of how to provide cheap energy storage.

Marcin Sutkowski
President, Bumech



Further RES investments by companies depend on public support and improved regulation

” We plan to invest in renewable sources - we have some land on which to put up photovoltaics. We practically consume electricity continuously. Our building - already very energy efficient - is less than four years old. We also save on heating - we use the heat that is generated by the operation of the machines. Besides, it is worth learning self-discipline in energy consumption. It's about simple issues - like turning off monitors at the end of the day or just heating and other equipment. The ZF Group employs more than 10,000 people in Poland. If each of them pays attention to such measures, it will obviously make a difference..

Krzysztof Gablankowski

Director, Electronics plant of ZF Automotive Systems Poland Częstochowa

” [The segmentation of energy markets in Poland] is a significant risk that puts large companies like ours at a disadvantage. In addition, I have the impression that large companies have been demonized in Poland - as those who can do a lot and will always manage. This is not true. Besides, can you say that a company like ours is big because it employs 600 people and has PLN 740 million in revenue? Then what kind of company is Nestlé with revenues of 450 billion zlotys, employing nearly 300,000 people? We're talking about disparities of 600 and 500 times, respectively, and the support regulations are the same for both entities in our country....Polish companies, in their vast majority, are still very small and in need of support, and in the meantime you can see the tendency to "stigmatize" them at a very early stage of development, when they are sewn on the patch of "large enterprises."

Tomasz Szafarczyk

Board member, FoodWell (former Bakalland)

” Scandinavian investors largely began the process of building their energy independence long before the crisis. Ambitious goals for using green energy have long been in the strategies of companies in the north of our continent; the current crisis has only accelerated this.

Agnieszka Zielińska

Director, Scandinavian-Polish Chamber of Commerce (SPCC)

” We look forward to more favourable regulatory solutions and incentives for RES investments (subsidies, preferential loans) or facilitating grid connection. The inefficiency of the national power grid remains particularly unfavourable here. Also, bureaucratic barriers - related to the installation and connection of our own RES - do not help the development of this RES technology in the country (Law 10H).

Tadeusz Baranowski

Board member, SuperDrob

” If we wanted to invest in photovoltaics, for example, and we have a lot of space to install the panels, we would spend about four million zlotys on it - without any grants, without any support; we have to expect it to pay for itself for at least four years. With such a payback time, the corporation will not approve it for us....Of course, we can look for other forms, such as leasing such systems, but this complicates the situation more. We have hired one of the well-known consulting companies to search for all possible grants for us, so I don't rule out that in the future we will be able to shorten the payback time in this way and put up our own RES sources.

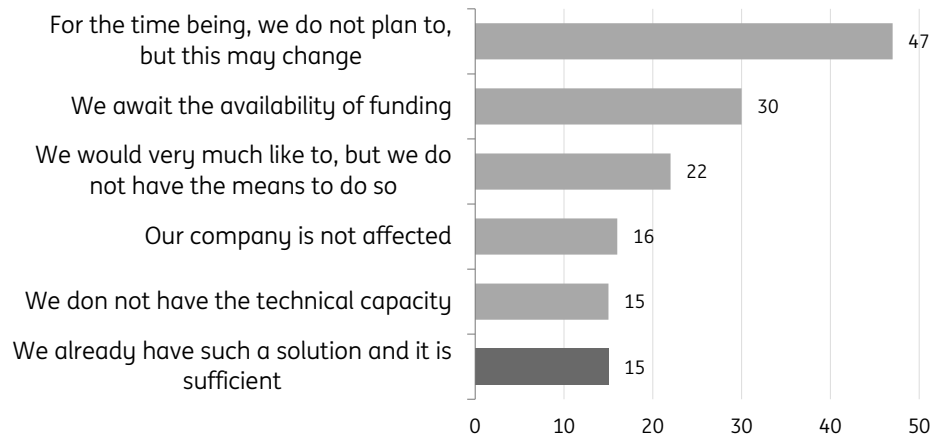
Adam Krępa,

President, Federal-Mogul Gorzyce



More frequent energy audits in industrial companies, investments in efficiency

Why do the industrial SMEs not invest in Energy efficiency? N=73 (% of answers)



Source: Survey GfK Polonia for ING Bank Śląski <https://ekonomiczny.ing.pl/publikacja/773031>



Regardless of size, Italian companies in the midst of the energy crisis have decided to make a number of investments to increase energy efficiency - ranging from steps such as replacing incandescent light bulbs with energy-efficient ones to building RES installations (primarily solar panels). One company, for example, accelerated a previously planned purchase of machinery due to the energy crisis, and introduced 11 new energy-efficient machines at one time. Also common to virtually all entities was the introduction of energy audits, which in some cases were not very popular before the crisis.

Elisabetta Caprino

Director , Italian Chamber of Commerce and Industry in Poland

The marked increase in energy costs has appeared on the task dashboard for managers of more than just energy-intensive companies.

- Companies have taken various measures to save or control energy consumption.
- The first step for investing in energy efficiency is to conduct a thorough audit. Our interviews indicate that large companies are proactive in making investments to improve energy efficiency.
- The quantitative survey in the SME segment tended to indicate a wait-and-see attitude and dependence of such investments on the availability of funds.



That's why we constantly seek the highest possible efficiency in utility consumption management, and invest in modern technological solutions in the operation of almost all operational processes, including the management of production lines and infrastructure at our plants. We also conduct energy efficiency audits (...). We also use room temperature control systems to eliminate unnecessary energy consumption (for example, in offices during weekends) or use zone lighting, motion sensors and heat recovery systems. In addition to constantly improving our own way of doing things, we also rely on long-term solutions that look to the future. Several years ago, we made the decision to use renewable energy sources. Currently, 100% of the electricity used by all seven factories of the Danone group of companies in Poland comes from renewable sources.

Grzegorz Bobek

Environmental and Sustainability Manager, Danone



Qualitative survey

ING Bank Śląskiego i EEC – interviews with companies



Scope of the study. Framework questionnaire for interviews

Scope of the 2023 energy study

The qualitative study by ING Bank Śląski and the European Economic Congress (EEC) consisted of interviews with representatives of 19 companies operating in Poland and two chambers of commerce in Poland (Scandinavian and Italian). The interviews were conducted by journalists of PTWP Group portals in January-March 2023.

Our survey of large companies followed up on last year's quantitative study on the effects of the energy shock on SME companies, summarised in the report *The Response of Polish Business to the Energy Shock 2022 - Price Increases, Cost Cuts and Green Investment*.

In addition to gaining a better understanding of the effects of the energy shock on the Polish economy, the goal of the survey this year was to identify prospects for green investments in larger companies - in more energy-efficient production processes, building thermal upgrades or in-house energy sources.

All companies are leaning toward a low-carbon energy mix in Poland in 20 years, but this will require proper coordination on the organisational, technical or financial side. Energy investments in Poland must also fit into global megatrends and the regulatory framework of EU climate policy.

The framework set of questions addressed the following issues:

1. Energy in total costs
Approximate share of energy carriers in total company costs
Estimated increase in energy prices in the last 12 months
Impact of energy costs on prices of goods and services
Expectations for energy prices 12 months ahead.
2. Response to high energy prices 2022, renegotiation of contracts, in-house energy investments, commissioning of Energy audits, others.
3. Barriers to investment in RES and energy efficiency - What is holding back greater green investment; The role of government support and segmentation of energy markets. Concerns about energy access in 2023.
4. The role of EU policy, Assessing the EU's actions in dealing with the energy crisis.
5. Energy of the future in Poland. Are high energy prices a barrier to development in Poland. What the energy mix in Poland will look like in 20 years.
6. ESG factors in corporate operations, including counterparty pressure.



Cross-section of companies participating in the survey (19 companies, two chambers of commerce)

A diverse group of interviewees:

Representatives of industrial processing companies and logistics and transportation companies took part in the survey. They were persons holding management positions at the companies.

Industrial processing industries:

Automotive

- [Federal-Mogul Gorzyce](#), Adam Krępa, president
- [ZF Automotive Systems Poland Częstochowa](#), Krzysztof Gablankowski, director

Machinery i equipment

- [Bizon](#), Piotr Komierowski, company founder
- [Metal-Fach](#), Janusz Kaźmierowski, vice president
- [Stadler Polska](#), Tomasz Prejs, president
- [ZPUE](#), Michał Wypychewicz, president

Pharmaceutical

- [Polpharma](#), Sebastian Szymanek, president

Clothing

- [LPP](#), Robert Koński, vice president FIGENE Capital (w ramach PPA z LPP)

Food

- [Danone](#) (grupa spółek), Grzegorz Bobek, sustainability manager
- [FoodWell](#) (d. Bakalland), Tomasz Szafarczyk, board member
- [Grupa Żywiec](#), Magdalena Brzezińska, director of corporate affairs
- [Makarony Polskie](#), Wiktor Daniłowski, finance team leader
- [SuperDrob](#), Tadeusz Baranowski, board member

Construction industry

- [Budimex](#), Ewelina Karp-Kręglińska, director of purchasing, quality and environment office

Companies (transportation, shipping, logistics)

- [PKP Cargo](#), Dariusz Seliga, president

Metallurgy and metal industry

- [ArcelorMittal Poland](#), Tomasz Ślęzak, board member
- [Cognor](#), Przemysław Sztuczkowski, president
- [CynkoMet](#), Mariusz Dąbrowski, president

Coal mining company

- [Bumehc](#), Marcin Sutkowski, president

Foreign chambers of commerce operating in Poland:

- Scandinavian-Polish Chamber of Commerce (SPCC), Agnieszka Zielińska, director
- Italian Chamber of Commerce and Industry in Poland, Elisabetta Caprino, director.

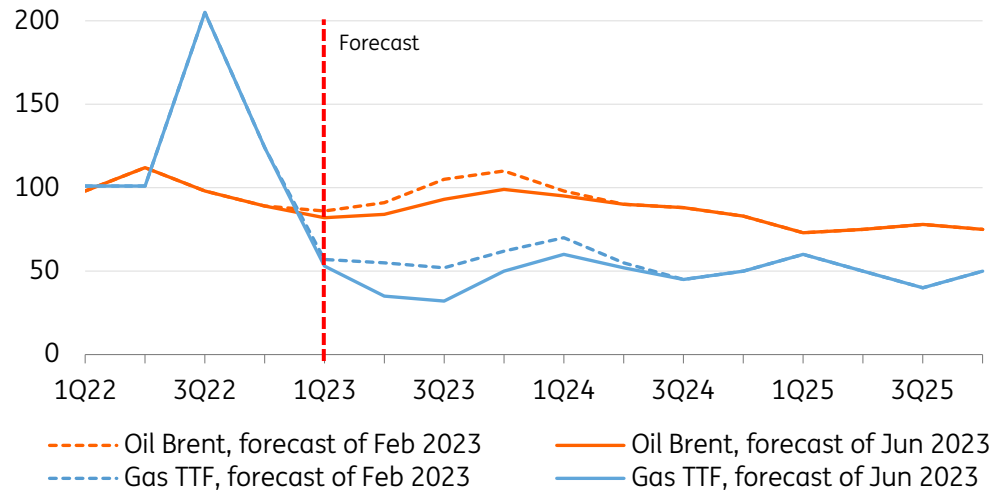
A large stack of colorful wooden chairs, mostly in shades of green, blue, and orange, with an orange text box overlaid in the center.

Barriers to green business investment



In early 2023, companies expected energy prices to have passed their peaks, but risks remain

ING oil and natural gas price forecasts, US\$/barrel and EUR/MWh



Source: ING Monthly, February 2023 and June 2023.

“ I believe that the peak of energy price increases is definitely behind us and we are already witnessing a significant drop in their level. Look at what happened to gas, the prices of which have dropped significantly. They reached 1,300 or 1,400 zlotys even, and are about to drop below 200 zlotys. We are approaching pre-war or even pre-pandemic prices. I believe that the same will happen with electricity - unless the situation of high prices is artificially created to maintain the monopolistic position of coal mines and coal-fired power plants.

Przemysław Sztuczowski,
President, Cognor

Normalisation of the situation is unlikely to mean a return to low prices.

- While most companies expected energy prices to normalise during 2023, there was virtually no expectation of a return to pandemic-era low rates. This is due to the need to invest in energy infrastructure and the reorientation from east to west and north in Poland and Europe.

“ Short-term spikes in the price of energy on the market, yes, may be more or less attractive, but they do not allow us to make investments in the long term, including, for example, building a farm in a project finance model. We need to be backed by a long-term contract. Its value is, of course, determined jointly with the customer - so that the terms are good for both parties.

Robert Koński
Vice President, Figene Capital

“ I'm sure that electricity and gas will eventually run out. Two phenomena overlap here: global warming and the current energy supply problems caused by war. As for the former trend: let me remind you of 2015, when Poland was on the brink of a blackout in the hot summer, and factories had their electricity turned off. This will come back to us... Rivers will dry up, power plants will have nothing to cool themselves with. Not to mention that they will get older and older. Before we build alternative energy sources, before there is a new power grid to transmit electricity from offshore wind farms or photovoltaic farms built on land, before nuclear power plants are built, in the medium term - 3-5, maybe 10 years - very difficult times lie ahead.

Tomasz Prejs
President, Stadler Polska



Implementation of energy investments requires overcoming many barriers

” Instead, we have decided to invest in RES. On the basis of the "Cognor go green" strategy, we have established a new company - PSG Green Investment - and we want to become completely independent of traditional energy. We intend to "green" all the steel we will produce.... I think that within a few years we will succeed (...).In our market, we are not yet feeling the pressure to introduce green steel to the market, but when the market and EU legislation start demanding green steel, we will be ready for it (...).Like Orlen, Synthos and KGHM, we are also interested in nuclear energy in the form of SMR. At the same time, all the time we are talking about producing energy not for sale, but for our own needs, for use in production processes. This dramatically changes the cost situation.

Przemysław Sztuczkowski,
President, Cognor

” Bureaucracy, bureaucracy, bureaucracy! Causes delays when RES producers connect to the power grid. Power lines are also not prepared for growing production from renewable sources. There is a lack of a good programme, let's call it "Kowalski's electricity plus", which would be attractive in terms of accounting for the sale and purchase of electricity for large investors and small ones. The Windmill Law, as it stands, means that we can neither build windmills ourselves, nor find a reasonable price for the sale of electricity. We understand the need for caution in connecting new RES sources - they are considered sources of intermittent energy supply. However, we expect the government to modernise its distribution system. It would also be beneficial to support energy storage technology - so that it becomes more accessible, which will encourage industrial investment in off-grid installations.

Sebastian Szymanek
President, Polpharma

Efficiency or RES investments are companies' structural response to energy risks.

- Passing higher energy costs on to their own prices for goods and services has been a common but ad hoc action by companies; green investment is a structural response, but it involves a process that is nonetheless cumbersome.
- Among the barriers to investment, companies cited...:
 - the need to "release" investments from the National Reconstruction Plan,
 - onerous bureaucracy in connecting RES to the grid,
 - non-adaptation of distribution networks.
- Also, energy-intensive companies (steel producers) are planning to invest in reducing energy consumption and own RES. Barriers holding back these investments include the lack of a transformation strategy for the energy sector and energy-intensive industry.

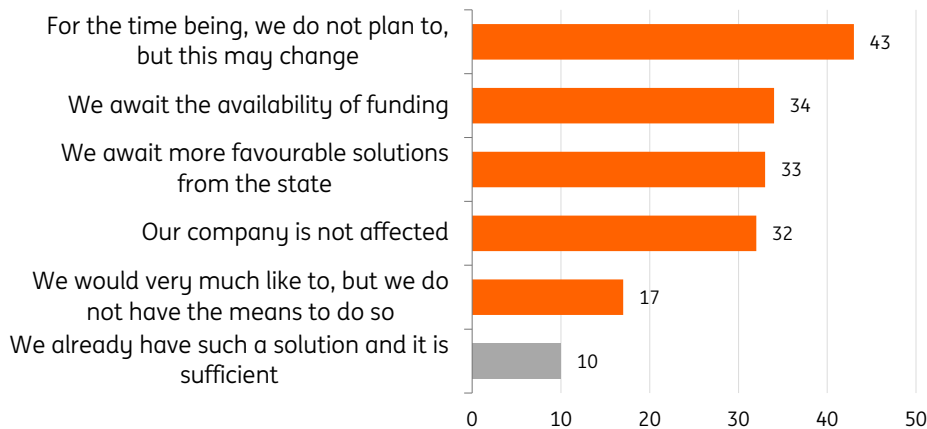
” Unfortunately, current legislative solutions, including the now famous 10H rule, seriously hinder the development of the wind power sector (...).On the technical side, limited capacity of transmission networks is certainly a major barrier. It is necessary to invest in infrastructure, which today is inadequate for current and certainly future needs.

Agnieszka Zielińska
Managing Director, Scandinavian-Polish Chamber of Commerce (SPCC)



Poland still too slow to develop energy production from RES

Why SMEs have not invested in RES yet, N=249, % of answers



Source: Survey GfK for ING Bank Śląski. More: <https://ekonomiczny.ing.pl/publikacja/773031>

“ Climate change is making development toward renewable energy sources the only option. However, each country is implementing this at a different pace. Unfortunately, Poland is doing it too slowly, which is why we pay so much for energy. Certainly, high energy prices will persist until RES gets to scale. I think it's also clear that it will be difficult without nuclear, and we've been waiting more than 10 years for that one. (...) Already in 2020 we were supposed to have the first operational nuclear power plant - this has not happened. Wind energy development has been blocked for several years.

Magdalena Brzezińska,
Director of Corporate Affairs, Grupa Żywiec

Accelerating investment in RES, but still below potential and long-term needs.

- Although the acceleration of investment in new RES capacity has been evident in recent years, it is still taking place below potential, according to some interviewees.
- Last year's quantitative survey suggests that about a third of companies that have not made investments in their own RES are waiting for the availability of funding or more favourable solutions from the state.

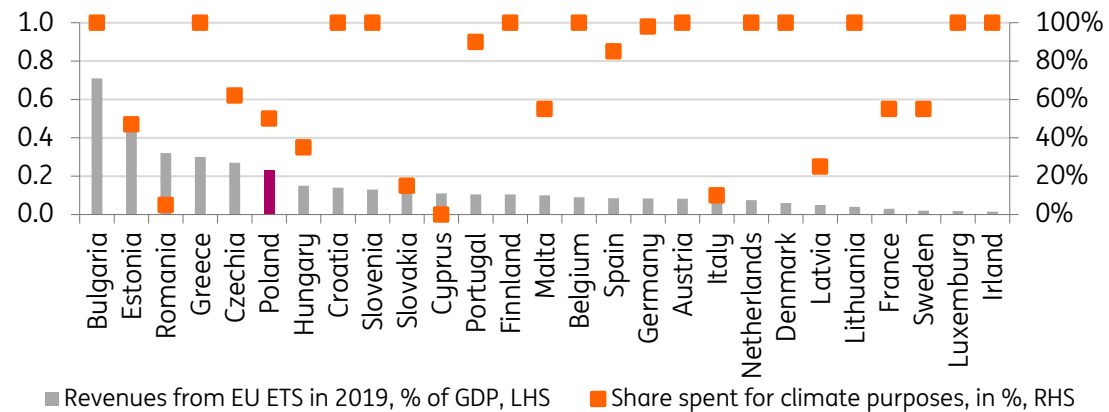
“ [Investment in RES] is certainly being held back by the capacity and architecture of the transmission grid. In the context of the development of new sources, investments in strengthening our electricity infrastructure are necessary. Certainly, another welcome change is to enable so-called cable pooling, a technology for sharing power infrastructure between wind and photovoltaic farms, for example. In our latitude, when the sun is usually shining, the wind is not (and vice versa); a photovoltaic installation can perfectly complement a wind farm connected to the same link in the system. It would also be helpful to be able to connect windmills by direct cable to consumers (so-called direct line), which is not possible at the moment, and could become an answer to the lack of capacity of the grid in its present condition. We are also looking with great anticipation at the resolution of the National Reconstruction Plan, which includes significant measures to modify our energy mix. (...) We also look with great anticipation at what is happening in storage technologies, or energy storage. This could be an important aspect of modifying the energy mix, supporting its less stable sources.

Robert Koński
Vice President, Figene Capital



Financing green investment and climate protection with EU ETS revenues

Revenues from the EU ETS in 2019 and their share spent for climate purposes



Source: EBC, The climate change challenge and fiscal instruments and policies in the EU, Occasional Paper Series No. 315, 2023.

High prices for CO2 allowances are, from my perspective, a very common sense way to protect the environment. It is important to remember that this money remains with the state, which collects it. Funds from taxing carbon sources should be reinvested..Unfortunately, our government has not used this money properly, which, instead of being used for the expansion of low-carbon energy sources, I believe, has been allocated to social programmes - and in a way wasted. The European Union has only imposed on us the rigor of saving and investing in renewable energy sources.

Piotr Komierowski

Company Founder, Bizon

Only 1/2 of Poland's revenues from the EU ETS were earmarked for climate goals

- Public revenues can be an important source of funding for green investments. Under 2019 conditions, at an EUA price slightly above €20/ton of CO2, they exceeded 0.2% of GDP. At four times the price of EUAs in subsequent years, they increased proportionally. Poland was allocating about half of these revenues to climate goals, many EU countries were spending all of them.

The scale of neglect in the Polish energy system is gigantic - both in the level of generating capacity and the quality of transmission infrastructure. We have wasted most of the funds from CO2 trading and other European Union sources allocated for this purpose. Unfortunately, we are not an exception here - many countries of the Community have chosen this path (...).The European Union's policy is sound - we do not have enough fossil fuel resources in the Community and these, in themselves, burden the environment. The problem is not the Union - the problem is that the mechanism for paying for CO2 allowances assumed the reinvestment of this money in the development of RES and other ways to reduce consumption and dependence on fossil fuels; these reinvestments, unfortunately, have not occurred or have occurred to a small extent.

Tomasz Szafarczyk

Board member, FoodWell (former Bakalland)

[Energy investment] is held back primarily by financing. This problem could be solved by bringing in private investment capital; other inhibitors are regulatory issues, although here the first positive developments are emerging.

Ewelina Karp-Kręglicka

Director of purchasing, quality and environment office, Budimex



Top priority

Expansion and modernisation of electricity grids



Companies see a low-carbon energy mix in Poland in 20 years with RES and nuclear

Ministry of Climate: Supplementing the Polish Energy Policy 2040 with a new scenario for the electricity sector, April 2023

Future of the Polish electricity sector 2024

- Diversification, independence and energy security
- Doubling the installed capacity in the system to 130GW
 - Development of nuclear energy, including SMR, to 7.8GW
 - Development of RES to 88GW
- Coal as a transition fuel and transformation’s stabilisation factor
- Development of transmission and distribution grids
- Building of local supply chains
- Implementation of modern energy technologies
 - Hydrogen, energy storage, DSG, other.

Source: Ministry of Climate, April 2023.

” I would like to see (in Poland - ed.) the proportions of the mix reversed - i.e. 70% for RES and nuclear and 30% fossil fuels. Although - looking at the pace of change - I think 20 years is a bit too short... Closer to this forecast is a 30-year perspective.

Ewelina Karp-Kręglicka

Director of the office of purchasing, quality and environment, Budimex

Announcing the 2040 Energy Policy Update.

- The direction of change to Poland's zero-carbon future is clear, the question remains the pace of reaching the long-term goal, which is reflected in the path of energy investments.
- Over the next two decades, the Polish government plans to develop RES and nuclear power, including SMR.
- The development of transmission and distribution networks is a sine qua non for the implementation of such a strategy.

” I think nuclear will be a stable base. These are the most energy-efficient technologies. If we convert the efficiency of a given raw material into the amount of energy produced and the availability of these raw materials, we have to agree that this is a good solution. Atom will account for a few tens of % in the energy mix; we will supplement the rest with RES..

Michał Wypychewicz

President, ZPUE

” I believe that we will soon have to deal with brownouts and blackouts. After all, we have already experienced them during the summer peaks, in a situation of unthreatened fuel supplies from existing directions. That's why it's so important to launch investments in new zero-carbon capacity as soon as possible, including effectively unlocking the potential of renewable energy sources.

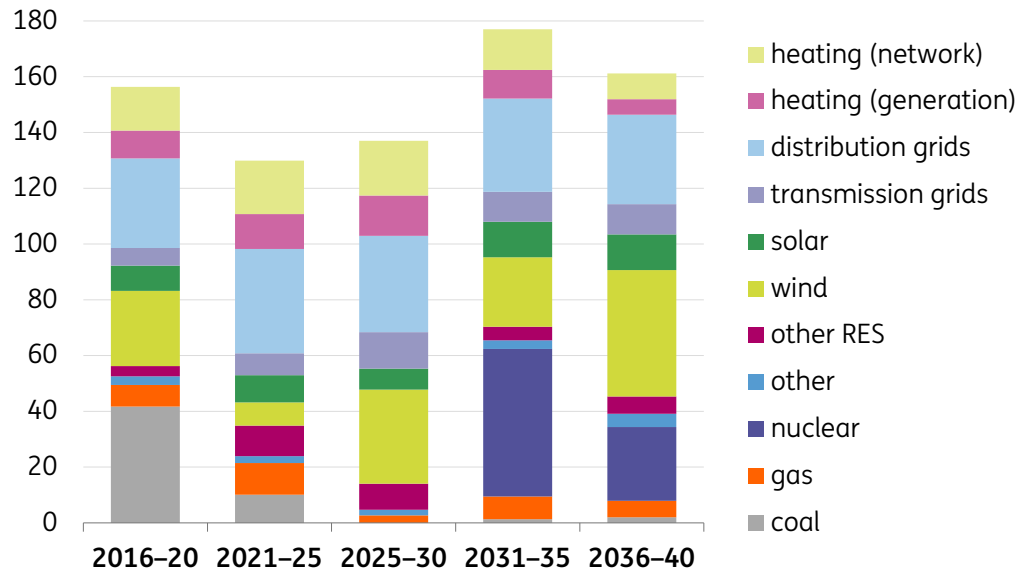
Robert Koński

Vice President, Figene Capital



Distribution network capacity as an electricity system bottleneck

Investments in energy and heating, Energy Policy until 2040, PLN bn, constant prices 2018



Source: Energy Policy of Poland until 2040, March 2021.

” Certainly, there are difficulties in connecting to the grid due to its advanced age and capacity. Before 2022, the relatively low cost of energy meant that the return on investment was too low, distant in time, which did not encourage it.

Wiktor Daniłowski
Finance team leader, Makarony Polskie

According to the PEP, investments in the grid by 2040 are expected to account for about one-third of investments in electricity and heat.

- According to Poland's official Energy Policy to 2040, dated March 2021, the equivalent of 23%PKB combined, or an average of about 1.1%PKB per year, needs to be invested in the electricity and heat sectors. Adding investment in the fuel sector, the amount rises to 41%PKB (2.0%PKB per year). In the low-carbon scenario, spending on the demand side (buildings, transportation, industry) will also be important. Total expenditures rise to 76% of GDP, or about 3.8% of GDP per year.
- Spending on networks is expected to account for about one-third of expenditures in the electric power and heating industries over the next two decades.
- The assumed investments on the grid in PEP2040 appear to be underestimated under the scenario of universal electrification in reaching climate neutrality in 2050.

” Regarding the future energy mix in Poland, I am not optimistic. I would like to be wrong, but my opinion is that first we are in for a "surprise" - related to how bad a state the energy infrastructure is in - and only then will we start making bolder investment decisions....

Tomasz Szafarczyk
Board member, FoodWell (d. Bakalland)

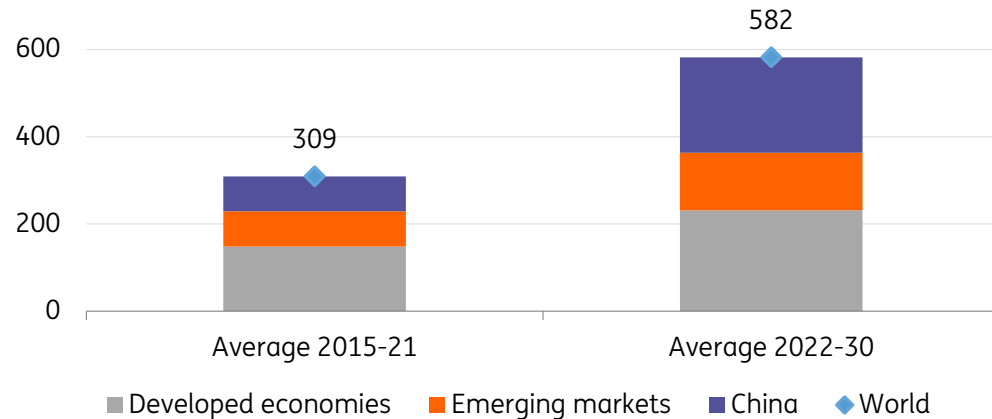
” There is currently insufficient transmission infrastructure in Poland - and it is its construction that should be addressed first (...). Currently, the prosumer revolution has stopped at the level of micro-installations, because the infrastructure is not able to carry the excess energy they produce, let alone if it had to accept energy from macro-installations. If we are to bear the investment costs, we are interested in being able to give energy back to the grid when our plant doesn't need it.

Tomasz Prejs
President, Stadler Polska



Distribution network capacity as a system bottleneck - not only in Poland

Global investment in energy networks in the net zero scenario, in US\$ (2021) per year



Source: International Energy Agency (MAE), <https://www.iea.org/reports/smart-grids>

Poland's electricity grids are inadequate for future needs. According to the IEA, global grid investment should double by 2030.

- The smooth expansion of RES in the coming decade will depend on a significant increase in investment in distribution and transmission networks.

” [Green investments are held back by] the lack of connectivity to the power grid. Everyone plans investments so that they pay off in the shortest possible time, and any RES has to be de facto adjusted to one's own consumption or self-consumption of electricity. Whether it's wind or solar, there are periods when this demand is high, but moments also form, such as holidays, when the plant will not need such energy practically at all. Lack of connection to the power grid means that the energy produced cannot be "fed" into the grid, that is, it cannot be sold - and this, of course, prolongs the return on investment. So I think that in RES the opportunities are great, but the lack of a chance to connect to the grid shows the limitations here. Besides, it is known what happened to prosumers....

Janusz Kaźmierowski
Vice President, Metal-Fach

” The price of energy will oscillate in direct proportion to the greed of the government - there is no other answer... The government maintains a monopoly that could be broken by allowing people and companies to produce from renewable sources. However, the development of RES is deliberately inhibited - in order to perpetuate this monopoly (...).

Unlock the human right to entrepreneurship - and renewable energies and new forms of multi-source energy supply will emerge immediately! However, this will limit the balance of revenues to the State Treasury....

Piotr Komierowski
Company Founder, Bizon

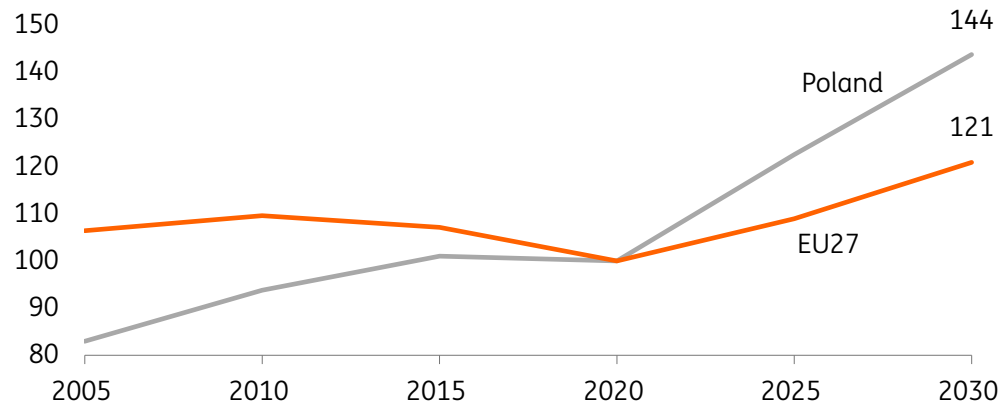
” In my opinion, a very serious problem is that RES sources cannot currently be connected to distribution networks that are no longer able to handle them. Over the past year or two, I've heard only about refusals to connect RES to the grid...This is a serious bottleneck in the system, because no one can rebuild the transmission and distribution networks in a few months so that the current limitations are eliminated. In this case, the problem is both the time and the money needed to do so. Why build a RES if you can't integrate it into the grid?

Przemysław Sztuczowski,
President, Cognor



Widespread electrification requires network investment to multiply several times by 2050.

Projected electricity consumption by 2030...



Source: ING based on European Commission data, MIX scenario, July 2021.

” In rail transport, one of the key elements of the energy transformation may be, for example, the large-scale introduction of hydrogen drive, but also hybrid drives (e.g. with gas engines - LPG, CNG) - if it is a mature technology that reduces operating costs.

Dariusz Seliga
PKP Cargo, President

” It is unfavourable for the development of renewable energy that we politicise this topic. The second issue is the low technical readiness of transmission networks to connect further RES installations.

Krzysztof Gablankowski
Director, Zakład Elektroniki ZF Automotive Systems Poland Częstochowa

Electrification as a way to decarbonise industry, transport and buildings.

- Already today, technologies are available that allow reaching zero-emission energy in the long term. With this assumption, electrification in industry or transport will allow for the decarbonisation of these sectors.
- The EC estimates that this will mean a systematic increase in demand for electricity - by over 40% in Poland and over 20% in the EU27 in the decade of the 2020s.

” The automotive industry will, of course, undergo a transformation towards electromobility. Italian companies in the automotive industry, however, want to strive for greater energy neutrality in technologies. In addition to electromobility, low-emission fuels that meet the Euro 6 diesel standard can also be used.

Elisabetta Caprino
Director, Italian Chamber of Commerce and Industry in Poland

” I believe in the electrification of transport - for several reasons. Looking at Western trends followed by international corporations or banks: emissivity will be one of the key factors of a modern and cost-effective economy - regardless of our opinions. It's a fact. Countries that do not follow this direction and maintain a high level of emissions will simply become expensive countries, and companies will be reluctant to locate their production plants there.

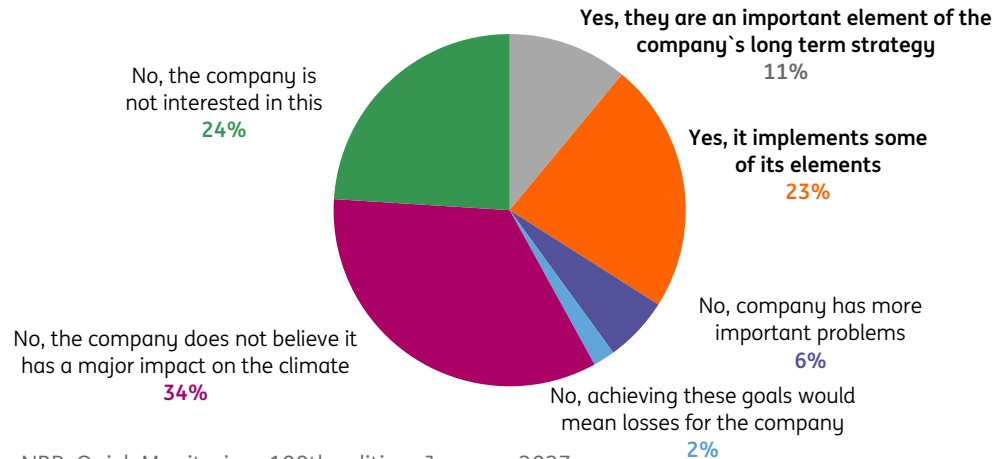
It will be similar in the case of transport - we will move towards electrification, i.e. the role of fossil fuels (including oil) will decrease. I believe that oil will become the next coal and its consumption will decrease. We have to go this way.

Michał Wypychewicz
President, ZPUE



Slow energy transformation in Poland with the growing role of ESG requirements in the world

Polish companies with the goals of decarbonisation and climate neutrality, in %, N=1696, SMEs and large companies



Source: NBP, Quick Monitoring, 100th edition, January 2023

” Virtually all customers at the moment require us to gradually switch to green energy. There are those who want specific dates and assurance that we will finally have 100 % energy from renewable sources. The pressure is felt. The ambitious goal of the ZF Group is to achieve climate neutrality by 2040 - through, among other things, systematic reduction of CO2 emissions throughout the entire supply chain.

This is, in my opinion, a good direction of change. This is what the market expects. 20 years ago, cars were sold showing the appropriate number of stars obtained in crash tests. It is likely that soon cars will sell better when the manufacturer will be able to declare that their production took place with a low environmental impact.

Krzysztof Gablankowski

Director, Electronics plant ZF Automotive Systems Poland Częstochowa

Polish large companies follow global megatrends in the ESG area, small and medium-sized companies are more sceptical.

- Our qualitative research shows that Polish large companies are aware of the growing role of ESG factors. And this time, the statements of representatives of enterprises confirm this. The companies point to specific climate commitments and actions to improve energy efficiency and increase the share of RES.
- The emerging dichotomy between the approach of large companies and the SME sector can lead to environmental disruptions in supply chains. A platform for the exchange of knowledge and experience is needed.

” In the company, in 2020, we appointed an energy committee - it monitors energy consumption and indicates areas for improvement. At least once a year, we conduct an energy review of the company, on the basis of which we set internal energy goals (...).

Our business partners whose activities are related to significant energy consumption receive the information needed to build awareness (in order to improve energy performance). This pays off for all of us - also in the context of sustainable development.

Ambitious goals are initially set for large enterprises and listed companies, but this should change soon. Large enterprises are unable to report indicators throughout the value chain without obtaining input data from suppliers. And that's what they'll expect; we already ask for such data. There is a lack of a campaign that will build awareness of small and medium-sized enterprises on the issue of ESG.

Ewelina Karp-Kręglicka

Director of the Purchasing, Quality and Environment Office Budimex



The ESG criteria will determine the admission of companies to cooperation

” Our company receives ESG-related inquiries from its customers and "cascades" them to its suppliers. The driving force behind the changes is not only the policy of the European Union, but also the growing awareness of consumers, and as a result - also customers of e.g. retail chains.

Companies are expected to develop decarbonisation strategies, reduce emissions or improve energy efficiency, but also take long-term actions in social matters - standardize ethical issues related to human rights and the quality of life of employees throughout the supply chain.

It also requires openness to social audits and obliges companies to take responsibility for who they cooperate with and on what terms.

Tadeusz Baranowski
Board member, SuperDrob

” In this field, we go far beyond analysing the direct impact of our processes on the environment. We establish, develop and tighten cooperation with our business partners (within the entire supply chain), who also contribute to the implementation of environmental or social goals.

Grzegorz Bobek
Environmental Protection and Sustainable Development manager, Danone

” These [ESG] factors are becoming more and more important when choosing suppliers and business partners, and there is no doubt that in the near future it will become a standard for all business entities. Our customers are very interested in “green” steel (...).

Customers have the option to purchase certificates attached to orders, which allow them to report level 3 emission reductions. This solution is very popular among our partners.

Tomasz Ślęzak
Board member, ArcelorMittal Poland

” If we want to be a global player, we must be "green" in action and have a strategy to reduce the carbon footprint. This is what our contractors and clients require of us, but this is also our social responsibility. (...). We treat the ESG strategy not only as a response to growing requirements, but above all as an opportunity to develop the organisation, build value for business and our environment. I believe that it is also an opportunity to attract customers and employees for whom such activities are important.

Our partners or financial institutions say: I check, which is why we have been subject to numerous audits in the ESG case for a long time. However, it is not only an assessment, but also learning together, inspiring and working out solutions. For example, we have developed models for the transformation of CHP plants and the ultimate coal phase-out in dialogue with banks. In response to the needs of our global customers, we will calculate the carbon footprint of selected products for the first time this year (...).

We have a Supplier Code of Conduct, ethical clauses in contracts, and we have implemented a supplier self-assessment survey in terms of ESG. In the coming years, we plan to create a programme that will encourage them to measure their carbon footprint.

Sebastian Szymanek
President, Polpharma



EU climate policy

EUA prices (EUR/tCO2)



Source: Bloomberg.

” The mess on the market for CO2 emission allowances and the artificial pumping up of their prices (e.g. by allowing investment funds, banks, speculative entities to trade in them) is an abstraction to me. That wasn't the idea behind this permission system...

Supporting the development of RES in every form has become a good move.

I believe that the EU should look at small SMR nuclear reactors as soon as possible and move away from large power plants. (...). If their introduction proves successful, the Community should shorten the legislative and regulatory processes as much as possible to enable the use of this technology.

Przemysław Sztuczowski,
President, Cognor

Today's energy mix of Poland practically makes it impossible to invest in energy-intensive industries.

- The need to take into account ESG criteria in Polish business - strongly integrated with European supply chains - is justified by the growing restrictiveness and consistency in the implementation of the EU climate policy.
- It manifests, among others, on maintaining high prices of emission allowances in the Community.

” The Union decided to regulate the price limits for gas prices at EUR 180/1MWh. This limit resulted in the stabilization of prices on the European stock exchanges, which limited the scope for speculation. Prices will not be able to exceed the imposed limit, and thanks to this, for example, in Q3, we will not see levels as high as last year on the exchange, i.e. it will be possible to forecast the maximum price of gas. This is obviously beneficial for us - as a company - because we can de facto plan costs.

When it comes to nuclear power... I'm in favour of it, but not necessarily for the largest one in one or two locations - due to, for example, the transmission network. An interesting solution seems to be distributed nuclear energy, i.e. SMR (small modular reactors). The only question is how it will work and how the Poles will approach it.

Janusz Kaźmierowski
Vice President, Metal-Fach



EU climate policy in the international context

The growing global market of "green" technologies influences the intensification of global competition.

- The dominant supplier of renewable energy technologies and installations is China.
- The US is aware of the size of the new market. President Biden's policy is aimed at gaining specialisation and competitive advantages in this area for American companies and on the domestic market.
- The EU implements the most ambitious climate policy and sees opportunities for green growth and export specialisation in this area.

”

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Janusz Kaźmierowski

Wiceprezes Zarządu, Metal-Fach

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To bring it down to the pharmaceutical industry: the EU's climate policy is a recipe for the deindustrialization of Europe. Because it is hard for me to imagine that the Community will be so consistent and that all European importers will require Asian suppliers to be "green". Let me remind you that the EU producers of generic drugs - around 80-100 % (depending on the country) - are dependent on supplies of active ingredients (APIs) manufactured in China and India.

Sebastian Szymanek

President, Polpharma

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Another important factor is state protectionism in the world. An example is the Inflation Reduction Act (IRA) signed by President Joe Biden, which aims not only to lower inflation but also to promote local production and industry. This puts the EU and Poland in a difficult situation - the outflow of investments. The European Union must react and also support the energy sector based on local production more strongly.

Michał Wypychewicz

President, ZPUE

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Data sources: Macrobond, Bloomberg, Eurostat, GUS, NBP, ING, GfK Polonia, WNP.pl.



The reaction of Polish business to the energy shock. Prospects for energy investments

