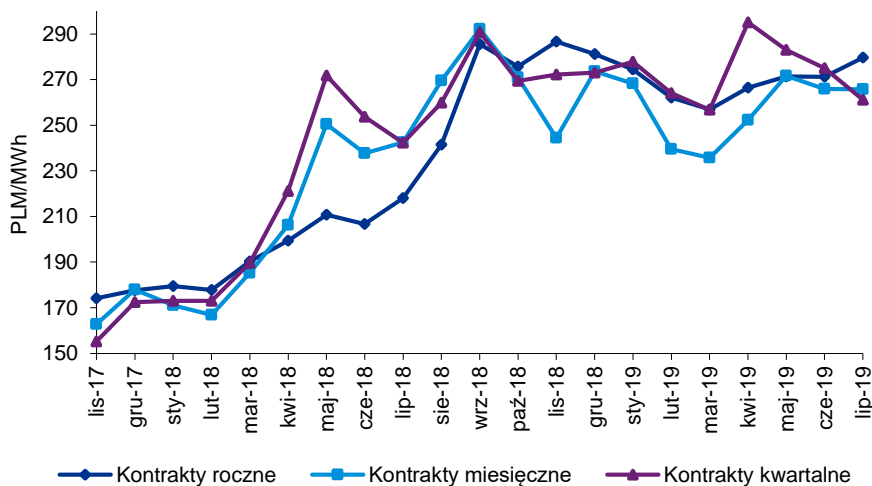


# Modern energy strategies

KPMG supports strategic projects in the energy sector and energy-intensive industries

Over the last two years, the legislation introduced in the energy sector has led to many changes in the energy market and established regulations for: fuels, technology, electricity and heat energy. The price of electricity on the Polish Power Exchange Market (TGE) in recent years has been on an upward trend, while the prices of gas and electricity generated using renewable energy sources are decreasing and becoming more and more competitive.

## Electricity price on Polish Power Exchange

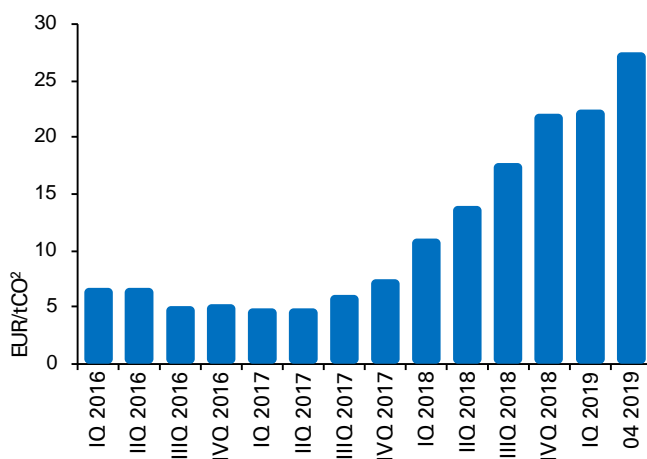


The price of electricity has been increasing in recent years reaching in the beginning of 2019, their record levels. This is currently leading many companies in the energy-intensive industry to financial difficulties and sometimes even bankruptcy. Quarterly and monthly contracts concluded on TGE reach 295 PLN/MWh. In comparison, 2017/2018 contracts for electricity were available below 180 PLN/MWh/

In 2017, the emission price per tone of carbon dioxide was EUR 5. Soon it can exceed EUR 30. Despite a six Times increase in the last two years, the price of carbon dioxide emissions is expected to continue to rise. This is related to the European Commission's environmental protection plans. In the next decade, that is to say, by 2030, European Commission has planned to reduce CO2 emissions twice as much as they currently exist. In the coming years, the aviation sector will join the existing sectors participating in the EU ETS, which may result in even higher demand for emission allowances.



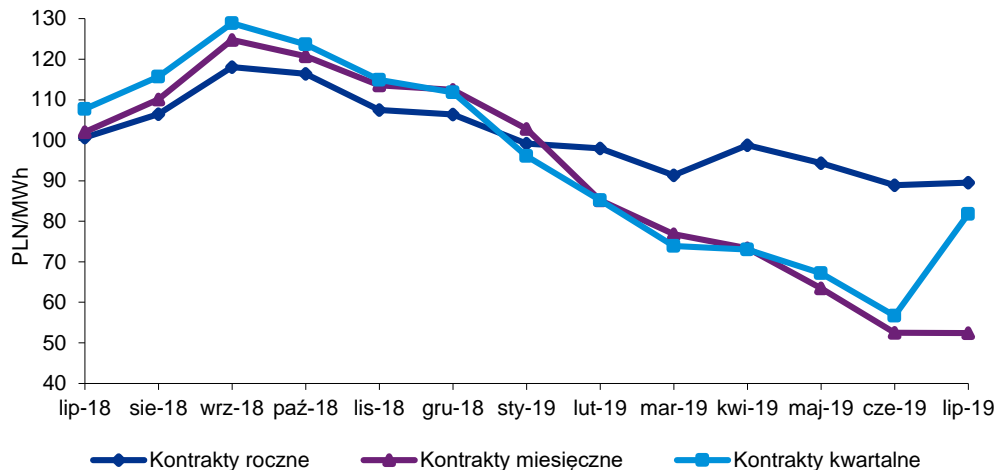
## The price per tone of CO<sub>2</sub> emitted on the EU ETS



The above costs are accompanied by the maintenance of support schemes (certificates of origin) and costs related to the adjustment of installations to the regulatory requirements of the European Commission in the field of Best Available Techniques BAT.



## The price of gas on Polish Power Exchange

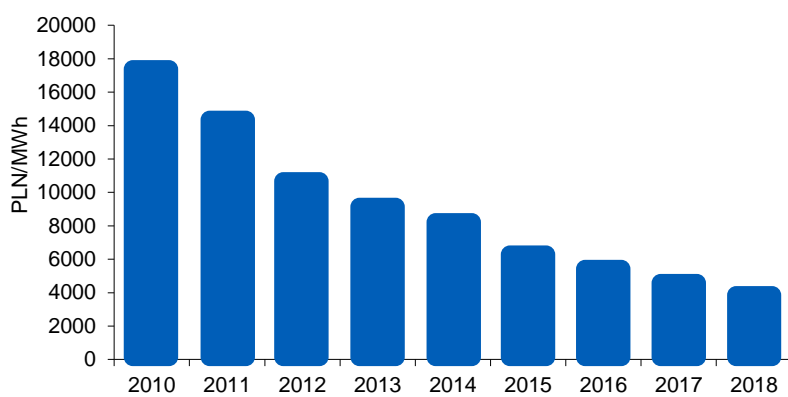


Currently, electricity prices are rising and the price of gas available on the TGE market is decreasing. All GZ-50 gas purchases (available on TGE) in July 2018 had prices between 10% (annual contracts) and 50% (monthly contracts) higher than those in 2019.

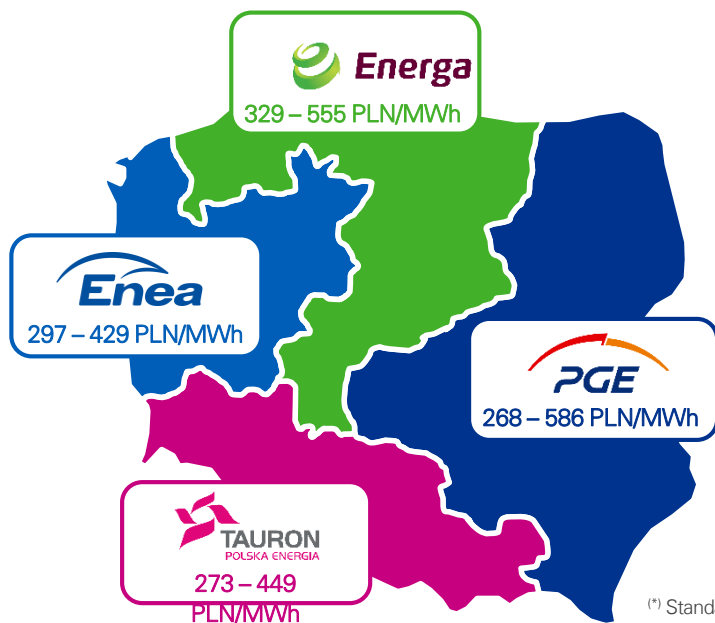
Recent years have also brought a decrease in the cost of installing 1MW of photovoltaic power. Since 2010, the global price of installing 1MW of photovoltaic power has almost quadrupled. This translates directly into reduction in the price of electricity production using photovoltaic technology. In June 2019 in Portugal, the price of electricity from photovoltaics reached 86 PLN/MWh.



## Cost of installing 1MW photovoltaic power



## The energy prices in Polish energy operators' tariffs



Due to rising energy prices, in June 2019, Polish Government amended the „Electricity Act”, which main objective is to freeze electricity prices for some consumers (including households, micro and small enterprises), and to compensate for the costs for other consumers (including medium and large enterprises). Support in the scope of compensations concerns the so-called „de minimis” aid’, granted in the form of co-financing in the amount of up to EUR 200 000. „De minimis” aid is also subject to additional requirements laid down in the regulations. Selected energy-intensive businesses are entitled to separate compensation for passing on the cost of purchasing emission allowances to the price of the electricity used to produce their products.

(\*) Standard price list for electricity for companies, tariff group B (from the lowest to the highest depending on tariff group and time of day). Price list for 2019. Approximate data



## Consequences?

The introduced regulation forced many changes in the area of energy-intensive industries. This applies, among others, to companies for which the price of heat and electricity is one of the main costs. Companies face a decision that may affect their competitiveness on the Polish and global markets. Appropriate preparation of a well-developed strategy and the definition of a concept for heat and power supply can be a key step in further development of the company. Adaptation to new requirements is not obvious or simple, and a possible mistake may determine the future of the company on the market.

Faced with regulatory changes and the associated market challenges, **KPMG** has created a **multidisciplinary team** of **engineers, financiers, economists** and **energy sector professionals**. With access to KPMG's international resources, we have at our disposal a global set of data and solutions used by companies that have already undergone or face energy transformations, strategy changes or verification of their assumptions.

## KPMG Advisory services

### Strategia energetyczna

- Macroeconomic analysis and regulatory conditions affecting energy and fuel costs
- Review of assets, including evaluation of current structure of the Company's demand for heat and electricity
- Analysis of available variants and technical solutions and estimation of necessary investment outlays, economic and environmental effects
- Detailed analysis and estimates of economic effects, proposal for a technical concept and investment schedule
- Analysis of available sources of financing, including grants



### Compensation for energy-intensive industries

- Presentation of the market situation
- Determination of the amount of compensation
- Filling in the application for compensation



### Support schemes

- Review of processes and planned investments in terms of the possibility of using existing support systems
- Review of existing regulations and conduct of workshops on selected funding schemes
- Collection of required data and filling in the application form



### Energy Audit

- Analysis of existing generation equipment and its parameters, including the heat and electricity distribution system
- Determination of heat and electricity demand, divided into external market and own needs, together with forecasts
- Evaluation and verification of internal policies Identify additional areas for improving energy efficiency
- Analysis of available sources of financing, including grants

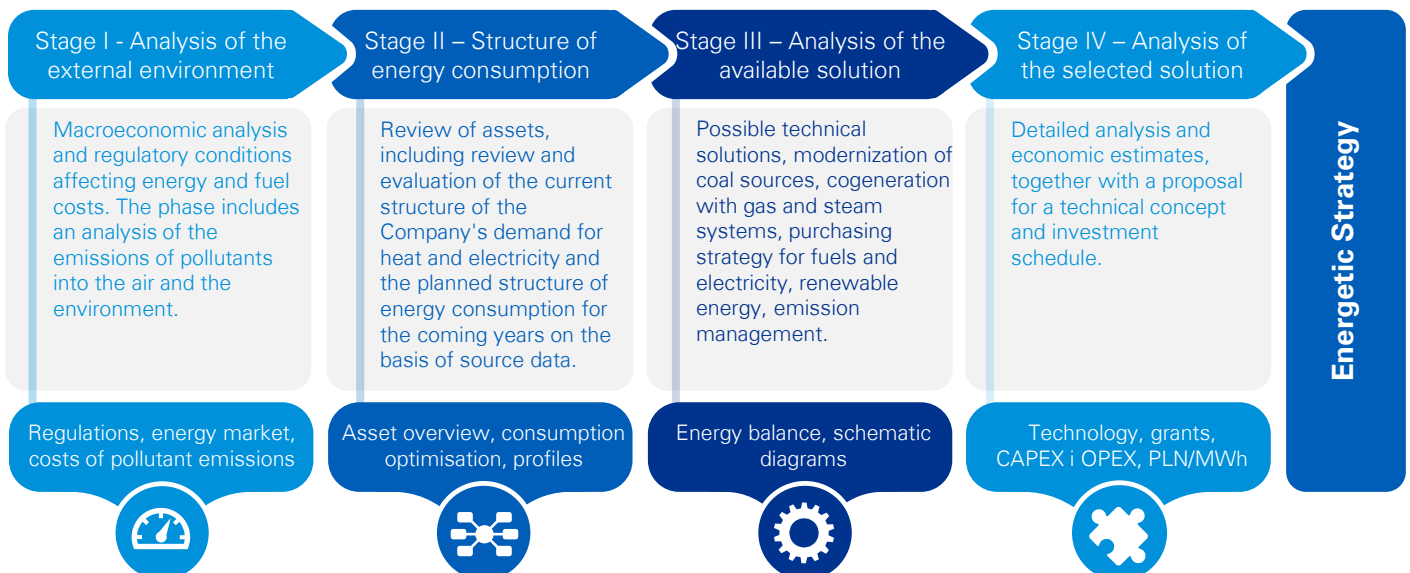


### O&M costs

- Verification and analysis of production maintenance costs
- Implementation of processes allowing to minimize the costs of modernization, repairs and downtime
- Implementation of state-of-the-art and tailor-made Predictive Maintenance solutions



## Stages of KPMG's energy management strategy projects



KPMG's services are particularly promoted for entities which:



We propose a meeting where dedicated KPMG Team will present the current situation on the energy market. At the meeting, technical experts will present available technologies and market solutions to meet the needs of your company, we will present the experience of the team.

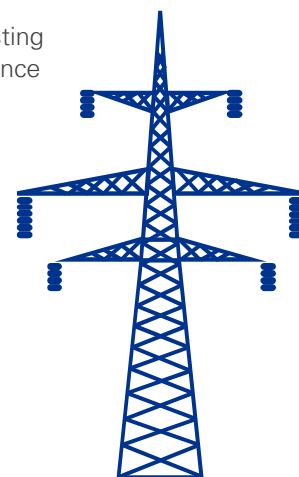
## Why KPMG?



For each client we create an interdisciplinary project team, consisting of specialists with knowledge and experience in engineering, finance and regulations, with particular emphasis on the energy sector.

The synergy of technological solutions of our partners with the knowledge and experience of KPMG experts, allows us to provide a wide range of solutions, follow market trends and regulatory changes.

Within the energy and audit sector, KPMG experts are involved in producing publications and reports analyzing the situation of firm, for which energy is one of the main costs of doing business.



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