

Maksym Pashkuda, Graduate Student
State University of Trade and Economics
Kyiv, Ukraine

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**PRICE FORMATION FOR ELECTRICITY SUPPLY
COMPANIES IN MODERN CONDITIONS:
ANALYTICAL ASPECT**

The effectiveness of achieving the goal of balancing the volumes of electricity production (hereafter EE) and the volumes of its consumption due to the introduction of the EE market was proven by the uninterrupted functioning of the specified market in the first days after the beginning of the russian aggression.

A day before the start of the active phase of the war – the so-called "day-ahead" market (hereinafter DAM) -165666.8 MWh were purchased on the spot market. This shows that the business did not wait for the start of the war. The shock reaction of the market to the fact that the energy system of the country began to work in isolation from the energy systems of Russia and Belarus from 24.02.2022 was significant price volatility and a significant decrease in the volume of sales in the period until 27.02.2022. According to the decision of the National Commission for State Regulation of Energy and Public Utilities (NCSREPU), the minimum price restrictions on the electricity market were raised and the price restrictions on the intraday market (hereinafter IDM) were left. This led to the stabilization of the market, supported electricity producers during the crisis and proved the effectiveness of market price formation even in an emergency situation.

At the same time, according to the Minister of Energy G. Galushchenko, for the period from February 24, 2022, the level of

settlements on the EE market deteriorated by 30%. According to opinion polls, a significant number of consumers (this applies to both the population and industry) point to the high prices of EE as the main reason for this.

The weighted average prices for the IDM at the EE market in Ukraine during the same period were UAH 2,740.78/MWh, which is also lower than the price level of EU countries by 55.5–55.7% [25]. For example, for Slovakia, the weighted average price of EE at IDM for this period was 6158.34 (OEC/SK -55.5%), and for the Czech Republic, respectively, it was 6187.57 (OEC/CZ-55.7%) [1].

Electricity market trading takes place through the electronic exchange trading platform of Ukrainian Energy Exchange LLC (hereinafter UEE LLC). "UEE" LLC is a commodity and raw material exchange that has significant long-term trading experience in the energy markets of natural gas, oil products, coal and other energy resources. With the introduction of ex-change trading, a new type of criteria for influencing the formation of the price of electricity as a product of electricity supply enterprises appeared. Conventionally, we will call this type of influence criteria "exchange". The EE price offer on the exchange is formed by three components: marginal costs, "no-load" costs and "loading" costs. The offer is accepted at marginal costs, but there are also price premiums for manufacturers to cover costs. The need for an exchange balance of supply and demand in real-time trading and the need for risk hedging by exchange trading parties require a strict definition of time limits for trading in electricity as a commodity.

Different trading time limits are determined by different goals pursued by the bidders. The long-term limit provides hedging of risks and guarantees the return of capital investments. The short-term limit is focused on maximizing sales revenue and minimizing electricity purchase costs. Real-time trading ensures the balancing of electricity production and consumption.

Different trading time limits are also a criterion for choosing exchange instruments for EE seller companies and EE consumer companies. Futures and forward contracts are used for long-term trading. In short-term (or spot) trading, buying and selling are carried out according to the conditions of DAM or IDM. Under the conditions of IDM, the buying and selling process is stopped in the time interval from one hour to 5 minutes before the moment of physical delivery of electricity. The balancing market provides instant electricity supply with settlement after delivery.

In this way, the "exchange" criteria provide a balance of the interests of EE-selling enterprises and their buyers by market methods, provided that the necessary level of profit of EE-selling enterprises is formed and their costs are covered. At the same time, exchange trading forms a proper balance of production volumes and EE consumption volumes at different time intervals – from long-term to real-time taking into account the balance of interests.

In order to establish the conformity of the level of prices for electric energy, a comparative analysis was performed with prices in the countries of the European Union – Ukraine's closest neighbors, whose national GDP is close to Ukraine's GDP. To ensure the necessary level of rationality of the analysis, the criteria were stratified according to the types of their influence. An analysis of the influence of exchange, regulatory, technical and technological and other criteria and factors on price formation for enterprises in the energy sector was carried out. The impact of time intervals of market trades on the formation of the price balance, ensuring both the appropriate level of financing of energy enterprises and the interests of vulnerable segments of the population is detailed.

References:

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