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UKRAINIAN BUSINESS ELECTRICITY MARKET FUNCTIONING AND DEVELOPMENT ENHANCING PROBLEMATIC ASPECTS

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Черкасова С.О. Філіппова С.В. Проблемні аспекти підвищення ефективності функціонування та розвитку підприємств ринку електроенергетики України.

Визначені основні проблемні аспекти підвищення ефективності та розвитку підприємств ринку електроенергетики України в сучасних умовах його реформування. Виявлені перспективні напрямки вдосконалення організаційно-правових та економічних засад управління в електроенергетичній галузі з метою забезпечення підвищення ефективності виробництва, передачі, розподілу та постачання електричної енергії, надійності постачання та подальшого розвитку конкурентного середовища в умовах реформування оптового ринку електроенергії в Україні.

Ключові слова: оптовий ринок електроенергії, електроенергетична галузь, ефективність, функціонування, потенціал, розвиток

Черкасова С.А. Филиппова С.В. Проблемные аспекты повышения эффективности функционирования и развития предприятий рынка электроэнергетики Украины.

Определены основные проблемные аспекты повышения эффективности и развития предприятий рынка электроэнергетики Украины в современных условиях его реформирования. Выявлены перспективные направления усовершенствования организационно-правовых и экономических принципов управления в электроэнергетической отрасли с целью обеспечения повышения эффективности производства, передачи, распределения и снабжения электрической энергии, надежности снабжения и дальнейшего развития конкурентной среды в условиях реформирования оптового рынка электроэнергии в Украине.

Ключевые слова: оптовый рынок электроэнергии, электроэнергетическая отрасль, эффективность, функционирование, потенциал, развитие

Cherkasova S.O. Filippova S.V. Ukrainian business electricity market functioning and development enhancing problematic aspects.

The main problematic issues of efficiency and development of the enterprise of Ukraine's power market in the present conditions of its reform are defined. Promising directions of improvement of organizational, legal and economic principles of governance electricity sector in order to ensure efficiency of production, transmission, distribution and supply of electricity, security of supply and further development of the competitive environment in terms of reforming the wholesale electricity market in Ukraine are defined.

Keywords: wholesale electricity market, electricity industry, efficiency, functioning, potential, development

The intensification of processes of modern market reforms in Ukraine's economy acquires the special actuality under conditions of the power industry reforming with substantial reasons for its high level of organization, hard material connections and exceptional importance for the functioning of the whole country. Nowadays this field represent a basic industry of the national economy, the effective functioning of which is a necessary condition for the stabilization of the economy structural transformation, meeting the needs of the population and the social production of electrical energy. From a reliable and stable functioning of the industry is largely dependent the economic condition and level of energy security.

Unfortunately, it should be noted that the current situation related to the reform of the electrical power market of Ukraine and denationalization of its generating capacity, with the influence of other factors led to the problem of ensuring economic stability and sustainable development of the national electricity market with the increase in their efficiency of operation and further development of modern market conditions.

Analysis of recent research

Necessary to note is that despite the large number of scientific works of Russian scientists such as M. Voropay, V. Okorokov, B. Papkov and Ukrainian scientists O. Kuzmin, A. Shevtsova, A. Prakhovnik, G. Voronovskiy, E. Krykavskiy, V. Barannik and many others dedicated to the researched problems of reforming the Ukraine energy system still remains unresolved a range of issues related to the adaptation of the electricity market conditions to the modern concepts and innovative systems management (including marketing and logistics) associated with the solution of problems in the field of contractual relations participants in the electricity market, field maintenance supplies, resources and facilities, the area of energy facilities infrastructure operation, the area of pricing reform in the national wholesale electricity market (WEM), which makes the chosen direction of scientific research relevant and promising.

The purpose of research

The purpose of the article is to identify modern problematic aspects aimed onto improving the efficiency and enterprise development of Ukraine electricity market in modern terms of its reform and identification of perspective directions for improving

organizational, legal and economic principles of management in the electricity sector in order to improve the efficiency of production, transmission, distribution and supply of electricity, reliability of supplies and further development of a competitive environment in terms of reforming the wholesale electricity market in Ukraine.

The main part

It should be noted that the Ukrainian economy is this one the most energy intensive in the world: per unit of GDP is spent up to 3-5 times more energy than in countries of Eastern Europe. This leads to increased pressure on the state budget due to the need to subsidize purchasing excessive amounts of energy, including natural gas, increased emissions, and creates problems for the economy competitiveness in the future, as the inevitable leveling domestic electricity prices with the world.

Spite of the fact that the sector of the Ukraine energy market has been reformed 16 years ago, when it was launched a radical reform to the development and implementation of legislative and regulatory basis that would facilitate the nomination of Energy to the forefront in the regions in terms of competition, the division types of activity and regulation based on market transformation and reform process of the wholesale electricity market in Ukraine continues, causes the appearance of problematic situations in the current state and further development.

That was due to the influence of many factors, including:

- some developed rules have not been completed (e.g. rules concerning credit coverage);
- wholesale electricity market envisaged implementation of numerous the technical and economic measures, but these ones have not been implemented (in particular, it concerns accounting, software for functioning market operator and system operator, improving flexibility of thermal power plants);
- political and economic situation in Ukraine and in the electricity sector did not allow moving to more competitive pricing in the wholesale market, which would provide the basis for its normal functioning;
- payments crisis in the energy market led to underfunding of generating sector and discredited competitive electricity markets.

Although to date the Ukraine has unique energy reserves capacity to produce electricity, but these capacities' ability to provide a stable economy electricity is limited with a number of problems:

- moral and physical deterioration of capital assets to electricity (about 80% of assets and 60% of TPP assets energy distribution companies completely depreciated) due to lack of state funds and the unattractiveness of the industry to private investment;
- low efficiency of the production and transmission of electricity (energy consumption in generating a 35% increase, and the level of costs in the transfer in 2 times higher than in the OECD countries);

— critical financial and economic conditions of thermal generation companies and energy distributing companies, having large debts between economic energy.

There are some reasons for such problematic situation in the electricity sector in Ukraine:

- opacity and inconsistency of regulatory policies, excessive administrative intervention in the market and its subjects lack of sufficient independence of the regulator;
- many distortions in pricing and tariff setting in the electricity market (economically unreasonable rates for production and transmission of electricity, the practice of cross-subsidies between consumer groups and consumers among different branches). These distortions do not create the right economic incentives for both producers and consumers to improve energy efficiency;
- contradiction between the "Energy Strategy of Ukraine till 2030" [1] and the latest trends in the economy of Ukraine [4] (in the current strategy emphasizes increasing electricity production rather than improving energy efficiency);
- lack of a competitive market of coal for thermal energy;
- low efficiency of asset management, which are state-owned.

Thus, problems that hinder the effective functioning of the wholesale electricity market in Ukraine, are mostly related, often having common causes, which mainly involve not only processes of its national wholesale electricity market as direct macroeconomic level management and regulation.

Unfortunately, to be noted is that the current model of the wholesale electricity market was unable to achieve effective competition between producers and did not provide pricing that would reflect the true costs of electricity supply.

Additionally, evident is that attempts to adapt market rules to solve certain operational issues led to overall growth regulatory effects, strengthening centralized management and reduce competition and efficiency.

At the same time, these measures do not solve the investment problems and the need to create incentives to improve the functioning and development of power generation and energy supply companies that form the current structure of the domestic wholesale electricity market.

Thus, the electric power industry of Ukraine, which in 1996 was the leader of market reforms in the region, is far behind other countries in the modernization of generating companies now, and from the point of view of the legislative, competitive and regulatory structures.

Summarizing, it can be concluded that the development of the competitive environment in the modern domestic electricity market and transition to a new model of its operation inhibit a number of problems of system nature, which may include:

- excessive deterioration of capacity and energy infrastructure, the corresponding need for their

technical and technological modernization of modern criteria (industrial productivity, energy spending and environmental safety) and the lack of the necessary funds;

- lack of competition in the markets of primary energy (natural gas and coal);
- lack of implementation of the export potential power (caused by pretty weak integration of interconnected energy EU);
- presence of significant receivables and payables on the energy market of Ukraine;
- cross subsidization of some categories of consumers at the expense of other (relative to subsidize residential consumers);
- dependent regulator National Electricity Regulatory Commission of Ukraine (NERC) from the influence of political factors (for tariff setting and distribution of funds).

The main problems of public administration and regulation of the functioning and development of the national electricity market include:

- deficiencies in the development and implementation of activities within the operation and further development of the WEM (which can include excessive administrative intervention by the state, an inadequate system of contractual relations between market players, lack of market support services, lack of procedures' transparency for electric energy export and transit and so on);
- imperfect system tariff (for services to transfer electricity from centralized control and regulation, etc.);
- deficiencies in the business entities (high electricity losses in the grid);
- failure requirements of the European Charter (principles of liberalization and "non-discriminatory" access to the electric networks).

So, in order to solve the above identified problems related to the reform of the domestic wholesale electricity market at the present stage of fundamental importance is the development and practical implementation of complex interrelated organizational, legal and economic measures as part of the long-term development strategy of the national wholesale electricity market from the position of protecting national interests and create favorable conditions for innovation investors, in accordance with the Concept of WEM in 2014 [5], which include:

1) The privatization of electricity enterprises as one of the necessary conditions for liberalization of relations and increasing competition in the wholesale electricity market. It should be noted that the implementation of privatization in the power state should decide in advance so that companies should leave their property to ensure the stability of the electricity sector, its development strategy, the required level of energy. That, first of all, must be the basic power plant regulating hydroelectric power and hydroelectric pumped storage, interstate and main power line, and some large power station.

2) Selection of optimal model of the wholesale electricity market. The current wholesale electricity

market of Ukraine is based on a model of a single (monopolistic) state wholesale buyer (seller) of electricity - the only wholesale supplier, which today blocks the development of market mechanisms in the WEM.

The concept of reforming the Wholesale Electricity Market of Ukraine envisages a gradual transition from the current system to the model of bilateral contracts with balancing market, which is most widely used in the world lately.

The main directions of change, which are subject to detailed design and implementation of reforms in the WEM should include:

- adjustment of organizational structure and systems contracts ORE;
- improving pricing;
- transition from administrative intervention to regulatory control;
- improving energy external relations;
- improving the legal and regulatory framework.

So reorganized electricity market of Ukraine eventually would include the following main segments:

- direct commodity market supply of electricity based on bilateral contracts of sale of electricity between producers of electricity (TPP, TPP, NPP) and suppliers and / or consumers (such contracts may be concluded on the Exchange and the OTC market);
- balanced market (market deviations fact the plan) of the electricity as a mechanism that ensures the pleasure of actual needs of consumers of electricity by adjusting in real time the volumes under bilateral contracts and sales at spot market (auction);
- market system (auxiliary) services as services provided to participants in the wholesale market on a competitive basis to support reliable, given the quality of power supply to customers (commercial accounting electricity market monitoring and so on).

At the beginning of the reform there should be created an automated system of differentiated electricity metering and data exchange that allows real-time delivery monitor each kWh in Ukraine in line with international standards. There should be created and introduced the system of all elements of a balancing mechanism.

3) Revision mechanisms of pricing and tariff setting. Nowadays the producer prices for electricity supplied to the market and the wholesale market price are determined by the Rules of WEM. In accordance with the market price determined are hourly purchase electricity produced by thermal power plants that operate under the price bid. At the same time the tariffs for electricity generation by nuclear power plants, hydroelectric power plants and CHP are established by NERC. The cost of electricity purchased at WEM, defined as the weighted average cost of electricity of thermal and nuclear power plants, hydroelectric plants, thermal power plants and other businesses that sell electricity in the WEM.

Wholesale market price of electricity is formed on hourly basis based on payments for electricity, importing electricity company that provides supervisory control and IPS transmission of electric energy transmission and interstate power grids, and other economic entities that are eligible to receive funds according to law.

After the introduction of the new model WEM basic relationships sale of electricity will be bilateral contracts between producers and suppliers or consumers. Amount of electricity specified contracts must be recorded in the market operators.

4) Developing the export market of electricity. It should be noted that the increase in exports of domestic electricity is only possible when the national union with the European energy grid (USTE / CENTREL), which in turn requires its modernization (development of technical possibilities for export and reserve capacity, stabilization of the power system and etc.) while ensuring certain foreign works in a highly competitive and unquestioned compliance with all requirements of the participants euros energy system [2, 6].

5) Improving the legal and regulatory framework. The main legal and institutional frameworks that determine the overall operating conditions existing models WEM defined by the Constitution of Ukraine, the Law of Ukraine "About Electricity" (with changes and amendments) [3] Decision of the Constitutional Court of Ukraine on February 12, 2002 № 3-рп/2002 (case of electricity), normative acts of the President of Ukraine, the Cabinet of Ministers of Ukraine, the National Electricity Regulatory Commission of Ukraine.

Accordingly, in the framework of the Concept and Development WEM necessary is to improve the regulatory framework and functioning of the electricity market relations in the field of adoption of wholesale market operation new rules, in implementing these changes:

- in the mechanisms of pricing and tariff on WEM;
- improve licensing procedures;
- changes in the organizational structure of the wholesale electricity market;
- practical implementation of measures to address the problems of debt and ensure full current payment;
- implement changes to tax regime;
- Approval Code electric (transmission and distribution) systems;
- implementing rules and requirements for commercial electricity metering, monitoring market of bilateral contracts and balancing market;
- developing rules for market support services;
- implementation of customs clearance and other issues related to export, import and transit of electricity, etc.

Thus, under present management conditions one of the urgent tasks for the Ukraine's energy policy is to resolve the problem of improving the domestic electricity market as from a position of economic

efficiency, as well as from the perspective of energy security and the introduction of effective mechanisms of their governance and regulation. Promoting energy efficiency through price signals and increasing the competitiveness and reliability of the electric power industry are the main objectives of the economic reforms' program in the energy sector.

Among the strategic objectives of the national economy of Ukraine and strengthening the foundations for economic growth should be holding deep qualitative changes in the energy sector and effective energy policy through appropriate tools.

Nowadays the energy policy of Ukraine is at a crossroads, with both challenges in the energy sector, and significant untapped potential for energy efficiency and energy conservation, especially in the industrial and residential sectors. However, this potential remains largely untapped and not taken into account in current energy policy. Raising the priority of energy efficiency measures Ukraine could obtain significant energy savings, especially as to the natural gas. However, this transition should be based on the design and implementation of a comprehensive strategy should include operation of domestic energy resources, infrastructure modernization, expansion approaches for improving energy efficiency, promoting the efficient market reform and good governance and regulation.

Conclusions

Therefore to create really competitive electricity market in Ukraine becomes an essential tool in identifying real, economically feasible electricity prices for end consumers, as part of the reform of the electricity market to develop and implement a set of interrelated activities from liberalization of fuel reforming and heating mechanisms of pricing and tariff for heat, reforming housing and communal services and the like. This reform of tariff in power is caused by a whole set of complex factors and requires the development and implementation of weighted economic mechanisms to address the profitability of businesses and problems of social losses due to rising energy prices.

On the path of these transformations one of the urgent tasks of national energy policy is just the problem solving to improve Ukraine's energy sector implementation in accordance with the practice of effective mechanisms for their governance and regulation, because it is imperfect governance and regulation in the energy sector led to what is still inside Ukraine's energy markets are not competitive, because none of them guaranteed free choice of contractors, and the action of market pricing mechanisms leveled almost common centralized administrative intervention, and this situation needs to be addressed for constructing such a regulatory framework that would ensure the most efficient operation players modern energy, which can be defined as the prospects for further research identified research topics.

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