

Improving the Management Efficiency of Enterprises in the Electric Power Sector

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Abstract: This scientific article examines the reforms carried out to improve the management efficiency of enterprises in the electric power sector and their results, existing problems in the network, problems in the regulation and management of the electric power sector and gives suggestions and recommendations on ways to eliminate them.

Keywords: control efficiency, control mechanism, power generation, competitive environment, energy resources, energy facilities, thermal power plant, thermal power centers, alternative energy sources.



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Introduction. Management efficiency is usually determined in terms of enterprise efficiency. A number of organizations regularly pay dividends to experienced managers so that they do not suddenly go bankrupt. This indicates that the annual profit that shareholders receive is not an adequate indicator of corporate efficiency and that better measures are needed. The motive for this study came from the analysis of the activities of large and small enterprises of the Republic of Uzbekistan. The results of the analysis from the study revealed a number of facts.

On the other hand, while management as a whole has done action and "right things" in recent management theories, too many businesses that have gone bankrupt or cause negative benevolence are also encountered. There are also cases when a market economy can be characterized as unnaturally functioning enterprises. An example of this is the field of electricity, which is currently included in the fields of natural monopolies in the Republic of Uzbekistan. Being a natural monopoly sector, it is considered to have a high tendency to work with unskilled employees, not paying enough attention to customer service. They have neglected planning for many years, and there have been cases of electricity use even though 1/4 of their customers do not pay a fee at all for the services provided.

The effectiveness of economic activity largely depends on the structure of Management, which is organized taking into account the nature of the network or industry. Given this important theoretical rule, from the very beginning of the independence of our country, great attention has been paid to the issues of improvement through the reorganization of economic management structures of various industries or industries. As a result, "the timely measures of the Republican leadership for the radical reform of the structural structure of the management of the economy received a state of loss of control of the economy, which occurred in several former Union countries, allowed to be taken, the government held in its hands the levers affecting economic processes within the country and in its foreign relations. Our country has not only managed to maintain the production potential accumulated before, but also to develop it in the future.

"As a result of the state support of the electricity sector for many years, several problems arose in the

industry. These and other observations led us to solve the question of the correct calculation of management efficiency. When calculating the effectiveness of the activity of the industry, it is also important to calculate its management efficiency. If the activities of the industry or enterprise are effective, then it is not necessary to check the result of correct or incorrect management. Thus, it is important to distinguish the effectiveness of management from the efficiency of the enterprise. In our opinion, to determine the effectiveness of management, it is necessary to use a balance approach. To do this, we propose to focus on six issues, five of which are management functions, and the sixth is the results achieved by the enterprise.

Analysis of thematic literature. The management process of enterprises in the electric power sector will be largely periodic (cyclical) in nature. It begins with setting goals and objectives, and ends with completing them, that is, achieving certain results. Based on the information received about the results (the level of achievement of the goal), new tasks are set, and the management cycle begins again. The number of such cycles is several, which in the first place are represented by the peculiarities of the control object and other indicators.

In practice, for various reasons, production may deviate from the specified parameters, while management may not achieve the set goal. In such cases, deviations are removed by operative regulation and the normative functioning of the production process is ensured.

N. on the reforms carried out in the electric energy sector of our republic. Yusupova[1], L.A. Sokolova[2], A.G. Scientists such as Nuriddinova[3] conducted scientific research. Most of their scientific research work is aimed at eliminating problems and shortcomings in the field of electricity.

The group of countries for the production of electricity in the world is located as follows: South America, Western Europe, Asia, CIS countries, Latin America, Africa, Australia. While developed countries produce 80% of the total electricity, developing countries make up 20% [4].

RES is an option both to ensure energy security and for sustainable development. Renewable energy is commonly defined as energy generated from solar, wind, geothermal, tide and wave, wood, waste, and biomass. The energy produced from RES plays an important role in decreasing energy insecurity, contributing to energy security, and diversifying energy consumption. Used principally by the electricity sector to decrease shortages and lack of access, a significant expansion in renewable energy has been encouraged by technological advances and the reduced costs of transportation and communication [5].

Renewable energy already supports thousands of jobs in the United States. In 2016, the wind energy industry directly employed over 100,000 full-time-equivalent employees in a variety of capacities, including manufacturing, project development, construction and turbine installation, operations and maintenance, transportation and logistics, and financial, legal, and consulting services [6]. More than 500 factories in the United States manufacture parts for wind turbines, and wind power project installations in 2016 alone represented \$13.0 billion in investments [7].

The use of renewable energy sources is especially relevant for Alaska. Over the past two years, 66 projects have been implemented, thanks to which about 30 million gallons of diesel fuel have been saved. As you know, the electricity costs of rural Alaska residents are among the highest in the United States. In just three years, the wind farm eliminated the need to use 3 million gallons of diesel fuel in Kodiak. The development of renewable energy occurs only thanks to state support. In the future, it is planned to receive 50% of electricity from renewable energy sources by 2025 [8].

There have been relevant studies on China's energy transition. Literature [9] researched and put forward the decision-making ideas for China's high proportion of renewable energy development goals, and considered that high proportion of electrification and high proportion of non-fossil energy power generation are two major characteristics of the future energy system. Literature [10] analyses some challenges faced by China's energy transition in terms of synergistic value of carbon reduction and haze control, system construction, and development awareness. Literature [11] thought that to achieve the strategic goals of efficient, safe, clean, and low-carbon energy development, it is

necessary to accelerate the reform of the energy system and market mechanism, change the development concept, conform to the trend of world energy reform, and enhance the competitiveness of low-carbon development. Literature [12] systematically analyses the historical role, practical role and future position of global fossil energy and clean energy, reveals the objective law of energy development, and deeply points out that clean energy replacement and electricity replacement will become the inevitable trend of global energy development.

Today, it forms the basis of the country's economy. In the economic development of the Republic of Uzbekistan, effective use of oil and gas resources, application of innovations in the fuel and energy complex, and use of modern technologies in the field are considered necessary. Therefore, it is important to organize innovative management in the activities of enterprises in the oil and gas industry as the main direction of increasing the efficiency of the oil and gas industry in the economy of Uzbekistan. Based on this, it is important and urgent to study the possibilities of using external and internal resources in order to improve the management of enterprises in the oil and gas industry. [13]

The existing problems and shortcomings in the electricity sector or the ongoing economic reforms in this sector will certainly have a negative or positive impact on other sectors. Because without electricity, no industry or network can plan its future. In this regard, a number of resolutions and decrees of the President of the Republic of Uzbekistan have been developed to radically reform the electricity sector. [14]

Therefore, taking into account the existing technical capabilities of renewable energy sources, it is necessary to determine their place in the current and future energy balance of the country. Until now, there is a lack of sufficient theoretical and scientifically based information on renewable energy sources in the production sector, including experiences on the use of solar, wind and organic waste energy. [15]

By regulating and effectively managing the energy sector, it is possible to ensure the growth of the entire national economy and the development of the rest of the sectors. To do this, it is necessary to widely use the experiences of advanced foreign countries in the adoption of laws and decisions on the development of the energy sector. [16]

In the sustainable development of the country's economy, there is always a need for uninterrupted (regular) and quality electricity supply. In particular, the simultaneous supply of electricity to the production, service and infrastructure sectors is a complex technological process. Because the demand and supply of electricity occurs at the same time. There is always an increasing demand for electricity from all sectors and sectors, but the possibility of regularly supplying all sectors and sectors with electricity at the same time creates complications. The growing demand for electricity in countries around the world is causing global problems in the economies of countries. [17]

The formation of competitive relations in the field of natural monopolies combines more complex and multifaceted problems. Many experts and scholars who study the problems of competition and monopoly express different views on the problem of competition, but they do not give a clear definition of the term, there is no fixed model of defining the relationship between enterprises or organizations as competitive, clear formulas affecting efficiency also not developed. [18]

The problem of energy security is determined by the uneven distribution of natural fuel and energy resources on earth and the regional disparities between energy-consuming and energy-producing countries in the socio-economic development of countries. Within the framework of energy security, countries are divided into two groups. In the first group - energy-exporting countries, that is energy-producing countries, in the second group - energy-importing countries, that is energy-buying countries. Countries in both groups strive for economic development. [19]

Energy security and energy efficiency are the main strategic goals of any state energy policy. In increasing the energy security level, it is necessary to include in the main components of the state energy policy: the introduction of an effective management mechanism in the use of resources extracted from the subsoil in the country's territory; constant conduct of structural changes in the

energy sector; organization of the fuel and energy market on market principles; formation of a rational fuel; development of modern scientific and technical policy in the energy sector; formation of a competitive environment in the regional energy market and a regulatory framework in which international standards are compatible. [20]

Companies operating in the electric energy sector of developed countries are constantly improving their traditional management mechanisms in order to have their own consumers in the electric market. In particular, long-term strategies for the development of the industry are being developed, incentive mechanisms for electricity prepayment are being introduced, programs based on effective innovation ideas are being developed in the field to improve the Access System of capital investments and customer service. [21]

In market conditions, it is important to increase the efficiency and assess the effectiveness of electric power enterprises. It allows you to select optimal ways and mechanisms of Strategic Management in time to identify errors and calculations in the management system and optimize the expenditure of financial, labor resources. Therefore, the effectiveness of management can and is a prerequisite to be assessed based on the results of the work of the management system. This allows the company to improve and provide management savings. Of particular importance is the fact that the effectiveness of economic activities largely depends on the quality of the work of the management apparatus and the effectiveness of the decisions they make.

Research methodology. The article makes extensive use of scientific study, comparative comparison, statistical data study and economic comparison and analysis, logical reasoning, scientific abstraction, analysis and synthesis, induction and deduction methods of existing problems in increasing the efficiency of management of the electric power sector.

Analysis and results. In the production of electricity, of course, the demand for energy resources is important. The higher the potential for generating electricity in the development of the country's economy, the higher the development of the industrial sector in the economy. The failure of these tasks in the sectors of the economy leads to the fact that the socio-economic development of the country is inevitably hindered. The forecast dynamics of electricity generation and consumption up to 2030 is shown in Figure 1.

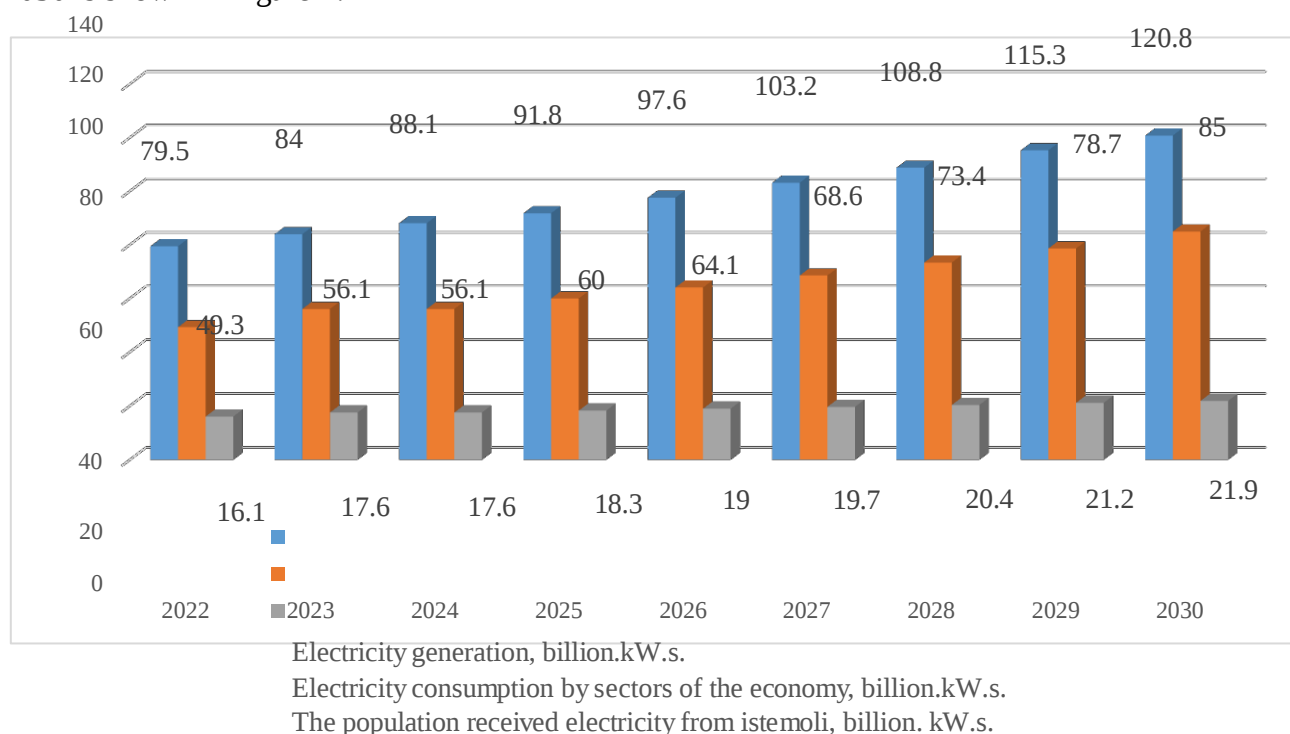


Figure 1. Forecast dynamics of electricity generation and consumption up to 2030, mlrd.kVt.ch.

Source: data on the concept of electricity supply of the Republic of Uzbekistan in 2020-2030.

In this case, the production of electricity in 2022 amounted to 79.5 billion.kW.the power consumption by the clock, by sectors of the economy, is 49.3 billion.kW.the clock, the electricity consumption of the population in 2022 was 16.1 billion.kW.the forecast for the clock is that by 2030, electricity generation will be 120.8 billion.kW.the power consumption by the clock, by sectors of the economy, is 85 billion.kW.the clock, the population's electricity consumption is 21.9 billion.kW.it is projected to make up the clock.The results of the forecast conducted by JSC" thermal power plants " are shown in Figure 2 of the production forecast indicators for the period 2022-2026 by the IES and IEM under the jurisdiction of the society16000

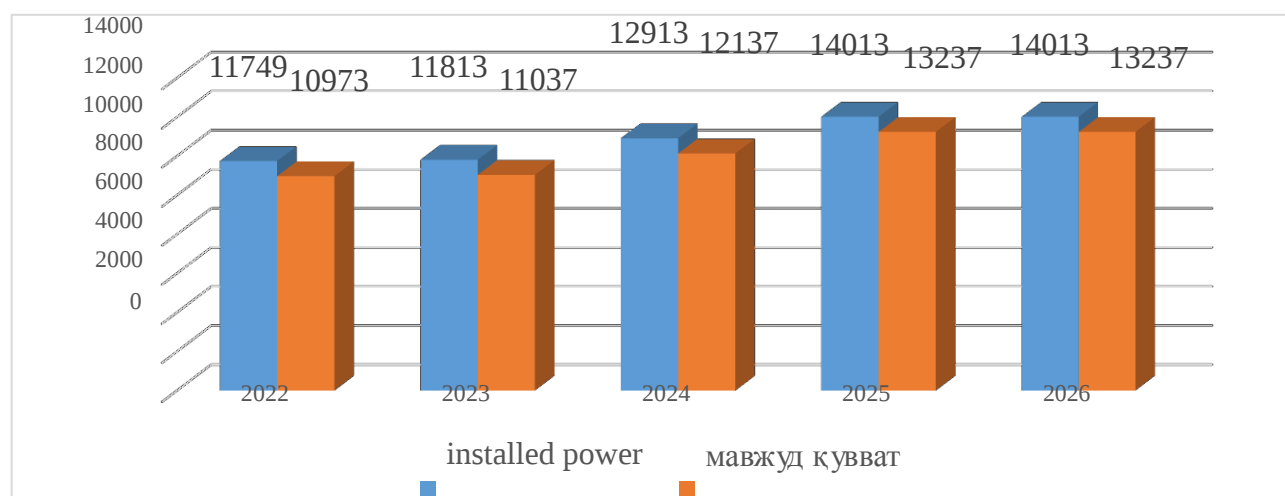


Figure 2. Production forecast indicators by IES and IEM under JSC "thermal power plants", Mvt116

Source: JSC data" thermal power plants"

In terms of power generation by IES and IEM under JSC" thermal power plants", the installed power in 2022 is projected to be 11749 MW, the available power - 10973 MW, the installed power in 2024 - 12913 MW, the available power - 12137 MW, and in 2026 the installed power - 14013 MW, the available power - 13237 MW. If we take into account that in 2021, the installed capacity in IES and IEM under JSC" thermal power plants " was - 11329.5 MW, we can expect an increase of 2683.5 MW by 2026.

The introduction of equipment, equipment and technology into enterprises in the electric power sector can be carried out in a number of directions:

- 1) acquisition by the owners of the enterprise or their authorized representatives;
- 2) acquisition and transfer to the enterprise by the network or other authorized state management agencies;
- 3) inclusion by a national or foreign partner in the form of contributions (share, contribution, pay, etc.), etc.

In achieving success in the development of the network of electroenergetics, it is considered important to further improve legislation based on the objective goals of its state regulation.

It can be seen from this that today the activities of JSC" thermal power plants " are carried out in the form of an integrated corporate structure. The organization of the economic management and management system in the electroenergetics network in our country in the form of integrated corporate governance can be explained by the following reasons:

1. A joint-stock company is the most suitable form of Joint-Stock property management for large enterprises with a long-term goal. "This is determined by the fact that joint-stock investment allows the enterprise to widely attract investment resources, which are extremely necessary to expand production by selling securities (Shares) in stock markets. Another advantage of this form

is that there are no restrictions on the content of participants (shareholders), the amount of the share in the authorized capital, as well as the fact that shareholders do not respond on the obligations of the society. The share form of ownership has led to the development of joint-stock companies (corporations and their integrated structures) in Uzbekistan".

2. It is known that keeping the bulk of the package of shares in it in the state share, taking into account the strategic importance of sectors of the economy, is one of the important rules in management practice. Accordingly, the electroenergetics network was considered an important, strategically important branch of the national economy, and by nationalizing and privatizing property in networks of significant socio-economic importance in our republic, State Joint-Stock companies were created, the bulk of which were state-owned.
3. The organization of the electroenergetics network on the basis of high efficiency according to its production and technological characteristics assumes the foundation of various forms of ownership and business. Accordingly, the nationalization and privatization of property has led to the emergence of various ownership-based economic structures on the network, which can be relatively successfully organized in a corporate system, which has a superior integration of management tasks on the basis of a unified industrial policy. Because in most cases, the organization of network production in the form of enterprises based on different forms of ownership is an important condition for the realization of various economic interests.
4. In order for the electroenergetics network to be competitive at the national and international level, it is necessary to regularly update and improve the production processes in the network, develop quality energy resources, update the material and technical base. This requires a large amount of financial resources, and today the most convenient form of attracting funds is joint-stock companies.

Our scientific analysis shows that the effectiveness of management is achieved in many ways with the help of interaction on the goals set before the company and the tasks to be performed.

In our opinion, the goals of managing JSC" thermal power plants " can be classified into the following types:

according to the implementation period-current and promising;

according to the degree of importance – primary and secondary;

according to the attitude to the object of management-private and general;

according to the degree of achievement of the result-final and intermediate or phased.

The study states that strategic management of human resources is linked to the development and implementation of strategies related to personnel, these strategies are combined with corporate strategies and ensure that the culture, values and structure of the organization, as well as the level of training of its members, their motivation and commitment are fully conducive to achieving the organization's global Goals.

As a result of modernizing production capacities in the network in competitive conditions, it allows you to improve flexible pricing policies in market conditions, carry out Marketing Research in the energy market, provide the population with electroenergy, and choose a network business strategy. The high availability of energy in the electroenergetics network is largely determined by the obsolescence of production funds, equipment failures, imperfection of technologies.

One of the problems in the development of the network is to reduce the effect of energy efficiency on the increase in costs in production. In a market economy, many large enterprises, in particular the electroenergetics network, also have funds that have exhausted their working capacity and cannot withstand the competition of market economy conditions. From the above considerations, it can be seen that the organizational and economic basis for the formation of a corporate management system in the network of electroenergetics of our country is increasingly improving, which in turn also has a

positive effect on the efficiency of network production.

Conclusion. It is advisable to carry out a number of tasks to improve the management efficiency of the electric power sector of the Republic of Uzbekistan. Including:

modernization or decommissioning of spiritually and physically outdated energoblocks in thermal power plants and thermal power centers in the country;

creation of solar (photo), wind and water (hydro) power plants, which are considered economical and environmentally friendly in modern energy according to the green space policy, which is a priority for the development of the electricity sector;

to reduce the amount of "natural loss" in the network by building new substations and reconstructing electrical networks in the supply of generated electricity through regional electricity networks;

on the basis of the gradual reform of the electricity sector, the sale of part of the shares of power plants to private investors and the creation of joint ventures based on the principle of Public Private Partnership;

In general, the consistent implementation of the proposals and recommendations determined on the basis of the results of the study will be instrumental in the increase in the management efficiency of the electric energy sector of the Republic of Uzbekistan in the future.

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