



WHAT DOES IT DEPEND ON TO ENSURE THE CONTINUITY OF ELECTRICITY CONSUMPTION

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Annotation. Electricity is becoming one of the urgent problems of today. It should be noted that it is impossible to imagine life without electricity. All technical processes from the production of electricity to the end of its delivery to the consumer are of great importance.

Keywords. Electric energy, consumer, problem, alternative energy, secondary energy.

Fundamental changes are being made in the energy sector of our country. In the past short time, the activities of the system on the basis of a number of decrees and decisions of the President aimed at the comprehensive development of the industry have been radically revised and become new [1-4].

Tasks such as ensuring energy security, safe and reliable operation of a single electricity system, satisfying consumer electricity needs and ensuring consumers' widespread use of territorial electricity networks, and reconstruction and modernization of energy generating capacities and power networks, attracting investments in development processes and introducing mechanisms are the main directions of state policy [5-8].

The decision of the president of the Republic of Uzbekistan dated August 22, 2019 "on rapid measures to improve the energy efficiency of the economic sectors and the social sphere, the introduction of energy-saving technologies and the development of renewable energy sources" was adopted. According to it, further development of renewable energy sources is determined, bringing their share to more than 25% of the total volume of electricity production by 2030. Currently, this figure is 10-12 percent. In order to achieve the desired result within the specified period, the Ministry of energy is taking practical measures, developing measures to put into practice large projects related to renewable energy sources [9-12].

Introduction of renewable electricity - essential for need



At the same time, one of the successful steps towards the transition to market relations in the energy sector is the implementation of energy, including QTEM production projects, in a public-private partnership. Today, this model has become the basis for all under construction and planned power plants. Thus, the commissioning of new power plants, in particular thermal, solar photovoltaic, wind farms, is in many ways an example of the changes that the country is undergoing in the energy sector [13-15].

Today, the International Finance Corporation, part of the World Bank Group, the Asian Development Bank, the European bank for reconstruction and development provide technical support for mastering the best international experience and conducting tenders. The winner of the Tender is responsible for the design, construction and operation of the new power plant. A long-term agreement is concluded with enterprises for 20-25 years on the purchase of electricity produced. A profitable price offer for electricity was made the main criterion for winning the tender. But before making their offer, the tender participants must go through the qualifying round. The purpose of this should prove their high experience, the availability of funds, the ability to carry out and provide such projects. As a result of this, the principles of the market in which the energy sector of Uzbekistan has been intensively introduced over the past 3 years allow to create healthy competition in this area, and the interest of independent producers of electricity is proof of this [16-18].

In turn, a total of 17 agreements have been signed on electricity procurement, which is one of the key steps in creating a competitive environment for the energy sector. Independent producers of electricity include TOTAL EREN CA (France), ABU DHABI FUTURE Energy COMPANY (UAE), ACWA POWER (Saudi Arabia).

In accordance with the decree of the president of the Republic of Uzbekistan dated March 27, 2019 “on the strategy for the further development and reform of the electric power sector in the Republic of Uzbekistan”, a project center was established under the Ministry of energy and it also works with international financial organizations. The center has attracted international experts who have gained a lot of experience in reforming the energy sectors of different countries. The issue of improving energy efficiency in the socio-economic sphere is the most pressing issue today. Currently, about 23% of energy consumption in the world falls on the housing sector, while in the Republic of Uzbekistan these figures are 40%. In particular, while



the energy consumption per 1 square meter in Europe is 120, 150 kilowatt hours per year, in Uzbekistan this figure exceeds 390 kilowatt hours. In the process of carrying out work on improving energy efficiency, in 2020, in exchange for the implementation of organizational and technical measures in the sectors of the economy, 1,352.4 million were received. cubic meters of natural gas, 917.5 million kilowatt-hours of electricity savings were achieved [19-21].

By 2025, it is envisaged to bring the power of the energy system to 25.6 gvt. In it, thermal power plants provide 18.8 GW, hydroelectric power plants – 2.5 GW, and solar and wind power plants reach 4.3 GW. Outdated devices are planned to be decommissioned one by one. The total production capacity as of 2030 is 29,200 MW. This is 2 times more than today's figures. As a result, the volume of electricity production in 2030 is 120.1 billion kilowatt hours. As a result of the work in this direction, by 2025 the task of bringing the capacity of the country's energy system to 25,600 MW, and in 2030-to 29,200 MW was determined. Renewable energy projects in Uzbekistan contribute to the implementation of the tasks set before the country's energy sector.

Why are power outages often observed?

There are several problems with the continuous supply of electricity consumption. In particular, the main cause of interruptions in electricity supply is caused by a sharp increase in electricity consumption as a result of cooling air temperature. At the same time, short-term interruptions make it possible to prevent large accidents in the system. This is because in any energy system, it is important that the energy balance between consumption and production is ensured at any time for its stable operation. This process is very important in terms of reliable and uninterrupted supply of electricity to consumers and ensuring the smooth operation of the energy system.

Providing an energy balance between consumption and production remains a daunting task, even in developed countries, when there is a sharp increase in the need for electricity (in cold weather in the hot summer season or in the harsh winter season). In doing so, it will force the introduction of restrictions on the supply of electricity to prevent major accidents and the disconnection of consumers from the supply of electricity throughout the country. When the process of balancing the energy system by the dispatch center does not provide in time, the “strain” on the system causes various large accidents, which leads to the fact that large-large areas do not have electricity for a long time. In cases where it is impossible to ensure the balance of energy, the dispatch department of enterprises of regional power networks



will be forced to impose restrictions on part of the consumers in accordance with the schedule of the plan. These graphs, as a rule, include low-voltage (0.4 kv, 6-10 kv) distribution electrical networks. These actions are aimed at preventing major accidents that can occur in the country's energy system. This allows for regular monitoring of electricity Day and night and timely response of dispatcher control [22].

An electric power system is a complex structure that includes thermal power plants that generate electricity, transportation of generated electricity through high voltage main power networks, electricity distribution networks, and consumers. The difference in electricity production from other industries and directions, as well as its peculiarity, is that the production, transmission, distribution and consumption of electricity is the only technological process that must be carried out at the same time, and at every moment it is an extremely important task to establish equality, balance between them [23-24].

We can also see that accidents occur as a result of situations such as a type character nonlinear connection in an electrical energy system, as well as large voltages to Transformers. In relation to this, the legislation defines the issue of liability. Article 169 (D) and (e) of the Criminal Code of the Republic of Uzbekistan shall be liable under Articles 1852, 2782 and articles 61, 100, 101 and 102 of the Code of administrative responsibility of the Republic of Uzbekistan.

To prevent serious systemic accidents in such cases, it is necessary to develop an energy system, increase its energy efficiency and improve the conditions for providing the system with energy resources.

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