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Prospects of the energy system in Uzbekistan

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Abstract

This article discusses the measures taken in Uzbekistan to develop the energy sector and provide the country with sustainable electricity. Detailed information also provided on the construction of energy facilities in various regions of Uzbekistan.

Keywords: prospects, energy system, sustainability, technology, construction, electricity, efficiency, high thermal power stations, power plant, consumption, demand.

Introduction

Reliable operation of the energy system will radically improve the infrastructure of the regions, create new networks, ensure the continuity and sustainability of production processes. The energy system has a special role to play in ensuring the consistency of reforms in Uzbekistan. The modernization and reconstruction of our country, the introduction of modern, cost-effective technologies play an important role in the development of the energy system. In particular, promising projects in the industry are an important factor in the rapid development of production and improving the welfare of the population. This can be seen in the large-scale measures taken in the different parts of the Republic.

High volume measures can be seen in the activities of the Navoi Thermal Power Plant. The company's old power plants have been replaced by steam and gas appliances based on compact and economical modern technologies.

- The construction of a steam and gas station is an important factor in the rapid development of economic sectors in the region, - said the leading engineer-technologist of the steam and gas equipment shop of JSC "Navoi Thermal Power Plant" A. Musayev. - In particular, the project of a modern steam and gas plant with a capacity of 478 megawatts was successfully implemented at the power plant in 2009-2012. The old station used an average of 360-400 grams of conventional fuel to produce 1 kWh of electricity, while the modern steam-gas plant consumes 220-235 grams. As a result, 500 million cubic meters of natural gas are saved annually. The company, which employs about 2,000 people, is also focusing on capacity reconstruction. Problems in the circulating water cooling system of power units 11 and 12, each with a capacity of 210 megawatts, have been resolved. This will generate several million kWh of additional electricity per year. The company is currently building a new 450-megawatt power plant. The \$ 547 million project is characterized by high efficiency and high thermal power generation. Conventional fuel consumption is 236 grams, which saves 530 million cubic meters of natural gas per year.

Materials and methods

Young professionals play an important role in mastering the new device based on modern energy technologies and ensuring its stable operation. As a result, young professionals are supported in this company. In particular, the Japanese company Mitsubishi will exchange experience and improve its skills with training centers and energy engineering companies. In addition, the company is setting up a training center for thermal power plants. It is planned to train or retrain 75 specialists throughout the year.

The company is not only a source of electricity, but also a major source of heat for the population and the economy.

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The Turakurgan Thermal Power Plant, which is being built on 76 hectares in the village of Shohidon in the Turakurgan district, is one such large-scale project. The construction of the facility, which was launched by a special decree of the President, is aimed at improving the power supply in the Fergana Valley. The necessary equipment for the station is supplied by the Japanese agency JICA. The first phase of the \$ 1 billion 195.9 million project will see the launch of a state-of-the-art steam and gas turbine with a capacity of 450 megawatts by 2017. In 2019, its second unit will be commissioned.

“Since the start of the project, about 15 billion soums have been spent on construction work,” said Karimjon Asrokulov, deputy general manager of the Syrdarya TPP construction unitary enterprise. - In particular, the administrative building, fire department, water supply facility have been completed. A separate network has been set up in the village of Rovot to meet the needs of the industry and to provide drinking water. In addition, the construction of two highways in the distance to the station has been completed. Currently, two housing units for workers, each with 32 apartments, are under construction.

According to experts, the current demand for electricity in the Fergana Valley is 1,700 megawatt-hours. By 2030, with an increase in population and manufacturing, this figure is expected to reach 1,900 megawatt hours.

The capacity generated at the Turakurgan Thermal Power Plant will fully meet this need. Another important aspect is that the most advanced technologies produce 726.9 million cubic meters of natural gas a year.

Results and discussion

In Namangan, a number of other measures are being taken to ensure efficient use of electricity and meet the needs of consumers.

“The demand for electricity in the region and in the economy is growing every year,” said Ahadkhon Akbarov, head of the technical production service of the Namangan Regional Electric Networks Enterprise. - For example, in 2001 this figure was 7 million kilowatt-hours, but now it has exceeded 10 million kilowatt-hours. Accordingly, special attention is paid to the maintenance of existing substations and transmission lines, the construction of additional voltage and transmission facilities. For example, additional high-capacity substations have recently been built and put into operation in Namangan, Hakkulobod town of Naryn district, Jiydakapa village of Uychi district. 19.3 km of transmission lines for external power supply of residential areas, built on the basis of standard designs in rural areas last year, Transformers were put into operation in 21 complexes. As a result, the second stage of GES-11A substation has been commissioned in a number of mahallas in Namangan. Transmission lines have been reconstructed in Chodak village of Pop district.

These include increasing the capacity of the Namangan-based research and production company Elektrikishloq Qurilish, modernizing a number of electricity distribution networks in the region, electrifying the construction of the Angren-Pop railway, replacing existing substations at many industrial enterprises, and building new ones. Another important aspect of the issue is the development of alternative energy sources in Namangan. In particular, experiments at a photovoltaic plant with a capacity of 130 kilowatt-hours, built in the Pop district at the beginning of

last year, have paid off. Experts have given their conclusions on the location of solar panels installed here.

Conclusion

Therefore, the project to build a photovoltaic power plant with a capacity of 100 megawatts was included in the program. It is planned to invest \$ 210 million in the construction of the facility. With the completion of this facility, the region will be able to cover a quarter of its daily energy consumption from renewable sources.

In short, the work being done in the energy system and the implementation of projects in the near future will play an important role in ensuring the prospects of the industry, which is the driving force of development.

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