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WAYS TO ACHIEVE EFFICIENCY BY CONDUCTING ENERGY TESTS

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Abstract
Currently, a measure aimed at eliminating losses in industries in the supply of electricity to industrial enterprises is considered one of the most pressing problems. By minimizing the waste of power transmission networks, improving their technical and economic indicators in the power supply and making it possible to provide new consumers with electricity without starting additional stations are widely used in developed countries. Measures to normalize wastage in the networks require 1.5 times less funds than the commissioning of new stations that provide power under maximum loading conditions.

Keywords: local energy, energy resources, raw materials, reserves, hydrocarbons, power plants, gas turbines

Introduction

Uzbekistan is among the countries that fully provide its advantages due to its energy resources. A significant share of the power generation capacity in the United energy system of Central Asia belongs to our republic. The Ministry of energy of the Republic of Uzbekistan is a public administration body in the energy sector.
The peculiarity of the technological process of production, transmission, distribution and consumption of electricity is that it requires the maintenance of centralized management, which embodies the JSC "thermal power plants", "Uzbekistan national power networks" and "regional power networks".
In 2018," thermal power stations " were allocated by JSC thermal power stations for Rs 56.3 crore. kW of electricity was generated, amounting to 7.3 million. Gkal thermal power was supplied and the total specified capacity of the power stations was 14,000 MW.
From the enterprises supplying electricity under JSC" thermal power plants", the total length is 9.7 thousand km.the work on the supply of electricity to enterprises under the "Regional electric networks" JSC is carried out by JSC "National Electric networks of Uzbekistan" through the main power networks with a voltage of more than 220-500 kV.
While divergence and decontamination work has been going on for a long time, the use and digitization of local energy systems has been rapidly expanding into energy in

the following years. While the diversification and neutralization of energy processes largely depends on natural factors, the main role in localization and digitization is occupied by the human factor, and the goal in this is to maximize the adaptation of energy production to the process of its consumption, resulting in an increase in energy efficiency.

In the following years, local energy (energy) systems (LET) are also widely developed, in addition to electroenergetic systems, which are centered in developed countries around the world. LET serves consumers in a given Boundary, region, region to provide energy within that region by performing energy generation, transmission and distribution functions.

One of the important conditions for achieving macroeconomic proportionality and stable growth rates is the consistent continuation of structural changes in the economy, including increasing the share of finished products with high added value in the production and export structure through deep processing of domestic raw materials and materials. In our country, the clear and large-scale reforms carried out in this direction during the years of Independence provide a solid foundation for the enormous results being achieved. The fact that the economy of Uzbekistan has grown 6 times in the last quarter century, despite the negative effects of the still-ongoing global financial and economic crisis, the sustainable development of our country is a clear confirmation of this.

In order to strengthen the competitiveness of the national economy and realize a long-term strategy for the implementation of structural reforms, to consolidate successes, it is required to solve a number of other pressing issues. In particular, the system of use of energy resources in the country has been radically revised, and the transition to the energy-efficient model of development is a necessity today.

Consequently, due to the pace of industrialization in our republic and the rapid growth of the population, energy consumption, especially the need for energy resources of sectors of the economy, will continue to increase significantly. Because according to UN forecasts, by 2030 the population of Uzbekistan can reach 37 million people[1].

This, in turn, assumes the saving and rational use of hydrocarbon resources. Why is it that the reserves of this raw material are limited. It is estimated that while today's volume of resource consumption remains, in 2030 the shortage of energy resources is likely to be 65.4 percent compared to the total need.

Among hydrocarbon resources, special attention is required to natural gas. Because in the structure of the needs of primary heat and energy resources in electricity, the dependence on natural gas increases by 85 percent. 42% of natural gas consumption is due to electricity generation, 27% to the needs of the population, 26% to the needs

of the sectors of the economy. The first Gal, therefore, shows the need to increase the efficiency of using natural gas to generate electricity and thermal energy in thermal power plants (ies).

Unfortunately, today the current technical condition of the industry is at this level, the share of costs in the cost of products produced in the IES is on average 94.5 percent, and in some stations more than 100 percent. This is due to the fact that the wear of industrial equipment in thermal power plants averages 91.73 percent. In 2015, AJ" Uzbekenergo " had a useful work factor of 28.4 — 42 percent in the generation of electricity in condensing thermal power plants, with an average of 33.5 percent. This is 1.5 times less than the indicators of modern thermal power plants of this type used in the European Union, Southeast Asia. Naturally, more heat and energy resources are being spent on generating 1 kWh of electricity compared to overseas electricity producers. For example, in 2015, 269 grams of conditional fuel were spent on generating 1 kWh of electricity in modern ies of EU countries, while in the thermal power plants of JSC "Uzbekenergo" this figure reaches almost 374.9 grams.

The construction of steam-gas and gas turbines, which are currently being carried out at Navoi, Tolimarjan, Tashkent thermal power stations, as well as such works in the near future at Turakurgan, Taxiatosh, Syrdarya ies, will make it possible to reduce fuel consumption in the field to 269 — 300 grams of conditional fuel for the production of 1 kWh of electricity. These efforts will undoubtedly serve to strictly save fuel, reduce the cost of electricity and heat generation, which is one of the strategic tasks on the way to ensuring sustainable development in the energy sector.

High energy consumption in the chemical industry is the main reason for the increase in the cost of products in itself, as well as its insufficient competitiveness. At enterprises of the chemical industry of Uzbekistan, the share of costs in the cost of product production is 99.7-100 percent. Of these, 64 percent will be spent precisely on energy resources. However, in foreign enterprises using modern technology and equipment, this figure is only 25-30 percent.

In particular, in Uzbekistan, 1868 cubic meters of natural gas are spent on the production of one ton of ammonia. If modern equipment of Haldor Topsoe is used in this process, this indicator does not exceed 902 m3 [2]. That is, the consumption of natural gas in the production of ammonia in enterprises of our country is more than 2.1 times higher than in the application of modern technologies. In such production facilities, electricity is used 1.5 — 2.5 times more than in related modern enterprises. The cost of their operation is 1.5-2 times higher due to the fact that outdated equipment remains repaired.

Calculations show that the energy consumption can be reduced by 2 — 2.5 times, and the cost of ammonia-by 1.8 times, if more economical power is deployed in Uzbekistan. This condition is also observed in the production of other types of mineral fertilizers. For example, in nitrogen production, the share of energy resources at the cost of products is more than 70 percent, while energy consumption exceeds 2 — 2.5 times that of abroad.

In general, a one-percent reduction in energy consumption in the chemical industry makes it possible to reduce the cost of products by 0.6-0.8 percent.

It should be noted separately that today mineral fertilizers produced by enterprises in the field of Chemistry are included in the monopoly products register. The income provided for at the price of a monopoly product is not always enough to replenish its working capital in order to renew its production facilities, develop the enterprise and prevent financial and economic risks.

In addition, due to the fact that those who buy mineral fertilizer — the receivables of agricultural enterprises, more than the norm balance of the second-hand production, the situation has deepened, and the energy resource suppliers are causing an increase in the creditor's debt.

In doing so, increasing energy efficiency in the chemical industry necessitates the complete modernization of existing ammonia and nitrogen production capacities through the introduction of advanced technologies, as well as the decommissioning of energy-intensive capacities. This sets the stage for reducing energy consumption by 1.5 — 2 times when making ammonia. Although in the Navoi region it was decided to build modern capacities producing ammonia, urea and nitric acid in place of the outdated capacities of Navoiyazot, Farg'onaazot " does not have a clear strategy in this regard. Unfortunately, the products of this enterprise cannot withstand even competition in the domestic market, let alone the foreign market.

Conclusion

1.On the topic given to me in this article, I looked at the example of a high - tech enterprise specializing in the production of stamping parts for cars manufactured at Uzsungwoo LLC QK-Uz Auto Motors in Fergana, “achieving energy efficiency by studying the state of efficient use of energy in industries when conducting energy inspections at an industrial enterprise”. The project of this enterprise was carried out in accordance with the decree of the Cabinet of Ministers of the Republic of Uzbekistan No. 113 of April 14, 2011.

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