METHODS OF REDUCING THE ENERGY CONSUMPTION OF PRODUCTS IN LIGHT INDUSTRY ENTERPRISES

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ABSTRACT

In these studies, very little attention has been paid to options for reducing thermal energy loss in buildings due to the implementation of structural and engineering-technical energy saving measures. Despite the fact that these measures have great potential for energy savings, taking into account the climatic features of the zoning of textile and light industrial enterprises.

Energy resources are spent not only directly on the production of finished products, but also on the raw materials used in their production. At the same time, energy is spent not only on the production of materials and products, but also on the maintenance of production and public buildings, maintaining standard microclimate parameters and favorable production conditions in them.

Keywords: energy audits, energy efficiency, energy saving, energy capacity, textile industry.

The issues of rational use of energy resources and energy saving are relevant for textile and light industry. This is confirmed by the publication activity in this field of research, which can be roughly divided into four main groups:

1) studies devoted to the development of methodological approaches to the implementation of energy-saving measures in textile and light industrial enterprises;

2) studies devoted to the implementation of specific engineering and technical measures in textile and light industrial enterprises;

3) researches devoted to the improvement of production technologies of textile and light industrial products;

4) research on the prospects of using waste from textile industry enterprises and using textile materials to create resource-saving technologies used in various sectors of the national economy.

A comprehensive study was devoted to the identification and economic assessment of energy saving potential in textile enterprises of the Ivanovo region [1]. According to the study [1], the textile industry is one of the most energy-intensive sectors of Ivanovo region and has a great potential for energy saving.

In this regard, the authors [1] note that increasing the efficiency of the use of energy resources is a priority task of textile enterprises.

To use the potential of energy saving in textile industry enterprises as one of the effective elements of the maximum, to obtain objective indicators of energy consumption, the authors [1] consider the following:

- organizing and conducting energy audits;
- determination of energy efficiency indicators; v
- determination of energy saving potential;
- development of exemplary measures for energy saving;
- assessing their value.

Based on the proposed structure of energy saving measures, the authors [1] propose a methodology for determining and calculating energy saving potential in the textile industry.

The relevance of energy saving issues in textile and light industry is confirmed in the study [2]. The authors of the study noted that the energy intensity of industrial production in Russia is several times higher than global indicators, so the issues of energy saving are especially relevant for the Russian economy.

The article [3] presents a methodical approach to increase the energy efficiency of textile and light industrial enterprises. According to the document, the consumption of energy resources has exceeded their production in the last 20 years, and therefore the issues of energy conservation are becoming more and more urgent. The authors note that fixed assets in Russia have great potential for energy saving (more than 40%), since specific energy consumption in Russia is several times higher than similar indicators in technically developed countries. It is shown that the application of the methodical approach aimed at saving energy proposed by the authors allows to realize the existing potential to a large extent, since the textile industry of Ivanovo region is very energy intensive.

Work [4] presents the results of the author's study of the dynamics of changes in the energy intensity of the gross domestic product of the Russian Federation. Based on the research, the authors made conclusions about the possibility of achieving the goals of reducing energy consumption of the Russian economy until 2020.

The problems of high energy density of the Russian economy's gross domestic product, as well as the socio-economic consequences of reducing the energy density of the Russian economy, are studied in [5]. It is shown that the energy density of the gross domestic product in the Russian Federation is 2.5-3.2 times higher than that of the technically developed countries of the world.

Organizational and technical solutions aimed at reducing the energy consumption of the Russian economy in the textile industry are considered in [6]. Implementation

of an energy conservation program has been shown to have synergistic effects in several industries. The article provides an overview of the results of research conducted in this direction by scientists of the Ivanovo State Polytechnic University.

The typology of regions according to energy efficiency indicators is shown in the study [7]. In this direction, an analysis of the most depressed regions was conducted, based on which the main directions of energy saving and energy efficiency policy were proposed. The development of textile and light industry as one of the directions of increasing the energy efficiency of the regional economy.

The formation of control behavior in the energy efficiency management system of textile production is considered in [10].

The work examines the effect of energy saving on the parameters of the industrial microclimate in the service area of the yarn drying plant [11]. By analyzing temperature fields and temperature graphs, the authors found that

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