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## **CRITERIA FOR EVALUATING AND WAYS TO INCREASE ENERGY EFFICIENCY OF BELARUSIAN ECONOMY**

The relevance of the problem of ensuring energy efficiency of the economy is due to both the specific conditions of functioning of any economic system, the features of the functioning and development of the energy sector, and the current trends in the development of the world economy against the backdrop of global fuel and energy and environmental problems. Energy efficiency is becoming an increasingly important policy priority in many countries of the world. It is widely recognized that it is the most economical and affordable way to address many of the problems of energy supply, including energy security, the socio-economic consequences of high energy prices and concerns about climate change. At the same time, energy efficiency enhances competitiveness and contributes to the well-being of consumers. [1]. Due to the high degree of relevance, the problem of improving energy efficiency is studied by different scientists, research teams of Russian scientists: I.A. Bashmakova, V.I. Danilova-Danilyana, K.S. Losev, I.E. Reif, S.N. Bobyleva, V.M. Zakharova, D.Yu. Savon, G.E. Kudinova et al. The Institute of Oil and Gas of the Russian Academy of Sciences, the Institute for Sustainable Development of the Public Chamber of the Russian Federation, the Center for Environmental Policy of Russia, the Russian Center for Energy Efficiency and other organizations are developing the indicator system and evaluating energy efficiency. A number of scientists are developing the theory and methodology for ensuring energy efficiency in the Belarusian economy: I.A. Bokun, A.A. Bykov, V.N. Ermashkevich, A.M. Zaborovsky, T.G. Zorina, A.A. Mikhalevich, M.V. Myasnikovich, V.N. Nagornov, L.P. Padalko, T.V. Romankova, B.I. Rubenchik, N.A. Smolskaya, A.G. Tabolov, V.I. Trutaev, L.V. Shenets, V.N. Shimov, O.S. Shimova, N.A. Khaustovich and others. The results of studies conducted by the World Bank, the United Nations Development Program and other international organizations have great practical and scientific importance.

In accordance with the National Security Concept of the Republic of Belarus, the main potential or real threats at the national level is the impossibility of guaranteed supply of raw materials and energy in the volumes that ensure the intended GDP growth; the lag in the pace of transition of the economy to advanced technological structures from other states, the degradation of the technological structure of the real sector of the economy; lack of competitiveness of the economy of the Republic of Belarus and other factors. In the economic sphere, the main national interests of the Republic of Belarus are economic growth and increased competitiveness based on its structural adjustment, sustainable innovative development, investment in human capital, modernization of economic relations, cost reduction, import and material consumption of manufactured products; achieving a level of energy security sufficient to neutralize the external dependence on the receipt of energy, etc. [2]. The transition to the construction of energy-efficient buildings and structures in the Republic of Belarus is currently difficult. This is due to the fact that the regulatory framework on this issue is not developed sufficiently. Thus, the energy sector both for the Republic of Belarus and for many countries of the world is key from the point of view of economic and national security and allows us to attribute energy efficiency to factors of economic growth.

We have identified the relationship of concepts and conducted a theoretical and methodological analysis in the field of energy conservation and energy efficiency, which allows

us to identify the most significant criteria for assessing the energy efficiency of the country's economy. The existing system of indicators for analysis and evaluation does not ensure the reliability of the results, which significantly distorts the conclusions in the context of country and regional comparisons. The system of indicators that we propose makes it possible to most adequately and accurately obtain and compare the results of the assessment with the maximum possibilities and ways of ensuring energy conservation and energy efficiency in the economy of the Republic of Belarus.

In 2020, a nuclear power plant is going to be launched in the Republic of Belarus, which will allow to overcome the low level of energy independence of the country, as well as solve a number of issues in the field of advanced economic and legal issues of energy development, in particular, ways to develop green investments in various types of electric vehicles. This area of economic development allows us not only to provide ways of increasing energy efficiency, but also to solve the problems of reducing the environmental burden, which corresponds to global trends in the sustainable development of the state.

#### REFERENCES

1. International Energy Agency report “Energy Efficiency Indicators: Policy Framework” [Electronic resource]. – Mode of access: <https://altenergiya.ru/wp-content/uploads/books/common/pokazateli-energoeffektivnosti.pdf>. – Date of access: 01.03.2020.

2. Decree of the President of the Republic of Belarus of November 9, 2010 N575 "On approval of the National Security Concept of the Republic of Belarus" as amended. and add. dated January 24, 2014 No. 49 (National Legal Internet Portal of the Republic of Belarus, 1/30/2014, 1/14788).

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### **OPTIMAL SUBSEA PRODUCTION SYSTEM SELECTION METHOD BASED ON IMPROVED MANAGEMENT APPROACH TO OIL AND GAS FIELDS DEVELOPMENT PROJECTS**

In the Russian Federation one of the promising directions in engineering and technology for the development of offshore oil and gas fields is the use of subsea hydrocarbon production systems. A proposal has been developed to improve the management of oil and gas fields development projects by using subsea production systems, which consists in introducing the developed software product at the preliminary stages of planning, which will allow, after geological exploration and the discovery of industrial oil and gas resources, to optimize the planning process and to make the right choice for installing the appropriate type of subsea production system in accordance with considered factors, on the basis of which the algorithm of the program was built. Furthermore, saving time and cost at the preliminary stages of planning will have a kind of cumulative effect at further implementation stages of the project. It will also allow to make managerial decisions more quickly and to increase the efficiency of operations, and this, in turn, will contribute to better adherence to schedules at further stages of the project development. In total, 83 sources of literature on this issue were studied.

Today the subsea production complex is a combination of subsea equipment located on the bottom of the sea, and designed for extraction, preparation and transport of hydrocarbons from wells to the point of connection with the production pipeline [1]. Subsea production systems can vary from a single well to several wells on the bottom plate or grouped near the manifold. The research considers four main types of subsea production systems. The main factors that influence on the choice of one of the 4 types of subsea production systems were selected by using