

**OIL AND OTHER HYDROCARBONS IN BELARUS:
PRODUCTION, USAGE AND PROSPECTS**

Zamostyanin M.A., student
Scientific supervisor – Brechko D.S., lecturer
English language department №1
Belarusian National University of Technology
Minsk, Republic of Belarus

Historically, Belarus has had an ambiguous situation around the hydrocarbons usage. Despite the very low oil production in Belarus due to low and hard-to-reach reserves, the country has a highly developed processing industry. Belarus has around 6-9 billion tons of oil shales, but more than 97% of it are biomass and ashes that makes extraction of oil much more difficult and unprofitable on the most accessible areas, and it results in only estimated stock of 47 million of tons of crude oil, which is roughly equal to yearly oil production of the United Kingdom [1]. But in Soviet times, a large number of oil refineries were built to process oil from neighboring Ukraine and the Baltic states, as well as the processing of Siberian oil and natural gas for further export to Europe. There were built two oil pipelines – Druzhba and Surgut-Polotsk. This resulted in a developed processing industry without serious oil production and nearly total dependence on oil importing. But after the collapse of the Soviet Union, this led to serious problems in the processing sector and the urgent need to conclude new agreements with independent countries, but on much less favorable terms.

“The oil and gas issue” is still a serious topic for negotiations between Belarus and Russia and, given the current lack of alternatives to import oil and gas from other neighboring countries, this has led to serious economic dependence on Russia. More 26% of all Belarusian imports are hydrocarbons, while more than 21% of exports are oil products [2].

Belarus exports about 50% of its oil production. Oil fields in Belarus are located in a single oil and gas basin, the Pripyat Downflow, which covers about 30,000 square kilometers. About 50 of the 70 known fields are currently under development. Belarus's own production covers only about 30% of domestic oil consumption.

As for other oil products, Belarusian oil shale contains a huge number of impurities that reduce the efficiency of their processing. Also, the use of shale itself as a combustible fuel is inappropriate, since the combustion energy of 5-9 MJ/kg makes their combustion for electricity generation ineffective. In connection with the above, for further use, shale must first be subjected to pyrolysis. Moreover, the bulk of these shale lies at a depth of up to 614 meters, which excludes the development of quarries, which further reduces the profitability of these deposits [1]. Promising options for processing oil shale are also being considered, since the processing of shale produces a huge number of by-products that are useless in oil refining, but are used in the production of fertilizers, ceramics, and concrete. However, problems with financing arose: Luxembourg company refused to sponsor, forcing Belarus to seek money in China. In addition, cooperation is being discussed with Estonia, which has one of the most developed oil shale processing industries in the world.

Although the country has no high-grade coal deposits, the amount of low-grade lignite is estimated at 553 million tons with average calorific value is 25.2 MJ/kg [2]. New projects to ensure energy security are constantly being developed and implemented in Belarus to reduce dependence on imported hydrocarbons. Among those already implemented, the rapidly developing nuclear energy and the designing of new hydroelectric power plants can be singled out, while wind energy, solar energy and biofuel can be singled out in promising areas.

It can be concluded that hydrocarbon production in Belarus is unpromising in the coming decades at least due to the difficulties of production, high content of by-products, and scarce reserves for organizing large-scale production. However, the widespread use of refined products and their export still constitute an extremely significant part of exports and cannot be decreased to reduce imports of hydrocarbons.

References

1. Kudelsky, A. Belarusian oil shale as a prospective raw material for fuel, energy and chemical industries – to be or not to be? / A. Kudelsky // Oil Shale. – 2007. – №1. – Pp. 5-7.
2. Mineral resource base of the Republic of Belarus // Ministry of Natural Resources and Environmental protection of the Republic of Belarus. – URL: <https://minpriroda.gov.by/special/ru/minsyrbaza-ru/> (date of access: 31.03.2025).