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НЕФТЕГАЗОВЫЕ ПРЕДПРИЯТИЯ: ИННОВАЦИОННАЯ СОСТАВЛЯЮЩАЯ

OIL AND GAS ENTERPRISES: INNOVATIVE COMPONENT

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Аннотация. Продукция нефтегазовой отрасли в России на сегодняшний день составляет значительную часть оборота страны, и большая часть средств поступает в бюджет именно от деятельности нефтегазового сектора. Поэтому важно обратить пристальное внимание на развитие инновационной политики в России, так как в сравнении с зарубежными странами Российская нефтегазовая отрасль имеет значительные отставания в определенных показателях. Решением проблемы может стать замещение большинства импортного оборудования отечественным, увеличение доли экспорта не только сырой нефти, но и нефтепродуктов.

Ключевые слова: инновационная политика, нефтегазовая отрасль, производительность труда, нефтепереработка.

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Annotation. Oil and gas products in Russia today constitute a significant part of the country's turnover, and most of the funds come to the budget from the activities of the oil and gas sector. Therefore, it is important to pay close attention to the development of innovation policy in Russia, as compared with foreign countries, the Russian oil and gas industry has significant backlogs in certain indicators. The solution to the problem can be the replacement of the majority of imported equipment by domestic ones, an increase in the share of exports of not only crude oil, but also petroleum products.

Keywords: innovation policy, oil and gas industry, labor productivity, oil refining.

The subject of innovation policy in the oil and gas industry is very relevant at the moment, as the products of this sector constitute a significant part of the country's foreign trade turnover, it increases the gross domestic product, from which the greater part of the budgetary funds come later.

Statistics show that foreign oil and gas companies are giving huge impact to scientific and technological development. The companies have their own large research centers and laboratories, design and engineering organizations. In addition to their own programs, companies finance joint research with other companies involving laboratories of higher education institutions and government agencies.

As the statistics show, international American and European companies are leading in terms of the total amount of funding for scientific developments in the world. Absolute leaders in the industry are ExxonMobil and Total. These companies invest in R&D 700–800 million US dollars per year. Meanwhile, per 1 ton of oil equivalent, the cost of «oil giants» for R&D is on average \$ 1 per ton of oil equivalent, while similar costs for companies in China and Brazil are much higher – \$ 2,35–3,22 USA.

Nevertheless, unfortunately, Russian companies are inferior in order foreign in financing R&D. The share of corresponding costs is not exceeds 0,02 % of their revenues, and unit costs per 1 ton of oil equivalent to less than \$ 0,2, while in the exploration and production is channeled to 90 % of all investments in R&D.

In terms of innovation in the oil and gas industry, Russia lags far behind its foreign neighbors. What are the main problems?

1. Lagging in the development of refining and petrochemical technologies, primarily due to the poor implementation of innovations in the oil industry. Large foreign companies invest in the petrochemical industry R&D more than 5 % of its revenue, while Russian companies – less than 1 % [1, p. 5].

2. Low labor productivity in the oil and gas sector compared with other advanced countries. A number of studies cite data indicating that labor productivity in leading Russian enterprises is 3 times less than in the largest US and European companies, 3.4 times lower than in Japan's leading enterprises . And, despite the established long-term economic goals in the country, the increase in the level of labor productivity, starting from 2008, demonstrates a clear negative trend [2, c. 6].

Experts note that labor productivity in leading foreign oil and gas companies is higher than in Russia. Indeed, the calculation of the labor productivity index, calculated as the ratio of the volume of oil production in physical terms (in tons) to the average number of employees of the company (calculations were made ac-



cording to the data of the State Enterprise «CDU TEK» and the company's annual reports for 2014), shows that in Russian companies this indicator is lower: Rosneft has produced 766,98 tons of crude oil, 784,87 tons of LUKOIL, 531,79 tons of oil in Surgutneftegaz, 584,81 tons of oil at OAO Gazpromneft, OAO TATNEFT – 344,54 tons. At the same time, in 2014, in such large foreign companies as Saudi Aramco, ExxonMobil, BP, Chevron, this indicator is higher – 7711,57, 1396,12, 1510,89, 1384,47 tons per employee, respectively [3].

Labor productivity, calculated by the method of natural indicators, in the state company of Saudi Arabia many times exceeds the levels of labor productivity in other companies. This difference is largely due to the conditions of oil production in this country. As you know, Saudi Arabia and other countries of the Persian Gulf are producing at the world's largest oil fields in relatively favorable natural and climatic conditions.

3. The results of the analysis conducted by the consulting company PricewaterhouseCoopers showed that less than half of the leaders of Russian oil and gas companies interviewed during the survey noted the existence of the formulated innovation strategy [4]. A strategy of this kind determines the concept of technological development and should become the basis for planning innovative activities. Organizing lower ranking on the oil and gas companies is organization to introduce a system of N DICE innovations and new technologies.

4. A separate problem is the excessive bureaucratization of procedures for obtaining approvals and permits for the construction of an infrastructure facility. So, in Russia these procedures can take 704 days for a construction project, while in the USA such procedures take 40 days [5, p. 85–87]. The transfer or lengthening of terms are inextricably linked with a rise in the cost of the object of capital investments and a decrease in economic efficiency. Based on the results of the analysis of the construction services market in the oil and gas industry of Russia conducted by the INFO Line news agency, it was concluded that when implementing investment projects in Russia in the oil and gas industry, capital expenditures are 25–60 % higher than the costs of construction of similar production facilities in Europe.

5. The quality of oil being recycled is declining. Oil refineries as raw materials often receive heavy, high-sulfur oils with a rather large amount of impurities. This greatly affects the operation of the equipment, shortening its service life. Sulfur compounds lead to corrosion of the metal, increase the cost of repairs, replacement of wearing parts, etc. In addition, the quality of raw materials directly affects the quality of finished products obtained at oil refineries.

The solution to these problems can be the strategy «Innovative Russia 2020», adopted in September 2011, developed on the basis of the concept of long-term socio-economic development of Russia for the period until 2020 in accordance with the Federal Law «On Science and State Science and Technology Policy». Among the main objectives of the strategy are the problems of increasing the share of exports of Russian high-tech products to the world market to 2 % in 2020 [6].

It is also worth considering the problem of replacing imported equipment with domestic ones. First of all, it concerns the compressor and pumping equipment. The introduction of innovations at various stages in the production processes of oil production and processing contributes to the increase of the efficiency of the enterprises in the fuel and energy complex, provides competitive advantages in the long term both in the domestic and global markets.

As the technological development projects are carried out with large expenditures and long terms, the organization of joint projects of oil and oilfield services companies with the participation of research organizations. Such cooperation, widespread in Western practice, allows companies to lead in innovative development and achieve high labor productivity.

Thus, the state of innovation policy in the oil and gas industry lags behind the target level. The implementation of new strategies and the combination of the largest oil companies will allow the country to reach a new level of innovative development.

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