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FEATURES OF INNOVATIVE STRATEGY DEVELOPMENT AT THE OIL PROCESSING ENTERPRISES

Annotation. The article describes main features of innovative strategy development in the case of oil and gas industry. Analysis is based on the historical study of the development of oil and gas sector. Institutional reforming of the enterprises for processing oil raw materials made considerable changes to the production organization and work. Managing methods influenced introduction of hi-tech productions which are predominating in increase of economic efficiency of oil processing production and growth of its competitiveness.

Keyword: management, innovation, technology, oil, branch.

Тірек сөздер: басқару, инновация, технология, мұнай, сала.

Ключевые слова: управление, инновация, технология, нефть, отрасль.

Oil-processing industry is the branch of the heavy industry, covering oil refining and production of oil products (without production of soot). Oil processing branch is the most important link of an oil complex defining the efficiency of using hydro carbonic raw materials. The guaranteed ensuring requirement of the population depends on its reliable functioning in motor fuels, lubricant oils and other oil products without which the functioning of transport infrastructure, economic and strategic security of the state are impossible.

In B. S. Saubetov's research is said that the oil processing sector is one of the strategically important sectors of economy as ensures energy safety of the country. We don't share the point of view of this researcher only in the field of energy security of the country. According to certain foreign researchers, there are alternatives of energy security. In our opinion, the main direction in the field of oil usage is to use it as a source of combustible - lubricants and other products of processing.

World capacities of oil refining are presented in the following table 1.

Table 1 – World power of oil refining

Region	Million tons	Specific weight, %
USA	755	23,6
Western Europe	670	20,9
Central and South America	375	11,7
Asia, Far East, Australia	682	21,3
Middle East	288	9,0
Africa	143	4,5
Other countries (including CIS countries)	287	9,0
In total	3200	100
Note: it is made on the basis of a source [13].		

Apparently from the provided data, the most equipped countries on oil processing are the USA, Asia, the Far East, Australia. Thus the share of Asian Pacific Region (APR) region in the world rose more than by 2,5 times from 10,4% in 1965 to 26,1 in 2002.

Many countries of APR carried out the accelerated construction of oil refineries not spontaneously, but on the basis of special programs and with the corresponding state support and in some cases at nationalization of these productions.

The oil-processing industry of CIS countries has an old history. In pre-revolutionary Russia oil refining was conducted on primitive technology: kerosene was the main product of processing which was sold. The oil processing enterprises concentrated mainly in the Caucasus (in Baku and Grozny).

After the Civil war in 1918–1920 Soviet state allocated considerable funds for restoration and development of the enterprises of oil-processing industry (in 1923/24 37,2% of all expenses for capital construction were the share of this branch). As a result from 1921 to 1925 production of gasoline increased by 3,8 times, and the total number of received oil light fractions increased by 2,3 times. The foundation of oil-processing industry was laid in days of the first five-years period (1929–1940).

As a rule, allocation of oil-processing industry depended on consumption of oil products in different areas, on techniques of oil processing and transportation, territorial relations between resources and places of liquid fuel consumption in the Soviet Union.

Oil refining usually concentrated in areas of production, or in areas of mass consumption of oil products. Shifting of oil-processing industry to places of consumption of oil products has a number of the advantages connected with its transportation and storage. Transportation of oil is always more economic than transportation of its numerous derivatives; for the transportation of oil can be widely used pipelines, which, besides crude oil, transfer of light products carried out; storage of crude oil is much cheaper than oil products; consumer has an opportunity to use the crude oil arriving from different areas at the same time.

In order to shift refineries to the centers of petroleum products' consumption, factories in Saratov, Krasnodar, Orsk, Khabarovsk, Odessa, Kherson consumption were also built.

In the post-war period the oil-processing industry developed rapidly, the technological level and output continuously raised. In 1946–1951 pre-war indicators were already surpassed. Capacities for primary oil refining systematically increased. These powers increased for the fifth anniversary 1966–1970 by 1,4 times. In 1970 the industry refined oil 1,44 times more, than in 1965; production of low-sulphurous diesel fuel increased for the same years by 2,4 times. Many oil refineries and combines started to operate. The oil-processing industry solved the problem of widespread introduction of high-performance technological installations and units on the organizations of highly specialized large-tonnage productions, a rational combination and combination of several processes in one technological block to improve catalytic systems, use of automated control systems by the enterprises and branches as a whole. The enterprises switched to the high-performance combined installations. If to 1966 in the USSR their single power reached 1–2 million ton per year, in 1971 some installations were set up with the power of 2–3 and 6 million ton per year. The increase in volume of oil refining is accompanied by improvement of quality of oil products: production of low-sulphurous diesel fuel, high-octane gasoline, oils with effective additives became more profitable.

Scientific and technical problems of oil processing and petrochemistry were solved in 48 research institutes and their branches, 25 design organizations and their branches, 18 experimental plants of the USSR.

Now in the countries of the former Soviet Union work 45 oil refineries with a general power of 10 million bar a day. The CIS enterprises generally have installations of primary oil refining. The share of thermal and catalytic processes is insignificant and makes about 40% of capacities of atmospheric distillation of oil.

From 15 CIS countries only 9 have oil refineries. The data about a number of plants in each state of the CIS and their general power is given in the table.

Quantity and power of oil refineries in CIS countries are presented in the table 2.

Table 2 – Quantity and power of oil refineries in CIS countries

Country	The number of plants	Power of plants, million	Power per plant
Russia	27	6,4	0,2
Ukraine	7	1,2	0,2
Kazakhstan	3	0,4	0,1
Azerbaijan	2	0,4	0,2
Belarus	2	0,8	0,4
Turkmenistan	2	0,2	0,1
Uzbekistan	1	0,2	0,2
Georgia	1	0,1	0,1
Total	45	9,7	0,22

It should be noted that leaders in oil processing on the former Soviet Union is Ukraine and Russia. Other republics of the former Soviet Union have a small amount of oil refineries. In Belarus 2 large plants, in Kazakhstan – 3 medium plants, in Azerbaijan – 2 plants with the average of 10 million tons of recycled oil a year, in Turkmenistan functions 2 plants of medium power, 1 oil refinery with medium power functions in Uzbekistan and there is a small plant in Georgia.

The oil-processing industry of Ukraine totals 7 plants with a general power of 62,6 million tons/year. The largest plant constructed in the late seventies is the Lisichansk oil refinery. Power of primary installations on oil refining on it makes 23,8 million tons/year. This plant was constructed on the basis of the Soviet technology. In 1976, in the first year of the work, the plant received oil on the oil pipeline from Krasnodar. In 1977 the main oil pipeline with a diameter of 1,22 m and 1089 km long from Kuibyshev (nowadays Samara) brought the Tyumen oil to Lisichansk plant. In 1980 the catalytic reforming unit with a productivity of 1 million t was launched, and in 1981 installation of hydrotreating of diesel fuel which differed from others with high extent of automation started working. In 1978 the installation on production of ethylene started working which then followed to the chemical plant to Severodonetsk where it was processed in polyethylene.

Thus, situation in oil-processing industry rather difficult, but there is a solution- branch reforming. It can become "locomotive" which will pull economy and will be able to make very significant contribution to revival of CIS countries.

The efficiency of oil processing production development in modern is not only important with only its institutional structure and change, but also with the degree of technical equipment and level of scientific and technical progress, compliance of production structure on consumer demands on products of oil processing production, quality and labor productivity, interest of workers in the results of their activity, potential in providing with investment resources and.

However, institutional reforming of the enterprises for processing oil raw materials made considerable changes to the production organization and work, managing methods that influenced introduction of hi-tech productions which are predominating in increase of economic efficiency of oil processing production and growth of its competitiveness.

The growing competition in the world markets of oil processing production sales demand search of the new technological, productive, financial, ecological and administrative decisions.

Equality of many competitor companies demands cardinal reorganization of all activities of oil processing production, development of not only minimization of expenses strategy, but also optimization of market researches, diversification of production and development of new types of business.

Now there is a consolidation and integration of the enterprises of oil production, oil processing and trade by acquisition of actions, merges, absorption, cooperation and so on.

Such integration is expressed in formation of horizontally and vertically integrated groups because it is easier for enterprises to master capital-intensive production of products of petro chemistry, for example, oil and chemical. The oil enterprises are responsible for process of production, and chemical enterprises develop technologies and are engaged in research development.

Enterprises which have entered holding are much more competitive in comparison with the independent companies. The increased degree of economic activity of the enterprises leads to increase in outputs, stabilization of a financial position and opportunity to conduct market researches, to introduce new technologies and products.

Development of oil processing production in this direction gives the chance of it to radical modernization on the basis of the last achievements of scientific and technical progress that brings to:

- to decrease in average specific expenses due to growth of scales of production as a result of its combination and diversification;
- economy on transactional expenses due to reduction of relations of production and their transfer to intra production communications;
- to increase of capital productivity of production at the expense of increase in use of capacities and objects of infrastructure;
- to increase of an exit of target products from unit of oil raw materials;
- economy of all types of resources.

On the basis of available foreign experience innovative strategy of oil-processing industry is concentrated on development vertically integrated groups, beginning from production and including its

processing and transportation which can create innovative projects, the realization, thereby, enabling a considerable quantum leap in production of oil products. In this sense development of innovative strategy at the branch enterprises, is connected with process of anticipation of global changes in an economic situations, search and implementation of the large-scale decisions providing a sustainable development of the enterprise at the expense of revealed future factors of success. On the essence, any strategic measures undertaken by the enterprise, have innovative character as they are anyway based on innovations in its economic, production and marketing potentials.

Innovations in oil sector – result public, equipment – the economic process, directed on change in initial structure of the production mechanism, i.e. transition its internal structure to a new state: concerns production, technology, means of production, professional and qualification structure of labor, the organization; for the purpose of receiving both economic, and ecological effect.

In our opinion, innovative strategy of the oil processing enterprise is development of a main objective of activity of the enterprise due to release of competitive production.

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Резюме

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ОСОБЕННОСТИ РАЗРАБОТКИ ИННОВАЦИОННОЙ СТРАТЕГИИ НА НЕФТЕПЕРЕРАБАТЫВАЮЩИХ ПРЕДПРИЯТИЯ

В статье описаны основные особенности развития инновационной стратегии в нефтяной и газовой промышленности. Анализ основан на историческом изучении развития нефтегазового сектора. Институциональное реформирование предприятий по переработке нефтяного сырья сделало значительные изменения в организации производства и труда. Управленческие методы влияют на введение технологий производств, которые преобладают повышением экономической эффективности производства переработки нефти и роста ее конкурентоспособности.

Ключевые слова: управление, инновация, технология, нефть, отрасль.

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МҰНАЙ ӨНДЕЙТІН МЕКЕМЕЛЕРДЕГІ ИННОВАЦИАЛЫҚ СТРАТЕГИЯНЫ ҚҰРАСТЫРУДЫҢ ЕРЕКШЕЛІКТЕРІ

Бұл мақалада мұнай-газ өндірісіндегі инновациялық стратегияның негізгі ерекшеліктері сипатталған. Анализ мұнай-газ бөлімінің тарихи дамуына негізделген. Мұнай өнімдерін өңдеу жөнінде мекеменің институционалды реформасы өндіріс пен еңбекті ұйымдастыруда орасан өзгерістер жасады. Басқару әдістері мұнайды өңдеудің экономикалық тиімділігімен және оның бәсекелестігімен ерекшеленетін өндіріс технологиясын енгізуге әсер етеді. Басқарушылық әдістер мұнай өңдеу өндірісінің экономикалық тиімділігін арттыру мен оның бәсекеге қабілеттілігінің өсуінде басымдыққа ие болатын өндірістік технологияларды енгізуге әсер етеді.

Тірек сөздер: басқару, инновация, технология, мұнай, сала.

Поступила 10.03.2014г.