Foreign experience of natural resources management on the example of the development Norway economy

This article discusses the need to use foreign experience in the oil and gas complex of Kazakhstan. Significant hydrocarbon reserves, favorable geographical position of our country, further increase in oil and gas production indicate that in the future the oil and gas complex will occupy a leading position in the economy of the Republic of Kazakhstan. With its development, there are certain hopes for the further socio-economic development of the country. Cash receipts from oil and gas companies make up the bulk of the state budget. The oil and gas complex has a decisive impact on the social and economic development of our country and its individual regions, in fact, it is a donor for the entire economy of the state, contributes to the development of other sectors of the economy. The implementation of the most important social programs in the regions and the entire state is connected with the work of oil and gas companies. Kazakhstan’s study of the experience of such a country as Norway, which has a highly developed economy and has managed to make its oil reserves an economic miracle, will help our country to maximize national economic interests. The formulation of these interests and their consolidation in the highest legislative documents of the country should become a starting point in reforming the system of state regulation by the domestic oil and gas complex.

Keywords: oil and gas complex, investments, oil and gas revenues, natural reserves, taxes, Oil Fund, oil refining, new technologies.

The presence of a large number of natural resources in some countries is a key source of highly competitive development the economy and human capital, but in other countries they lead to poor results in these areas and in the standard of living of the population. The lack of the ability rationally use the natural potential at the enterprises of the country’s mineral and raw materials complex, leads to the irreplaceable of natural resources and the depletion of sources of the reserve.

There are a number of countries rich in natural resources, which were able to develop their economies and human capital to a high competitive level, and the required step in this matter was the creation of stabilization funds or national welfare funds. So, for example, consider some types of funds that exist in some countries rich in natural resources:

a) stabilization funds existing to smooth out fluctuations in the revenues and expenditures of the state budget; additional financing of public expenditure in the regions where mineral resources are extracted (practiced in countries such as the United States, Venezuela, Colombia, Kuwait, Nigeria, Chile, etc.;

b) a fund of future generations in which payments for additional quasi-rent payments to the population of the regions will be made after the exhaustion of the extraction of minerals (established in countries such as the USA, Alaska Canada, Alberta, Kiribati, Kuwait, Oman, Papua New Guinea);

c) budgetary funds, accumulation of incomes occur during periods of budget surplus and the stabilization of government spending will be made upon the onset of unfavorable intra- and external economic conjuncture (such funds have been established in Hong Kong, Singapore, Estonia, South Africa, etc.). Sometimes foundations perform mixed roles, such as in the Canadian province of Alberta, in Alaska, in Kuwait and Papua New Guinea, and so on [1].

The most valuable experience is the management of oil and gas revenues in Norway. This country, like Kazakhstan, has large reserves of oil (and gas) and exports them in considerable amounts. It was the oil and gas complex that formed the foundation for the successful development of the national economy, and the state oil fund became the core for managing its revenues. The system of state regulation of the Norwegian oil and gas complex in general form was formed in the early 1970s. It is characterized by the initially formulated firm position of the state in the oil industry. The Oil Fund was established in 1990 and with it was simultaneously formed a special national oil company «Statoil», which became an independent industry regulator.

Effective and transparent management of oil and gas revenues enabled the Norwegian government to create a modern oil and gas producing and processing industry and, on this basis, achieve impressive results in the economy and the social sphere.
The results that have been achieved in the Norwegian economy are not a coincidence of favorable circumstances, but it is a built-up with clear goals and mechanisms for achieving them a logical process of development. The Norwegian government has determined that the basis for ensuring the qualitative growth of the country's economy should be its oil and gas industry for this state has taken full control of oil and gas revenues. The share of state participation in all deposits of the country was legislatively fixed in the amount of not less than 50% through the state company. Such a state approach of the Norwegian parliament pursued far-reaching strategic goals - to retain control not only over all oil and gas fields of the state that were under the scrutiny of international transnational corporations, but also to build an oil and gas industry with an effective model of public administration [2] (Fig. 1).

![Figure 1. Export structure of Norway in 2001 (share in total exports)](source: Statistics of the Central Statistical Office of Norway)

The next stage was that the legislative base of the Fund itself was formulated, the system of administrative licensing, state entrepreneurship in the field of oil and gas, special taxation and budget policy. These decisions were ultimately aimed at maximizing the accumulation of oil and gas revenues, multiplying the country's wealth for the future generation and partially, targeting their use for the development of key, non-resource-based sectors of the economy.

It was determined that the replenishment of the Fund would be carried out continuously (regardless of the size of revenues of oil and gas companies) from oil, gas and oil revenues from the Fund.

These decisions were deepened, concretized and approved by the Parliament, in March 2001, in so-called «guiding principles» - in order to smooth out the expenditure of oil revenues and create a large financial reserve for solving the long-term tasks of Norway.

First, the Global Fund's Global Fund (the Oil Fund, in 2001 was transformed into a Government pension fund Global) was not intended to finance a budget deficit of non-oil origin. In this situation, there was in effect a 4 percent rule - the legislation on the expenditure of oil revenues established strict rules according to which the Norwegian government was allowed to use only 4% of the Fund's real income to finance the structural non-oil budget deficit. A tough, 4-percent rule pursued one of the main goals - to protect the state budget from a dangerous trap - its excessive dependence on oil revenues. However, now this rule is proposed to be revised downwards, as the Government pension fund Global (oil fund) of Norway is growing at a faster rate.

Secondly, fiscal policy was made anti-cyclical policy, in order to counteract the volatility of the external oil market. That is, the state budget balance (GB) now increased when economic activity was higher than the target value, and decreased in the case when the real gross domestic product (GDP) fell below the target trend.

The flexible system of taxation of oil activities in Norway allowed the state to redistribute additional price rises formed in connection with the increase in prices on world markets in its favor and, on the contrary, to weaken the tax burden for companies during periods of falling prices. To do this, a 20 percent tax on profits of oil companies was added to the corporate income tax of 50.8 percent. Later, its rate increased to 35%, but after the fall of world prices in 1986 it was reduced to 30%. In addition, the differentiation of tax rates is carried out depending on the characteristics of the deposits. By reducing the tax burden for the development of small deposits, the state managed to ensure rational subsoil use and avoid distortion towards the development of large deposits.
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Another advantage of the Norwegian policy of the oil and gas complex was manifested in promoting the consolidation of the «Norwegian» nature of the industry through the development of the national oil and service industry. It primarily concerns the creation of new technologies for underwater drilling, the construction of platforms, tankers and pipelines, the construction of oil refineries, and seismic exploration. This allowed to increase the number of jobs in the industry and increase the share of value added remaining in the country. As a result of successful state policy, the share of Norwegian companies in the supply of equipment for national oil and gas projects has steadily increased. If in 1975 this share was 28%, then in 1982 it was already 55%, in the early 1990's. it was 75 %, and in 1998 it was 81 %.Today many of the Norwegian companies work all over the world, the accumulated experience of working on the shelf allows them to implement the most difficult projects from the technical point of view.

Considered important decisions of the state allowed to achieve not only the creation of a modern oil and gas production and processing industry, but also to develop the economy of Norway. This allows the country not only to boost various social programs or create new industries, but also to carry out active foreign investment. An example is also large-scale investment in health care, road construction, increased spending on education and the adoption of economic assistance programs to provide small regions of the northern and central parts of the country with services comparable in volume and quality to those obtained by residents in densely populated regions.

Subsidies are directed to the agricultural sector, forestry and fishing industries, which also use low interest rates while securing loans from the state bank. Credits and direct investments are also directed to modernize the technological base of industry, to create «future technologies», such as telecommunications and satellite communications.

Norway has set limits on oil production in order to use a valuable natural resource for the benefit not only of the current generation, but also of the future. The pension depends on the income and length of service. The average pension amount corresponds to 2/3 earnings. The state guarantees all citizens, including housewives, the right to a 4-week paid vacation. In addition, families receive a benefit of $ 1,620 per year for each child under 17 years of age. Every 10 years all workers have the right to a yearly leave with full pay for training to improve their skills. In Norway, the highest allowances from 800-1500 euros (with full payment by the state of the unemployed housing and communal services, transport). Medical institutions here are mostly state or municipal, and investments from the state budget provide a high level of medical care. Norway is also proud of the well-developed social structure of medical care for the elderly, for example, local nursing homes are known for their level of «service». In addition to quality medicine, Norway is known for the highest level of educational costs in the world.

The state policy of Norway promotes development of innovations and increase of competitiveness and efficiency of the oil industry. In order to create an enabling environment for the development of innovative activities, the Norwegian government encourages various forms of cooperation between companies engaged in innovation [3] (Fig. 2).
It should be noted that today from the state budget of Norway, is financed the future competitive economy. Such studies as the national strategy for the development of biotechnology (research on the human genome); technology for generating energy from renewable sources; development of technologies for the oil and gas industry and optimization of oil resources management, climate change and its implications for Norway; and improvement of mechanisms for commercialization of research-and-development activity results through the system of technology transfer offices, development of new materials and nanotechnologies, etc.

State property, with proper management for society, is more optimal because the income from property does not go to satisfy the personal needs and whims of the owner, but it is used in the interests of the whole society. In Norway, the parliament carries out control over the government and chooses, in the interests of the people, the most effective scheme for organizing affairs in the economy and in the country as a whole. For many years in Norway, there has been a liberal democracy with great powers of parliament and a developed market economy, with a built-up protection of private property and an independent judiciary. Norway's society clearly supports the principle of equality. The difference in earnings between top managers and workers is one of the lowest in the world.

The Norwegian experience is remarkable, because it completely refutes the main myth of our "reforms" about the ineffectiveness of state management of the economy and state property in the leading sectors of the national economy. Due to the progressive taxation of incomes and the unchanged policy of supporting various social programs, the population of Norway actually use all social benefits.

It should also be noted that the country is rich in other natural resources. Great benefit to the economy of Norway from the available mineral deposits on its territory, bring significant reserves of iron ore. Here, more than 1.5 billion tons of ore are mined, of which about 30% is iron. The country occupies one of the leading places in the world for the production of aluminum, nickel, magnesium, ferroalloys. In addition, a large amount of alloyed electric steel, zinc, cobalt is melted. For example, for smelting of aluminum and nickel, it is on the 5th place, and for the production of magnesium, it is the second only to the United States. Ferroalloys, zinc and cobalt that are melted in Norway are considered to be the most high-quality in the world.

In this state there are the largest deposits of coal in the Arctic part of Europe. They are located on the islands of the Spitsbergen archipelago (Norway). Coal is present in considerable quantities. As of 2002, the resources of hard coal in this area are estimated by Norwegian geologists at 10 billion tons. Probable and reliable reserves of them amount to approximately 135 million tons. Reliable reserves are 35 million tons. In the main, coal reserves are located in the Barentsburg, Piramida, Longir (Paleocene), Grumant City. The main coal-bearing region with 4 mines is located in the central part of the island of East Spitsbergen. These facts are key factors for further economic growth, increasing the number of jobs and increasing the efficiency of the country's economy.

Like Norway, our country has a large number of natural reserves. According to various estimates, Kazakhstan's economy for years of independent development has become highly dependent on the oil sector,
which accounts for 25-30 % of GDP (estimate), more than 50 % of budget revenues and 60 % of exports. These data testify to the system - inclined character of the development of the Republic Kazakhstan economy.

The National Fund of the Republic of Kazakhstan was created according to the Norwegian model. However, in our country this fund performs only a savings and stabilization function, and Kazakhstanis themselves do not feel direct influence on their lives from it. At the same time, the social package of a citizen of the country is not encouraging. The quality of public medicine and school education does not cause enthusiasm among the townsfolk, paid services are very expensive. Of course, Kazakhstan has its own peculiarities in the development of the oil and gas industry.

The experience of the Republic of Kazakhstan shows that Oil Fund of the state budget and National Bank of Kazakhstan cannot serve as a joint unified policy, which ensures the stability of the tenge from its depreciation, in the form of creating the conditions for raising the competitiveness of the non-resource economy, as the only possible economic counterbalance from the collapse of oil prices. The distributions of money from the Oil Fund to keep a model of the economy like ours in the crisis does not, lead to a new, qualitative level of it, since it initially does not correspond to its structural changes and often becomes a veiled way of redistributing the country's wealth [4].

In this main problem, there are no practical results from the development institutes of the Republic of Kazakhstan, which in the world practice are created by states to solve similar problems - avoiding one-sided dependence on raw materials to rebuild the economy on the path of high-tech and diversified development.

It should be noted that the high cost of domestic mineral products is associated with a lower quality of mineral raw materials than a competitor of a number of minerals. In addition, the extraction of many of them is complicated by geographic, geological and natural climatic conditions, as well as imperfect extraction technology. As a result of such problems, the following issues arise: the economy of the RK does not reproduce skilled workplaces, and this is one of the main shortcomings of the commodity economy, as for 30 % of the able-bodied population of the RK, which is considered to be «self-employed» and 5.7 % of official unemployed, no chance to find a qualified job.

Obviously, we need concrete reforms, a new model of the economy that allows us to develop the role of markets that create the basis for obtaining large export revenues independent of the sale of crude oil - this protects the economy and the national currency from the instability of easy oil revenues. But as the world practice often shows, demand in reforms and their concrete realization comes, when the share of oil (raw materials) in formation of Gross domestic product falls up to 10 %, and in other cases high officials, without wishing to leave an easy raw rent, continue to exhaust oil fund resources, waiting for the next oil price increase

Kazakhstan's effective economic policy with regard to oil production can help our country gain a foothold in the world market. After all, Norway went through similar structural changes. If in 1970 there was no oil and gas industry in its economy, then in 10 years its share rose to 13.4 percent, and last year it was 26.1 percent. The share of manufacturing industry in thirty years (1970-2000) fell by half.

It is the oil and gas sector that should become the backbone of the diversification policy pursued in our country. There is no other way to ensure the diversification of the economy, without reliance on the oil and gas sector. (Frontal diversification is impossible. It can be made only pointwise.)

The oil and gas sector in the economic development of Kazakhstan must ensure the solution of two tasks, which at first glance seem to contradict each other. On the one hand, the oil and gas industry for objective reasons in the next decade (and maybe in the next twenty years) will remain the «backbone» of the national economy, the locomotive of economic growth. Therefore, the state's efforts will be aimed at increasing physical volumes of oil production, turning the oil and gas industry into a high-tech sector that occupies leading positions in the country's economy. The share of the oil and gas industry in the country's GDP will continue to increase and the share of manufacturing will decrease. And this is an inevitable process [5].

It is important to take into account the fact that the oil produced in different wells in Kazakhstan, unlike the oil produced in Norway, it has its own physico-chemical composition. For example, the oil of Mangystau is allocated to a separate group. It contains a large amount of paraffin carbohydrates. And the oil of the Buzachi peninsula is highly humid (Table).
The list of Kazakhstani oil is unique in its physico-chemical composition

<table>
<thead>
<tr>
<th>Name of oil</th>
<th>A sign of uniqueness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emba Light petrol</td>
<td></td>
</tr>
<tr>
<td>Mangystau</td>
<td>Has a high content of paraffin, low-sulfur</td>
</tr>
<tr>
<td>Tengiz</td>
<td>Contains hydrogen sulphide, mercaptans, high content of light fractions</td>
</tr>
<tr>
<td>NorthBuzachi</td>
<td></td>
</tr>
<tr>
<td>Kalamkas</td>
<td>Heavy high-resin</td>
</tr>
<tr>
<td>Karazhanbasskaya</td>
<td>(high viscosity)</td>
</tr>
<tr>
<td>Kumsayskaya</td>
<td></td>
</tr>
<tr>
<td>Zhanakholskaya</td>
<td></td>
</tr>
<tr>
<td>Yaregskaya</td>
<td>Increased hydrogen sulphide content</td>
</tr>
<tr>
<td>Kumkol</td>
<td>Heavy low-sulfur</td>
</tr>
</tbody>
</table>

This is both a positive and a negative moment for the economy of our country. The country will need large financial investments for the construction of refineries [6].

Using promising technological methods for allocating associated valuable components in oil refining, depending on the physicochemical characteristics and fractional composition of Kazakhstani oil, it is possible to further increase the revenue from sales of refined products. Thus, through the development of oil refineries and product recovery with high added value, Kazakhstan can become one of the leading countries in the world in petrochemicals, including the production of many types of finished products from synthetic materials. In parallel it is necessary to carry out work on providing stable relations between traditional sectors and other economy that will allow to create a number of new branches which will have an opportunity to develop at an initial stage through service tinning of the oil and gas sector. This will also create favorable conditions for the formation of clusters of small and medium-sized businesses around the enterprises of primary industries.

It should be noted that Kazakhstan and Norway are considering the possibilities of interaction in different sectors of the economy. So, in 2015 Norwegian delegation was 5 days in Kazakhstan. During the visit, there was a discussion of expanding cooperation in the field of trade and energy projects, developing business ties between Norwegian and Kazakh companies.

Interstate relations between the Republic of Kazakhstan and Norway have considerable potential. In most issues of international politics, they have the same views and almost no differences. These two countries unite development priorities that are aimed at sustainable energy, technology and innovation, contributing to the improvement of the environmental friendliness of production and consumption, the efficiency of resource use and waste processing.

Kazakhstan-Norway Center for Technological Cooperation was established by these two countries, its activities are aimed at developing cooperation between organizations and companies of both countries. Besides oil and gas sphere and aquaculture, the Republic of Kazakhstan is open to Norwegian investments in virtually all sectors of the economy. A positive factor in the development of relations between countries is their territorial location, so to say, they are on different sides of the continent. To date, several dozen Norwegian companies operate on the Kazakh market. Given the pace of development of relations between countries, we can soon expect a significant increase in mutual investment cooperation and the creation of major Kazakh-Norwegian projects in all sectors of economic interaction. And, of course, Norway can share technologies with Kazakhstan in the field of environmentally safe field development [7].

Within the framework of the visit of the Norwegian delegation to Kazakhstan, the parties discussed the possibilities of developing cooperation in the energy sector, in particular, in the use of innovative approaches and new technologies. This cooperation is very beneficial for the Kazakh side. Norway has one of the largest technical universities in Northern Europe in the field of drilling - Norwegian Drilling Academy. The Norwegian Academy offers Kazakhstan specialists a comprehensive program for the technical training of specialists in the oil field. E. Sadvakasov, the Chairman of the Board of Kusiphor Holding, together with the Director of Samruk-Kazyna Corporate University G. Hayes and the leadership of the Kazakh-British Technical University (KBTU) discussed at the meeting aspects of vocational and technical training for people of Kazakhstan.
Norway has always been a unique example in the management and disposal of oil and gas resources. This country is consistently ranked first in comparative studies on the quality of life, the index of human development and happiness. The role of hydrocarbons in achieving such a high position of the Scandinavian countries is crucial. Norway has always been a unique example in the management and disposal of oil and gas resources.

References

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Норвегия экономикасы дамуының мысалына жер қойнауын пайдалау қаласының әштелдік тәжірибеде
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Зарубежный опыт недропользования на примере развития экономики Норвегии

В статье рассматривается вопрос о необходимости использования зарубежного опыта в нефтегазовом комплексе Казахстана. Значительные запасы углеводородного сырья, выгодное географическое положение нашего государства, дальнейшее увеличение объемов добычи нефти и газа указывают на то, что и в будущем нефтегазовый комплекс будет занимать ведущие позиции в экономике Республики Казахстан. С его развитием связываются определенные надежды на дальнейшее социально-экономическое развитие страны. Поступления от нефтегазовых компаний составляют основную часть государственного бюджета. Нефтегазовый комплекс оказывает решающее воздействие на социально-экономическое развитие страны и ее отдельных регионов, по сути, является донором для всех экономик государства, способствует развитию других отраслей экономики. С работой предприятий нефтегазового комплекса связано превращение в жизнь наиболее значимых социальных программ в местных регионах и всего государства. Изучение Казахстаном опыта такой страны, как Норвегия, сумевшей на основе своих нефтяных запасов сотворить экономическое чудо, подтверждает, что курс на максимальную реализацию общественноэкономических интересов, как в наиболее полной степени учитывая интересы широких слоев населения и страны в долгосрочной перспективе, — единственно правильный. Формулирование этих интересов и закрепление их в высших законодательных документах страны должно стать точкой отсчета в реформировании системы государственного регулирования нефтегазового комплекса.

Ключевые слова: нефтегазовый комплекс, нефтегазовые доходы, инвестиции, природные запасы, налоги, Нефтяной фонд, переработки нефти, новые технологии.

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