# Analysis of the Status and Problems of Development of Mineral Resources Base of Mining and Metallurgical Complexes of the Countries Customs Union

Alexandr Alexandrovich Lissenkov

Kazakh National Technical University named after K.I.Satpayev, Kazakhstan

**Abstract.** The report focuses on the study and analysis of the present state and problems of the development of mineral resource bases mining systems of member countries of the Customs Union. According to the analysis made recommendations to address the deficiencies identified in the field.

**Keywords:** Mineral resources base, mining and metallurgical complexes, Customs Union, Belarus, Kazakhstan. Russia. intergovernmental expert group.

### 1 Introduction

In July 2010, within the framework of the Eurasian Economic Community began functioning Customs Union composed of Belarus, Kazakhstan and Russia. This is an interstate association was founded to trade and economic integration of these countries, and included the formation of a common customs borders of their territory. With mutual trade in goods within that territory shall not apply customs duties and restrictions of economic nature, with the exception of special protective, antidumping and countervailing measures. The countries of the Customs Union, apply a common customs tariff and other common measures regulating trade with third countries.

The expected profit to be received from the Russian Customs Union by 2015 is estimated by experts to be worth about \$ 400 billion, Belarus and Kazakhstan - for \$ 16 billion. The total growth in gross domestic product for the period was 15.0%. It is assumed that the full use of the potential of the Customs Union terms of carriage of goods from China to Europe will fall by about 4 times.

Economies of the two countries of the Customs Union (Russia and Kazakhstan) have a pronounced raw-material orientation, which imposes a definite impact on the nature of trade within this association. Therefore, the turnover of the member countries of the Customs Union dominated by large-tonnage products - oil, natural gas, petroleum products, ferrous and non-ferrous metals and various products from them. To maintain and develop their production needs huge amounts of

investment, labor, material and energy resources. And for the smooth movement of large-tonnage products from their places of production to places of consumption must function effectively branched transport communications.

The achievement of the goals set by the Customs Union, will largely depend on the outcome of the operation of these industrial and transportation systems, which in turn are directly dependent on the performance of mining and processing complexes countries of the Customs Union.

As you know, before the collapse of the Soviet Union in its territory functioned unified state system that combines the raw mineral, mining and processing complexes Soviet republics. However, after the collapse of the state there was a gap developed over many years of economic relations, which led to a deep economic crisis that hit the economies of the new independent states formed on the territory of the former USSR. It has been two decades and is now "monument of the" began moving toward integration. The Customs Union was a good example of this movement in the new political and economic conditions.

In connection with the establishment of the Customs Union and the Common Economic Space relevant questions are studying the current status and problems of the development of the mineral resources base of mining and metallurgical complexes of allied countries. On the one hand, this is explained by the role played by these complexes in the economy of Belarus, Kazakhstan and Russia. And the other - the need to develop harmonized mineral policies of the countries involved in these associations.

At the core of this research is currently in the program documents in which an assessment of the current status of the mineral raw material bases of Belarus, Kazakhstan and Russia, and the main directions of development in the short and longer term [1-3].

Comparative analysis of the key provisions of the instruments allowed us to formulate a set of proposals aimed at the development of integration processes in the field.

# 2 Status of Foreign Trade of the Customs Union

The basis of this part of the study on data from statistical agencies of the Republic of Belarus, Republic of Kazakhstan and the Russian Federation, including the volume of foreign trade, exports, imports, trade balance in static (2011) and trends (2006-2011) in order to avoid only assess the current state in the field of the member countries of the Customs Union, but also to track changes in key indicators of foreign trade over time and to identify specific trends. Special attention was paid to indicators of foreign trade in the pre-crisis (of 2008 before) and post-crisis periods, with the countries of the CIS and non-CIS countries, as well as with the countries of the Customs Union.

Since the products are studied mining complexes - are the products of multi-ton used primarily for the production of metal-products, it is precisely these groups of products stand out from their total mass, and subjected to structural analysis.

# 2.1 The Republic of Belarus

The results of foreign trade of the Republic of Belarus are in strict dependence on the volume of sales and purchases of mineral resources, including large-capacity products like crude oil, oil products and metals (41.5% of exports and 51.7% of imports), and the volume of sales and metal-purchase of goods - machinery, equipment and vehicles (19.7% of exports and 23.1% of imports). Thus, the total proportion of both groups of such goods is: 61.2% of exports and 74.8% of imports. If the highlight of their mass, only metals and metal products, their total share of these commodities is: 25.7% of exports and 33.1% of imports, which is also very strongly.

## 2.2 The Republic of Kazakhstan

The Republic of Kazakhstan has rich mineral and raw material base, advanced oil & gas and mining facilities, and is active in foreign trade with the member countries of the Customs Union and other countries of the CIS, as well as non-member states in these structures.

As the analysis of the main indicators of foreign trade of the Republic of Kazakhstan for the period from 2006 to 2011 the volume of foreign trade has more than doubled - from 61.927 to 125.802 billion U.S. dollars. The main contribution to this growth has made exports, which increased during this period by 2.3 times, while imports - only 1.6 times.

Commodity structure of export of Kazakhstan is characterized by the following figures: 77.7% of mineral products, basic metals and articles of 13.2%, chemicals 3.8%, precious and semi-precious metals 1.2%.

In imports for machinery, equipment and vehicles have 35.8%, 13.8% mineral products, basic metals and articles of 9.9%, chemicals 8.2%.

Thus, Kazakhstan is not only a major exporter of mineral products, but also their importer.

### 2.3 The Russian Federation

Russia - the largest country, part of the customs union has a strong mineral resource base provided by a large number of fields of different types of minerals. On this basis, operating numerous businesses that make up the oil and gas, mining and metallurgical complexes of the country. Their production accounts for a large part of Russia's exports and is the main source of foreign exchange to the country. Russia surely ranks high in the world rankings for the production of certain types of industrial products, including cast iron - 3rd place, steel, coal - 5, ferrous metals 6.

Commodity structure of Russian exports is characterized by the following figures: 70.3% of mineral products, metals, precious stones and articles of 11.1%, chemicals 6.0%, and other products 12.6%.

In Russia the share of imports of machinery, equipment and vehicles accounted 48.0%, mineral products 2.1%, metals, precious stones and articles of 7.1%, chemical products 14.9%, 27.9 Merchandise %.

This shows that the results of Russian foreign trade is in direct proportion to the sales of mineral resources, as well as on the volume of purchases of metal-products - machinery, equipment and vehicles.

The results of this research are drawn general conclusions about the role of mining and metallurgical complexes in foreign economic activity of all three countries of the Customs Union and their actual contribution to this effort. An objective assessment of the situation in the mining and metallurgical complexes of Belarus, Kazakhstan and Russia, has allowed to formulate specific recommendations aimed at their common development.

# 3 Mineral Resources Base of Mining and Metallurgical Complexes

## 3.1 The Republic of Belarus

Mineral resources of the country's more than 10,000 mineral deposits, including fuel and power their types (oil, associated gas, peat, lignite and oil shale), potash and rock salt, building materials, fresh and mineral underground waters, iron ore, gypsum, rare metals, phosphates, alumina-soda raw materials, industrial brines.

Deposits of oil, peat, potash and rock salt, dolomite, construction materials, fresh and mineral underground waters, on the basis of working successfully industries. The largest volume of production (about 40 million tons per year) accounted for potash deposit. At the same time, effectively mastered enough trained geologists to industrial development of other essential minerals.

Despite the presence of its own sources of minerals country buys overseas oil, gas, raw materials for steel production, facing stone, glass sand, bentonite and kaolin clays, gypsum, as well as construction materials based on gypsum, apatite and phosphorite.

In the country the "Program of development of deposits of mineral exploration and development of mineral resources in 2011-2015 and for the period up to 2020" [1]. With its design takes into account the needs of industries in mineral resources, reflected in the sectoral programs and long-term plans for the development of large enterprises of the republic, used in the manufacturing processes of minerals, as well as the balance of consumption and reproduction of their own reserves of mineral resources.

The intention of the Programme [1], its implementation will solve the actual problem intensifying exploration of the depths of Belarus, aimed primarily at the growth of the gross domestic product by an increase in mining operations, ensuring maximum mineral resources of enterprises of the republic, the increase in export capacity and reduce dependence economy on imports of mineral raw materials.

The main volumes are expected to increase in reserves for energy minerals (oil, lignite, oil shale), agrochemical raw materials (potassium and magnesium salts, dolomite), cement raw materials, building materials and other non-metallic minerals. As for the targets expected increase in reserves of ferrous, non-ferrous, precious and rare metals in the coming period, they in the program [1] is completely absent.

The vast majority of fields that are to be prepared in the design, are nemetallorudnymi. Metallorudnyh fields of investment proposals for the drafting of feasibility studies and involvement in the development of Okolovsk iron ore deposit located in the Minsk region. In addition, the planned assessment of the prospects for uranium in Belarus, as well as approval of stocks Mstislavl phosphate deposit located in the Mogilev region.

Production and technical potential of geology is characterized by a high degree of wear and tear, urgently requires modernization and renovation. In this situation, recognized the need to purchase specialized equipment and materials in the Russian Federation and CIS countries.

The volume of import substitution on the drilling rigs for oil and gas is now around 40% of the composition of complete equipment. Is expected to increase this level to 55% at the expense of their own development.

Very slowly in the process of attracting private investment, especially foreign, development of mineral resources of the country.

Unsatisfactorily solved the problem of developing and bringing new modern energy efficient and environmentally friendly technologies for the extraction and processing of mineral raw materials. Here are developed only two directions - the development of technology is not the fuel use of brown coal technology and solution mining of potash and magnesium salts, which are far from over.

Until recently, the country has not carried out the coordination of work in preparation for the commercial development and the development of mineral deposits, the valuation of exploration and analysis of the world market of mineral resources. In this regard, implementing specific measures to reform and optimize the structure of the exploration sector.

# 3.2 The Republic of Kazakhstan

In terms of reserves of lead, zinc, copper, oil, chromium, iron, manganese, tin, gold, phosphate, boron and potassium salts, our country is among the top ten countries in the world. On their basis and are successfully operating large industrial complexes of the country.

The most characterized by high competitiveness resources base of iron ore, manganese and chromite industries. However, the greater concern is the developing situation with the security of existing enterprises competitive reserves of copper, lead, zinc and gold. Therefore, in the coming period may increase the threats associated with the rapid depletion of the mineral resource base of existing production facilities for these types of minerals.

In the country the "Program for the development of the mineral resources sector in the Republic of Kazakhstan for 2010 - 2014 years" [2] (approved by the Government of the Republic of Kazakhstan on December 31, 2010 number 1530).

The purpose of this program: to ensure a rational and integrated use and reproduction of mineral resources for the active development of all sectors of industry.

To achieve this goal, the following tasks:

- 1. Provision of study in Kazakhstan assessment of inferred resources.
- 2. The increase in reserves for the main types of minerals.
- 3. Providing the population with quality drinking water from underground sources.
- 4. Formation of a database of geological information and geo-information systems.

Implementation of the program [2] provided from the national budget, the subsoil investment and public-private partnerships. Thus for five years from the state budget should be allocated a total of \$ 49,525 million tenge. In addition, the implementation of activities under the public-private partnership will be allocated 2,970 million tenge.

Despite the measures taken, the threat of rapid exhaustion of the mineral resource base of existing companies in the mining and metallurgical complex, as evidenced by a low percentage of harvested stocks replenish essential minerals, which by 2014 is expected to reach only 50% level.

The absence of systematic data on actual and planned investment volume of subsoil users in the development of mineral resources is not possible to relate these volumes with the volumes of financing of prospecting and exploration of the state budget.

The open question is accurate quantitative assessment of the effectiveness of budget expenditures which will be invested in the development of the mineral resources sector in the coming period.

Is still faced with problems of skilled manpower for geology, business participation in the development of the scientific sphere based on the needs of practice, etc.

List of the main issues to be speedy solutions, it would be a problem to add more manageable mineral resource complex of the country on the basis of systematic set of principles, balance, complexity, adaptability, responsiveness, transparency, efficiency, etc. First of all it concerns the handling of stocks of strategically important mineral resources in the competitiveness of Kazakh products in world markets.

#### 3.3 The Russian Federation

Russia has vast mineral resources, explored-governmental mineral, powerful oil and gas, mining and metallurgical complexes, which are the foundation of the economy, the main source of foreign exchange to the country, an instrument of

domestic and foreign policy. However, the present and the future of the mineral to ensure the country's economy is affected by a large number of negative factors.

The most acute problems of the Russian mineral complex are:

- The lack of development of the mineral resources base of manganese, titanium, chromium, tin, tantalum, niobium, zirconium, bentonite, barite, high-alumina raw material, crystalline graphite, which needs to be covered by imports;
- In the presence of significant reserves of lead, tantalum, niobium, tungsten, barite, bentonite, they are produced on a small scale, and domestic consumption is provided mainly through imports;
- Many of the deposits of strategic minerals and liquid are in a state of declining production due to the exhaustion of profitable stocks. The estimated security companies such reserves in 2008 were as follows: for gold placer -2011, Golden Root 2015, oil 2022, tin and platinum 2018;
- Until recently, exploration work was carried out in very limited quantities or not performed at all in such kinds of minerals, such as salts, phosphates, highpurity quartz, bentonite, etc.;
- The country is practically no provision of facilities at which the next few years may receive a significant increase in reserves of gold, platinum, nickel, copper, boron, fluorspar (fluorite);
- In unallocated subsoil fund large share of reserves and deposits, the development of which is economically impractical;
- The operating system does not provide a license subsoil conditions and incentives necessary to increase the investment attractiveness of exploration. Therefore, many of the leading companies of mining and smelting complex, with sufficient reserves transferred to the license usage, have no interest in carrying out such works.

In the country, a "long-term state program of study of the subsoil and reproduction of mineral resources ..." [3], which aims to weaken the effect of these negative factors and reducing risks by maintaining a balance in the "exploration - reproduction - the use of mineral resources." The main advantage of this program is the use of her retrospective and scenario forecasting data on average annual reserve replacement of the fuel and energy resources, based on the projected needs of the Russian economy in the mineral raw materials, including fuel and energy resources in the medium and long term.

This study evaluated the strengths and weaknesses of the existing programs of development of mineral resources base of member countries of the Customs Union, the comparisons and analysis of the key provisions of these programs. The conclusions arising from this study:

### 4 Conclusion

1) Program of Belarus and Russia have more than clear language their objectives compared to Kazakh program. Thus, the objective of the Programme of Belarus: "The needs of the economy in mineral resources and reduce economic dependence on imported energy." The aim of the Russian program "Promoting balanced

development and utilization of mineral resources to meet the needs (including export) economy in mineral resources, and the consolidation of the geopolitical interests of the Russian Federation in the long term." The purpose of the Programme of Kazakhstan: "Ensuring sustainable and integrated use and reproduction of mineral resources for the active development of all industries."

The meaning of this language is to orient the program into two sub-goals: 1 - to ensure a rational and comprehensive utilization of mineral resources, 2 - reproduction of mineral resources. It is clear that sub-goal 1 refers to the industrial sector of mining and refining of minerals, while the sub-objective 2 - to the field of exploration of mineral resources. In our view, such an association composed of one purpose of its two sub-goals creates a "split" the main goal. By the logic of this was to entail a "split" the content of the program itself. However, the program [2] does not solve the problem of a rational and comprehensive utilization of mineral resources in Kazakhstan, as evidenced by the above list of objectives of the program that are not related to the sustainable and integrated management of mineral resources also stated aim of the program [2] is not consistent with the wording of the designated the ultimate impact of the geology of Kazakhstan, which "will focus on the identification of new mineral reserves that provide the raw material, political, and economic security of the country."

The very essence of the mission and programs of development of mineral resources of Kazakhstan in the current conditions in much better suited to be the following formulation of its objectives:

"Ensuring a balanced development of mineral resources to meet the growing needs of the economy of the Republic of Kazakhstan and foreign markets in mineral resources."

The language represents the main direction of development of the mineral resource base of the country, which should be linked with the ever-growing demand for mineral resources, both internal and external markets. Effective means of achieving this goal should be a balanced management of the mineral resource, oil and gas, mining and metallurgical complex. Unfortunately, to achieve an acceptable degree of balance of consideration of the economy can not be, not only in Kazakhstan but also in other countries with powerful mineral complex.

- 2) Given the long duration and the inertia of the processes taking place in the mineral-based industries, preferably longer terms of the Belarusian and Russian Programs (2020), in comparison with Kazakhstan (2014).
- 3) the low percentage of fill in Kazakhstan harvested stocks of essential minerals (up to 50% in 2014) means that the increase in reserves as a result of exploration work falls far short of the volume of the investment. And each year, the gap is not only not declining, but growing.

In contrast, in the Russian program used a more appropriate indicator of the target mineral resources, reflecting the "compensation payment mineral reserves of growth in line with the needs of the development of mining facilities and basic industries."

No less important is the target of such an indicator as "mineral resources, including the creation of a fund for future generations subsoil citizens of the Russian Federation."

4) Comparative analysis of the sources and amounts of funding under consideration of the program showed that all of them are implemented with the involvement of both low budget sources. However, if in the Republic of Belarus the ratio of the volumes of approximately equal (51% to 49%), the Russian program is clearly dominated (about 90%) extra-budgetary sources. Unfortunately, the Kazakhstan program has not found full reflection of part of subsoil users in its funding.

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