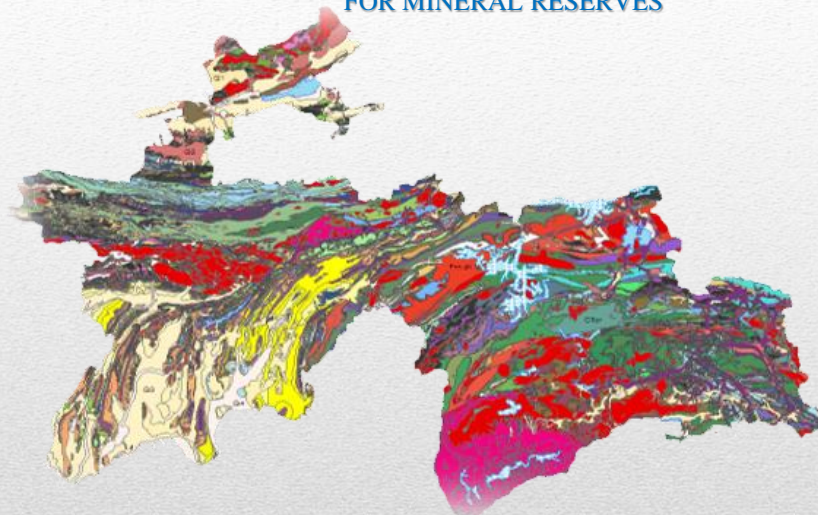


# THE REPUBLIC OF TAJIKISTAN

MAIN DEPARTMENT OF GEOLOGY UNDER THE GOVERNMENT OF THE REPUBLIC OF TAJIKISTAN

STATE COMMISSION OF THE REPUBLIC OF TAJIKISTAN  
FOR MINERAL RESERVES



## Geology of Tajikistan - transition to international standards

**Rahmonbek Bakhtdavlatov**

Chairman of the State Commission of the Republic of  
Tajikistan on mineral reserves

Phone: +992 (372) 2275520

E-mail: [kdz.tajikistan@gmail.com](mailto:kdz.tajikistan@gmail.com)

Web: [www.gst.tj](http://www.gst.tj)

## Introduction

**Tajikistan** possesses sufficiently rich natural resources and in development plans they should become one of the basic industries that will pull the growth of the Tajik economy.

Currently, there are enterprises in the republic for the extraction of gold, silver, lead and zinc, antimony, coal, building materials.

At the same time, geologists of the republic are conducting prospecting and exploration work for all types of raw materials, including the discovery of deposits of rare earth elements (REE). There are already preliminary results on the presence of REE in certain areas.

## Introduction

With a large amount of mineral resources available, and based on the country's strategic development plan, great attention is paid to exploration. In the area of primary aluminium production, measures are being taken to further enhance its international competitiveness.

The mining industry includes - exploration and development of gold, silver, lead, zinc, copper, bismuth, tin, iron, rare earth elements and other ore minerals, as well as nepheline, rock salt, quartz, limestone, dolomite and other non-metallic minerals.

At present, the first steps are being taken to turn the mining industry of Tajikistan into a basic sector of development and thereby to carry out the country's transition from an agro-industrial to an industrial-agrarian system of the national economy. The strategic task of industrialization of the country adopted by the government is a priority in this direction.

## United Nations Framework Classification for Resources (UNFC)

The United Nations Framework Classification for Resources (UNFC) provides countries, companies, financial institutions and other stakeholders with a futuristic tool for the sustainable development of energy and mineral resources

UNFC applies to energy resources, including oil and gas; Renewable energy; nuclear fuel resources; mineral resources; injection projects for geological storage of CO<sub>2</sub>; and anthropogenic resources such as recyclable resources recycled from residues and waste.

## United Nations Framework Classification for Resources (UNFC)

Emerging challenges in these sectors are sustainable, environmentally safe, carbon neutral and efficient development, the production of energy and raw materials needed for a growing population. Innovations in production, consumption and transport are fundamentally changing the way the energy and material sectors function today.

A unique tool for harmonizing policy frameworks, government oversight, industry business processes and efficient capital allocation, UNFC is able to manage the natural resources needed to meet current and future societal needs and achieve sustainable development goals.

## State Reserves Committee of the Republic of Tajikistan (GKZ)

The GKZ reporting system covers the entire spectrum of resources and reserves: from planning regional exploration to detailed explored reserves with strictly defined boundaries at operating mines.

### System:

- Fully coordinated with mining law and taxation system,
- Intended for leadership, management and planning, but not primarily for obtaining market funding,
- Involves the use of manual rather than computerized calculation methods.

Currently, there is a gradual transition to international reporting standards, including the calculation of reserves of mineral deposits.

## State Reserves Committee of the Republic of Tajikistan (GKZ)

### Problems:

- Many different ideas about the matching between the Soviet and international categories;
- Widespread misunderstanding of the GKZ system and the difference between systems;
- It is too expensive to resolve these contradictions:
- Duplication of work with parallel calculation of resources / reserves according to the State Reserves Committee and the international system;
- As a result, estimates of reserves according to the GKZ and the international system often differ fantastically.

## Natural Resources of the Republic of Tajikistan

A resource-based approach to determining the priorities for the development of the export potential of the industry of the Republic of Tajikistan in modern conditions, when the country is actively integrating into the world economy, the role of the natural factor in the development of the economy of Tajikistan is increasing.

It is this factor that should become the driving force behind structural transformations, the formation of new specialized industries and ensuring economic growth.

In this regard, the assessment of the country's natural resources is one of the important components of solving the problem of increasing the export potential of the republic.

The natural resources of the country can be defined as the initial base of production, based on which the national economy develops.



## Natural Resources of the Republic of Tajikistan

The development of science and technology is primarily associated with the use of rare metals. Their use has become the reason for the emergence of a number of industries, science and modern technology. All supermagnetic, ultralight, superhard, superheat-resistant and high-strength structural materials today are created on the basis of or using rare elements.

The need to develop the potential of rare earth mineralization on the territory of the Republic of Tajikistan has arisen in connection with the increased consumption of rare earth elements for high-tech products used, in particular, in the defence, energy and space industries.

In Tajikistan, the production of rare metals was carried out by the enterprises "Leninabad Combine of Rare Metals", Isfara Hydrometallurgical Plant and "Vostokredmet", which currently operate at 10-15 percent of production capacity

## Natural Resources of the Republic of Tajikistan

However, even with a high conjuncture on the REE market, there was practically no work in this direction in Tajikistan, and searches for REE were not included in the plans, but were discovered only by chance in the form of passing points and anomalous concentrations during geochemical sampling on survey areas and at sites, and have also been identified as associated rare earth minerals.

Currently, a technique has been developed for identifying promising areas, based on the use of satellite images, statistical processing of primary data with further refinement through field testing and the determination of rare and scattered elements using precision laboratory analytics, isotope dating and formation analysis of host rocks, including petrology, geochemistry. etc.

Based on the analysis and assessment of the state of the mineral resource base of the Republic of Tajikistan, the current state of geological study of the entire territory of the republic of relatively rare metals was analysed, the directions of exploration work and the expected results were determined.

## Natural Resources of the Republic of Tajikistan

Based on the work performed in recent years, promising areas of REE have been identified in some areas, which are recommended by specialists for setting up a more detailed geological study on them.

Industries need CRMs from primary deposits because many CRMs can only be partially or completely disposed of. The supply of CRM from primary fields is in the hands of several countries such as China and others.

Further development of any future technology is impossible without access to CRM. Without access to CRM, there will be no progress in communications, further development of electric vehicles, renewable energy and national defense.

The pandemic has temporarily stopped or reduced production in supplier countries, taking into account their specifics. Consequently, production in CRM importing countries will be reduced for the same reasons. Thus, there will be a temporary reduction in supply and demand.

## Mining industry of Tajikistan

The mining industry of Tajikistan has a good mineral resource base, the volume of which is sufficient to ensure the development of the industry for the long term.

Traditionally, the mining enterprises of the republic mined ore and its primary processing with the release of concentrates, and the metallurgical redistribution took place outside the republic. The lack of capacity for the production of the final product significantly hinders the development of the industry. However, the situation has changed recently. At present, efforts are being made to obtain the final products of mining enterprises in the republic itself..

**The subsoil of Tajikistan** are rich in various minerals. To date, more than 600 deposits and promising sites of more than 50 types of minerals have been identified, explored and are being prepared for development in the Republic of Tajikistan.

## Potential in natural resources of the Republic of Tajikistan

The results of prospecting and exploration work in recent years indicate that the fund of newly discovered deposits is far from being exhausted. In the bowels of the Republic, new deposits of various types of minerals may still be discovered.

Some of the already known areas, according to the results of prospecting and surveying works, can be transferred to the category of industrial deposits. There is big potential for converting the benefits of natural resources into economic benefits.

Based on the diversity and capacity of mineral resources explored in Tajikistan to date, as well as from an analysis of the potential of upcoming geological exploration, mineral resources have the conditions necessary to turn the extraction of natural resources into a basic industry..

## Potential in natural resources of the Republic of Tajikistan

Efforts are being made in the republic to identify new deposits and prior to the study of already known sites of minerals, while there is a tendency to obtain an estimate and increase in reserves of mineral raw materials, which in turn lead to resource support for the production system in the non-ferrous industry of Tajikistan.

Active extraction of natural resources determines the scale of development to meet domestic and export needs, and consistently develops the industry.

## Options for the development of the mining industry

For the mining industry of the Republic of Tajikistan, the following development paths are indicated :

- strengthening of geological exploration for a complete study of mineral deposits,
- development of measures for the scientific substantiation of the development of a strategy for the development of the mining industry,
- intensification of exploration work - ensuring the priority of exploration work before the start of field development,
- involvement of explored mineral deposits in development,
- improving the investment climate in the mining industry and ensuring the reliable provision of information on natural resources,
- implementation of international standards in the calculation of reserves of mineral deposits.

## Steps to transition to international standards

At the same time, concrete steps are taken in the republic to switch to international standards of the geological industry, including:

- prepared for consideration regulatory documents on the calculation of reserves of various types of minerals,
- trainings are carried out on software for calculating reserves of mineral deposits (Micromine etc.),
- work is underway to implement the JORC Code and other international standards,
- industry experts are actively involved in UN activities to adapt the UNFC and the classification currently active in the country.

We consider it necessary to continue work in this direction, and to ensure the transition of the geological industry of the Republic of Tajikistan to work in accordance with international standards.



## Conclusion

The development of mineral resources is an area in which the country has advantages. The number of projects for geological study of the entire territory of the country is gradually increasing, measures are being taken to increase the degree of development of the identified deposits.

The conditions for attracting foreign investments in geological exploration are improving, various preferential conditions in the field of taxation are provided, the import of new technological equipment is exempt from customs duties and a number of other measures designed to give impetus to the development of the mining sector.

# *Thank you!*



*Alay Ridge, East Tajikistan.*

**Rahmonbek Bakhtdavlatov**  
Chairman of the State Commission of the Republic of  
Tajikistan on mineral reserves  
Phone: +992 (372) 2275520  
E-mail: [kdz.tajikistan@gmail.com](mailto:kdz.tajikistan@gmail.com)  
Web: [www.gst.tj](http://www.gst.tj)