



## Mining and processing of rare earth metal ores from the Kundybai deposit

### Product

Annual capacity:

- Ore containing rare-earth elements – 3 million tonnes;

### Project

This investment project (the “Project”) envisages the development of the Kundybai rare earth element deposit. Due to the intermittent location of the four ore bodies, the deposit will be mined by three separate quarries. It is planned to use an opencast method of ore extraction.

### Company

The project initiator is Kundybai Mining JSC, whose core activity is conducting geological exploration and surveys without scientific research and development. The initiator is in the process of obtaining a license for the production of solid minerals (REM) at the Kundybai deposit (four quarries with a geological allotment area of 31.2 sq. km).

### Market

- China showed an average annual positive growth rate of REM production of 12.5% from 2017 (105 thousand tonnes) to 2021 (168 thousand tonnes). According to the plan of the Ministry of Natural Resources of China, quotas for mining and smelting will increase by 20% and amount to 202 thousand tonnes and 194 thousand tonnes, respectively.
- Between 2017 and 2021, the Chinese government has taken a number of measures to limit the export of raw materials containing REM to localize the production of highly processed products from REM. As a result, China increased its share in global exports of REM processed products from 50% (5.5 thousand tonnes) in 2017 to 64% (8.8 thousand tonnes) in 2021.
- The level of global mine production of REM has been continuously growing from 132 thousand tonnes in 2017 to 280 thousand tonnes in 2021, demonstrating a rapid CAGR of 20.7%.

### Project investment attractiveness :

Investments – US\$ 1,439 thousand

NPV – US\$ 16,100 thousand

IRR – 28.4%

Payback period – 6.7 years

### What is the project's attractiveness?

- **Estimation of deposit reserves.** The reserves were placed on the state balance sheet in 2012. Kundybai is among the richest REM deposits in Central Asia. The deposit's assets include 25 thousand tonnes of approved reserves of REM oxides in C2 category. The volume of ore reserves with an average REM content of 0.051% is 49 million tonnes.
- **Developed infrastructure.** The deposit is located 50 km southwest of Zhitikara, near which the A-23 highway of republican significance passes, and is partially connected to the city by a field road with a total length of 50-70 km. There is a railway station. There are no large settlements, protected natural and cultural objects within the boundaries of the contract territory.
- **Favorable conditions for mining.** The physical and geological properties of the ore from the Kundybai deposit make it possible to avoid drilling and blasting. Soft, dense or loose rocks are removed directly from the massif using an opencast method.

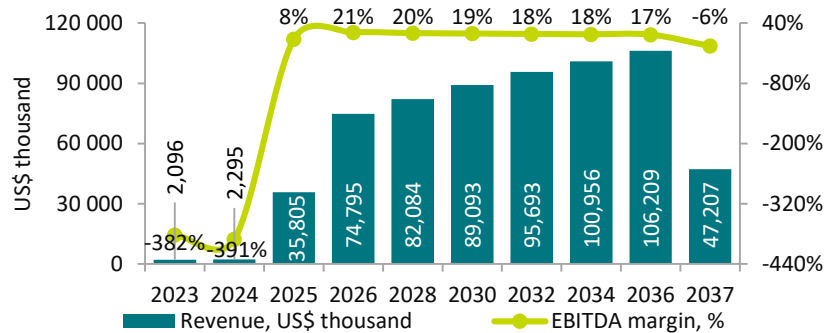
### Investment proposal

The Project requires investment of US\$ 1,439 thousand, of which:

- 70% (US\$ 1,007 thousand) – debt financing subject to collateral;
- 30% (US\$ 432 thousand) – investor participation.

The proposed financing structure and state support measures are indicative. The final financing structure and Project interests will be determined based on the results of negotiations with the investor.

### Project profitability



### Project location

