INVESTMENT OPPORTUNITIES OF KAZAKHSTAN
Niche projects
Agriculture-industrial complex
Expansion of the confectionery production

Commercial products
Production volume will be as follows:
• biscuits – 2,371 tonnes;
• candies – 402 tonnes;
• marshmallow – 1,099 tonnes;
• chak-chak – 298 tonnes;
• jams, preserves, fillers – 265 tonnes.

Project description
This investment project (hereinafter - the “Project”) envisages the expansion of the confectionery production in Shymkent in order to meet domestic demand for high-quality confectionery products, increase export potential of the country, as well as create up to 160 new jobs in Shymkent.

Company
SWEET Ideas-KZ LLP is an operating confectionery enterprise. Main activity: Production of bread; production of fresh flour confectionery, cakes and pastries. Company has distributors in Kazakhstan and Kyrgyzstan.

Market
• In 2020, the production of flour confectionery, as well as cocoa, chocolate and sugar products in the world amounted to USD 412 billion and USD 163 billion, respectively. In 2020, there was a slight decrease in production indicators by 2%.
• Consumption of long-life confectionery increased by 12% in 2020 compared to 2016, while CAGR of consumption of breadcrumbs and biscuits for the period 2016-2020 was 3%, which indicates a stable demand for products in the low-price segment. Consumption of chocolate and sugar products has increased by 5% over the past five years, reaching 163,000 tonnes in 2020.

What is the attractiveness of the project?
• Advantageous location. The initiator is one of the producers of confectionery products in Shymkent agglomeration. The plant is located in close proximity to the target group of consumers numbering 1.1 mln people. Availability of developed transport junction in Shymkent will allow prompt delivery of products to the regions of Kazakhstan and further to the market of Kyrgyzstan and Uzbekistan.
• Year-round production. The company has a storage area of 2,500 sq.m, which will allow it to keep raw materials in proper quality to ensure year-round uninterrupted production, which in general mitigates the risk of seasonal production.

Investment attractiveness of the project:
Investment – US$ 10,779 thousand
Project NPV – US$ 6,045 thousand
MIRR – 17.6% 
Payback period – 10.1 years

Investment proposal
The Project requires investment of US$ 10,779 thousand, of which:
• 70 % (US$ 7,545.3 thousand) – debt financing subject to collateral;
• 30 % (US$ 3,233.7 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.
Modernization and expansion of the existing pig-breeding complex for a selection-hybrid center with further processing of its own raw materials

Commercial products
Annual capacity: 30,000 pigs; 2,300 tonnes of meat products, 474 tonnes of offal

Project description
The Project envisages a pig-breeding complex upgrade and expansion to achieve a production capacity of 30,000 per year with the creation of a genetic selection centre ("GSC").

Company
Initiator of the project is ZhK Leninsky LLP. The Company’s main activity is the production of pigs in live weight for slaughterhouses in Kostanay and other regions of Kazakhstan. The total area of the Company’s buildings and structures is 7,563.9 sq. m. The staff includes specialists who have degrees in veterinary sciences and animal science with the 15-year average work experience in pig breeding.

Market
• In 2020, the volume of global pork consumption was 106.3 million tonnes. According to the OECD and UN FAO forecasts, the global consumption of this type of meat will increase. The CAGR in 2021-2029 will be 1.75%. Pork consumption is projected to increase by 9.2% by 2023.
• A decrease in the level pork consumption is observed within the period of 2016-2020. The average per capita consumption of pork reached 5.4 kg in 2015-2016, while in 2019-2020 the mentioned indicator stabilised at the level of 4.7 kg. According to the forecast of OECD, pork consumption in the country will stabilize at 4.5 kg by 2029. Generally, it should be noted that domestic demand is fully satisfied by domestic production. Therefore, production of pork in Kazakhstan has a high export potential.

Investment attractiveness of the project:
Investment—US$7,282 thousand
Project NPV—US$15,836 thousand
IRR—33.4%
Payback period—5.1 years

What is the attractiveness of the project?
• Favourable location. The availability of a developed transport infrastructure and large vacant lands, as well as water and specialised labour resources make Kostanay region attractive for pig breeding.
• Availability of infrastructure. The company has land a plot of over 11 hectares, with connected electricity and water supply systems, as well as production facilities.
• Independence from feed supply and quality control. The availability of equipment for the compound feed production with a capacity of 10 t/h allows the company to reduce feed costs and to ensure the proper quality of feed.

Investment proposal
The Project requires investment of US$7,282 thousand, of which:
• 70% (5,097 thousand USD) – debt financing subject to collateral;
• from 30% (2,185 thousand USD) – 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.
Construction of a starch factory

Annual capacity:
• potato starch (packaging 40 kg) – 597,816 packages/year;
• potato starch (packaging 25 kg) – 50,342 packages/year;
• fodder protein – 1,311 tonnes/year;
• fibre (cellulose) – 23,184 tonnes/year.

Project
The Project envisages the construction of a 60.3 thousand tonne/year factory to produce potato starch and other derivative products. The Project is due to be realised in Pavlodar Oblast’s Zheleznik District, due to its proximity to raw material sources, such as 5 industrial enterprises and over 300 farms growing industrial potatoes. The proposed area of the Project site is 40 ha.

Company
JSC SPK Pavlodar. Main activities: realisation of investment projects with state participation.

Market
• According to Mordor Intelligence, due to its practical functionality, the potato starch market is expected to continue to grow gradually between 2021 and 2026 at an average annual rate of 4.5%.
• The period between 2016 and 2020 saw significant growth in starch production in Kazakhstan with CAGR at 41%. This was partially explained by the relaunch in 2018 of starch and gluten production in North-Kazakhstan Oblast.

Project investment attractiveness:
Investment – 57,524 thousand USD
Project NPV – 31,463 thousand USD
IRR – 23.4%
Payback period – 5.9 years

What is the project’s attractiveness?
• Advantages: location. The region’s proximity to the Russian border and its transportation corridors such as the Zheleznik-Omsk highway and the Karasuk-Omsk railway will help speed up and increase sales both domestically and overseas.
• Favourable climate. Pavlodar Oblast had the highest potato yield in Kazakhstan between 2016 and 2020 thanks to irrigation from the Irtys river, rising in the same period from 25.6 tonnes/ha to 29 tonnes/ha, which is 41% higher than the national average.

Investment proposal
The Project requires investment of 57,524 thousand USD, of which:
• 30% (17,257 thousand USD) – investor participation;
• 70% (40,267 thousand USD) - debt financing subject to collateral.

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.
Multifunctional grain complex for receiving, storing, processing and shipping agricultural and food products

Annual capacity:
• Production capacity – 150,869 tonnes, particularly: all-purpose feed – 76,313 tonnes, corn flour – 21,925 tonnes, short cut pasta – 10,977 tonnes, long cut pasta – 6,534 tonnes, coarse-grained flour – 14,352 tonnes, fine-grained flour – 9,864 tonnes, corn oil – 1,756 tonnes, soybean oil – 1,147 tonnes, cornmeal – 3,081 tonnes, full fat soybeans – 4,511 tonnes, grain waste – 390 tonnes.

Project construction of a multifunctional grain complex for receiving, storing, processing and shipping agricultural and food products in the Uygur district of Almaty region.

Company
Ramadan Foods LLP. Company management has 10 years of experience in agriculture and grain trading and processing. The majority of the raw material suppliers are affiliated companies with 43 hectares of farmland, which covers over 70% of the need for raw materials.

Market
• The current outlook for global grain crops production indicates a moderate growth for the third consecutive year. Total production in 2020 was 2,295 million tonnes and is forecasted by the UN FAO to reach 2,438 million tonnes by 2026, with CAGR of 0.81% in the period from 2021 to 2026.
• In 2020, Kazakhstan produced 3,555 tonnes of fine flour, which is 3% more than a year earlier (3,272 million tonnes). Compound annual decline rate from 2016 to 2020 was -3%. The lowering was caused by a downward trend in imports from a number of Central Asian countries due to the launch of their own flour mills.

Project investment attractiveness:
• Investment – 51,013 thousand USD
• Project NPV – 24,668 thousand USD
• IRR – 30.1%
• Payback period – 4.2 years

What is the project’s attractiveness?
• Ultra-processing. Raw materials are used to produce primary processing products (flour), secondary processing products (butter, pasta and bakery products) and the waste is used as raw material for the production of compound feed for animals and birds.
• Geographic location. The advantages of location in Almaty region are the developed transport infrastructure (access to the Silk Road, One Belt - One Way railway and the Western Europe - Western China highway), proximity to the capacious consumer markets of Almaty and Almaty region, availability of own raw materials and low transportation costs for their delivery.
• Year-round production. There are elevators and other storages in place with a total volume of more than 50 thousand tonnes, which will keep the raw materials in proper quality to ensure year-round continuous production, which generally mitigates the risk of seasonal production variability.

Investment proposal
The Project requires investment of US$ 51,013 thousand, of which:
• 70% (US$ 35,709 thousand) – debt financing subject to collateral;
• 30% (US$ 15,304 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.
Commercial products

Annual project capacity:
- poultry meat - 260 tonnes;
- commercial egg - 122 mln units.

Project description

This investment project envisages the construction of a poultry farm for meat and egg production in Aktobe region. The design production capacity is 122 million eggs and 260 tonnes of chicken meat per annum. A lease contract for a land plot of 30 ha for the period of up to 10 years has been concluded with the Mayor’s Office of Alga district, Aktobe region. In addition, 6.3 ha were allocated under the Project for connecting external gas supply and electricity networks.

Company

Ulan Poultry Farm LLP is an agricultural enterprise specially created for the implementation of this project.

Market

- According to the OECD and FAO UN forecasts, there will be an increase in overall poultry consumption in the world. The CAGR in 2021-2024 will be 1.8%.
- In 2020, the poultry production and consumption amounted to 96.5 and 246.2 thousand tonnes, respectively. On average, 84% of poultry consumption is covered by domestic production, the rest is covered by imported meat. The CAGR of poultry consumption in Kazakhstan in the period from 2021 to 2024 will amount to 1.3%, reaching the level of 263.9 thousand tonnes. The growth in the poultry consumption is explained by the population growth and a gradual change in the food culture of the population, which in recent years has become healthier and more dietary.
- Per capita poultry consumption in Kazakhstan was 12.4 kg per person in 2020. Per capita poultry consumption will also rise to 12.9 kg per person by 2024.

Investment attractiveness of the project:

- Project location. Aktobe region has an extensive road transport and logistics infrastructure: the region has highways of republican and regional significance with access to the regions of Russia and the cities of Kazakhstan.
- State support. The project is included in the list of priority sectors for state support. The state programmes provide for a number of benefits and preferences.
- Own fodder base. The initiator plans to produce its own feed, which will reduce the cost of the final product, as well as dependence on suppliers.
- Final stage of the Project. An administrative block, a veterinary block and a utility building have been already built on the territory of the planned poultry farm, the foundations for the construction of two poultry houses and a feed mill have been prepared.

Investment proposal

The Project requires investment of US$ 11,212 thousand, of which:
- 70% (7,848.4 thousand USD) – debt financing subject to collateral;
- from 30% (3,363.6 thousand USD) – 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.
Fresh fruit processing plant for juice production

Commercial products
Apples – 3,900 tonnes;
Apple juice of direct extraction - 437 thousand litres.

Project description
This investment project ("Project") envisages to expand the production of an existing fruit growing enterprise in the Almaty region. The expansion plan provides for the laying of an additional 80 ha of orchards, the construction of a 2,000 tonnes fruit storage facility equipped with a standard CAS (controlled atmosphere storage) and a workshop for the production of direct-pressed apple juice.

Company
ARNAU AGRO LLP owns land plots with a total area of 348.9 ha in the Enbekshikazakh district of Almaty region, where apple orchards and infrastructure for special machinery and fruit storage are located.

Market
• In 2020, the global juice market was valued at 44.4 billion litres. According to Report linker forecasts, this figure will reach 50.6 billion litres by 2024, with CAGR at 2%.
• In 2020, the production of apple juices in Kazakhstan amounted to 14.6 million litres. Fitch Solutions expects an increase in fruit juices consumption in Kazakhstan due to the transition to a healthy lifestyle of the population after the pandemic (CAGR of 8.59% in the sales of fruit and vegetable juices in the period from 2021 to 2024).

Investment attractiveness of the project:

- Project profitability
- Project NPV – US$ 5,860 thousand
- IRR – 20.6%
- Payback period – 7.77 years

What is the attractiveness of the project?
• Favorable climate and advantageous location. The gardens are located in the foothills of the Zailyskiy Alatau in the Almaty region, where the combination of a warm climate, fertile soil and a special irrigation system contributes to effective gardening and, accordingly, high yields.
• The use of advanced technologies. Storing apples in a controlled atmosphere (CAS) slows down the processes of post-harvest ripening in the fruit, which prolongs the period of their storage without reducing the commercial quality. Ripe apples that do not meet the standard for sale fresh serve as raw material for the production of natural juices. Juice production expands the range of products produced and minimizes production waste.
• Drip irrigation system. Uniform and balanced supply of water and fertilizers allows to optimize growing conditions and increase crop yields, improving the quality of the product.

Investment proposal
The Project requires investment of US$ 9,365 thousand, of which:
- 70% (6,555.5 thousand USD) – debt financing subject to collateral;
- from 30% (2,809.5 thousand USD) – 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.
Construction of a commercial dairy farm in Kostanai Oblast

Annual production capacity:
- raw milk production – 108,609 tonnes/year;
- meat for sales (cow) – 2,395 tonnes/year;
- meat for sales (heifer) – 108 tonnes/year;
- meat for sales (bull) – 825 tonnes/year;
- Sales of heifer – 2 704 tonnes/year.

Project:
The Project involves the construction of 8 commercial dairy farms to produce 106 thousand tonnes of raw cow’s milk in Kostanai Oblast per year.

Company:
Olzha Agro LLP is one of the most modern agriculture sector holding companies in Kazakhstan. It manages 10 agricultural enterprises, 8 grain elevators, 2 commercial dairy farms, a milk processing plant, and service enterprises (logistics, trading and agricultural machinery repairs).

Market:
- In 2016–2020, average annual growth in global milk production was 1.8%. The OECD predicts that in 2021-2029, milk production growth will remain steady at 1.6%.
- 2016–2020 saw positive changes in the consumption of liquid cow’s milk with average annual growth of 7.3%. According to Fitch Solutions, the growth in milk consumption in Kazakhstan will average 3%, which is in line with global trends.

Project investment attractiveness:
Investment – 96,668 thousand USD
Project NPV – 72,370 thousand USD
IRR – 22.5%
Payback period – 7.1 years

What is the project’s attractiveness?
- Available fodder base. The Company owns major crop areas (530 thousand ha) in Kostanai Oblast, of which 60 thousand ha will be allocated to ensure the required virus-neutralising antibodies in its own fodder base. Fodder accounts for a large part of material costs, which is why virus-neutralising antibodies in its own fodder base will help reduce milk production costs.
- Geographic location. The Project will be realised in the Kostanai Oblast agglomeration (population of 0.9 million) with an extensive road and logistics infrastructure. The region is home to major processing companies such as DEP LLP and MILK LLP, as well as 15 smaller milk processors. The location of production is an advantage, given the efficiency with which deliveries are made throughout Kazakhstan, the proximity and ability to enter the Russian market.

Investment proposal:
The Project requires investment of 96,668 thousand USD, of which:
- 10% (9,667 thousand USD) – debt financing subject to collateral;
- 80% (77,335 thousand USD) – private equity fund participation (KIDF, KCM and SKI);
- from 10% (9,667 thousand USD) – 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.
**Poultry farm construction in East Kazakhstan Oblast**

**Product**
Production capacity: 35.5 thousand tons of meat annually, including carcasses (whole) – 21,414 tons; brisket – 3,624 tons; thighb – 1,647 tons; soup set – 2,965 tons; wings – 1,318 tons; drumstick – 1,318 tons; others (liver, neck, stomach, chicken legs, heart) – 3,624 tons.

Domestic demand: 246.2 thousand tons of meat.

**Project**
The Project envisages the construction of a poultry farm with a capacity of 35 thousand tons of meat annually in Urzhar district of East Kazakhstan Oblast. The construction is planned on a land plot of 300 ha in East Kazakhstan Oblast, Urzhar district, Zhanai village. A full production cycle will be organized on the production site.

**Company**
The Project initiator is the East Kazakhstan Oblast Akimat represented by Ertis Social and Entrepreneurial Corporation established by the Presidential Decree in 2007 (“Initiator”, “Corporation”, “SEC”). The main objective of the SEC is to promote the social and economic development of the East Kazakhstan Oblast based on the principles of partnership between the state and business. Currently, SEC has 12 subsidiaries and related entities.

**Market**
- In 2020, the global production amounted to 125 million tons of poultry. According to the OECD and FAO UN forecasts, there will be an increase in overall poultry consumption in the world. The CAGR in 2021-2024 will be 1.8%.
- The CAGR of poultry consumption in Kazakhstan in the period from 2021 to 2024 will amount to 1.3%, reaching the level of 263.9 thousand tons. The growth in the poultry consumption is explained by the population growth and a gradual change in the food culture of the population, which in recent years has become healthier and more dietary. Per capita poultry consumption in Kazakhstan was 12.4 kg per person in 2020. Per capita poultry consumption will also rise to 12.9 kg per person by 2024.

**Investment attractiveness of the project**
- **Proximity to capacious markets.** Urzhar district is located in geographical proximity to capacious consumer markets of Almaty and Almaty Oblast (with a population of 4.0 million people). Urzhar district is located 100 km from highway Almaty-Ust-Kamenogorsk A-3.
- **State support.** The project is included in the list of priority sectors for state support. The state programmes provide for a number of benefits and preferences.
- **Fodder base.** The Initiator plans to grow fodder crops (wheat, barley, corn and soybeans) on a land plot of 36,000 ha to reduce the fodder base cost and the final product cost. It will also reduce dependence on feed suppliers.

**Investment proposal**
The Project requires investment of US$ 100,257 thousand, of which:
- 70% (70,180 thousand USD) – debt financing subject to collateral;
- from 30% (30,077 thousand USD) – 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.
Agro-industrial complex

Expansion of poultry production

Annual capacity:
• commercial egg – 4,803 thous. units/year;
• poultry meat – 91,967 tonnes/year;

Domestic demand:
• poultry meat consumption – 246 thousand tonnes/year.

Project
This investment project (Project) envisages the expansion of the existing business of Alel Agro JSC by launching six broiler farms with an annual capacity of 47.9 million tonnes of poultry in Zhambyl Oblast. At the moment, the construction of two poultry farms has been completed, but the facilities have not yet been commissioned.

Company
Alel Agro JSC is the largest poultry producer in Kazakhstan. The sales volume in 2020 reached 51.4 million tonnes. The Company’s assets include 6 operating poultry farms in Almaty Oblast, a feed mill, a slaughterhouse, a sorting terminal and an incubator. As part of expanding its own distribution network in 2020, the Company opened 4 regional distribution centres and 10 branded stores.

Market
• In 2020, the global production amounted to 125 million tonnes of poultry. According to the OECD and FAO UN forecasts, there will be an increase in overall poultry consumption in the world. The CAGR in 2021-2024 will be 1.8%.
• In 2020, the poultry production and consumption amounted to 96.5 and 246.2 thousand tonnes, respectively. On average, 84% of poultry consumption is covered by domestic production, the rest is covered by imported meat.

Project investment attractiveness:
Investment – 102,633 thousand USD
Project NPV – 91,609 thousand USD
IRR – 19.9%
Payback period – 6.3 years

What is the project’s attractiveness?
• Well-established trade and logistics chain. To sell products under its own brands Alel, Ameral fresh and Tasty Chick, the Company launched a chain of branded stores in Almaty and 4 regional distribution centres.
• State support. The project is included in the list of priority sectors for state support. The state programmes provide for a number of benefits and preferences.
• Proximity to capacious markets. Zhambyl Oblast is located in geographical proximity to the capacious sales markets of Almaty and Almaty Oblast (4.0 million people), as well as to the border with China.

Investment proposal
The Project requires investment of US$ 102,633 thousand of which:
• 10% (US$ 10,266 thousand) – debt financing subject to collateral;
• 80% (US$ 82,130 thousand) – private equity fund participation (KIDF, KCM and SKI);
• from 10% (US$ 10,266 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.
Development of intensive fruit orchards

Commercial products
The annual volume of production in 2022 - 10,136 tonnes. Products assortment: apples, cherries, peaches, plums, pears, apple juice.

Project description
This investment project envisages the modernization of an existing fruit farm in Almaty region. The effective area of the intensive orchard is 1,004 hectares.

Company
Zharkent Fruit LLP is one of the largest private horticultural enterprises in Kazakhstan and Central Asia. The main shareholder of the Company is Ordabasy Group (51% ownership interest), one of the largest investment holdings in Kazakhstan. The company produces fruits under the Qazaq Fruit brand, selling them through retail chains in Kazakhstan and Russia.

Market
• In 2020, the global juice market was valued at 44.4 billion litres. According to Report linker forecasts, this figure will reach 50.6 billion litres by 2024, with CAGR at 2%.
• In 2020, the production of apple juices in Kazakhstan amounted to 14.6 million litres. Fitch Solutions expects an increase in fruit juices consumption in Kazakhstan due to the transition to a healthy lifestyle of the population after the pandemic (CAGR of 8.59% in the sales of fruit and vegetable juices in the period from 2021 to 2024).

Investment attractiveness of the project:
Investment – US$ 19,127 thousand
Project NPV – US$ 29,483 thousand
IRR – 27.8%
Payback period – 6.9 years

What is the attractiveness of the project?
• Climate of Almaty region: The orchards are located in Almaty region, where the combination of a warm climate, fertile soil and proximity to a mountain river contributes to the effective gardening and, accordingly, high yields.
• Well-established sales strategy and own brand. Over the years, the Company has established the supply of products under the Qazaq Fruit brand and sells its products through wholesale suppliers in Almaty, Karaganda and Nur-Sultan. There are valid sales contracts with Russian companies OOO Siberian Tradition and OOO Flagman.
• Proximity to sales markets: The orchards are located close to the largest sales markets, namely: Almaty (1.8 million people, 284 km from Aydarly), Taldykorgan (0.72 million people, 112 km from Aydarly ), the rest of Almaty region (more than 2 million people), XUAR (China) (21 million people in 80 km).

Investment proposal
The Project requires investment of US$ 19,127 thousand, of which:
• 80% (US$ 15,302 thousand) – Investor participation;
• 20% (US$ 3,825 thousand) – will be funded by Initiator.

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.
Development of intensive apple and stone fruit orchards and production of natural juices

Commercial products
12 varieties of apples (Golden & Red Delicious, Fuji, Gala, Granny), 2 varieties of peaches, nectarines, cherries and apple juice. The annual production: 6,665 tons and 277.2 thous. packages of apple juice.

Project description
This investment project envisages the expansion of an existing berries and fruits growing enterprise in Almaty region by establishing additional 200 hectares of orchards, as well as building a fruit storage with a capacity of 6,000 tonnes and a workshop for the production of directly squeezed apple juice.

Company
Since 2012, AmalBio LLP has owned land plots with an area of 223.3 hectares in the Talgar and Enbekshikazakh districts of Almaty region, where apple and stone fruit orchards and infrastructure for storing fruits and producing apple juices are located. Products are manufactured under the Amal Bio brand and are sold through a retail chain in Kazakhstan and Russia.

Market
• In 2020, the global juice market was valued at 44.4 billion litres. According to Report linker forecasts, this figure will reach 50.6 billion litres by 2024, with CAGR at 2%.
• In 2020, the production of apple juices in Kazakhstan amounted to 14.6 million litres. Fitch Solutions expects an increase in fruit juices consumption in Kazakhstan due to the transition to a healthy lifestyle of the population after the pandemic (CAGR of 8.59% in the sales of fruit and vegetable juices in the period from 2021 to 2024).

Investment attractiveness of the project:
Investment – US$ 50,898 thousand
Project NPV – US$ 41,224 thousand
IRR – 30.1%
Payback period – 7.1 years

What is the attractiveness of the project?
• Favourable climate. The orchards are located in the foothills of the Zaili Alatau in Almaty region, where the combination of a warm climate, fertile soil and a special irrigation system contributes to the effective gardening and, accordingly, high yields.
• Well-established sales strategy and own brand. For 9 years of operation, the Company has established the supply of products under the Amal Bio brand to Kazakhstan (42.4%) and Russia (57.6%). There are direct apple sales contracts with retail chains, schools and preschool institutions, as well as with a chain of dealers and distributors. Halal certification will allow exports to the UAE.
• High degree of processing. Ripe apples, which do not meet the standard for fresh sale, are used as raw materials for the production of natural juices. Juice production expands the range of products and minimises production waste.

Investment proposal
The Project requires investment of US$ 50,898 thousand, of which:
• 70% (US$ 35,629 thousand) – debt financing subject to collateral;
• 30% (US$ 15,269 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.
Construction of an oil extraction plant in Pavlodar region

Commercial products
Annual capacity: 6.8 thousand tonnes of vegetable oils

Project description
The Project provides for the construction of an oil extraction plant for the production of vegetable oils with a capacity of 6.8 thousand tonnes per year in Kalkaman village of Pavlodar region.

Company
Initiator of the project is agricultural production cooperative Ertis Agro. The Company’s main activity is related to the production, processing and sale of oilseeds and grain crops, storage and logistics. The Initiaator has a land plot of 9.881 hectares, an elevator for storage, processing and drying of raw materials. The Company has more than 100 thousand hectares of agricultural land (about 25% of total sown areas of Pavlodar region), more than 400 units of special-purpose equipment, of which 150 are tractors, over 100 combines and over 100 seeders.

Market
• According to Fitch Solutions forecasts, sunflower oil market will grow increasing at CAGR of 5.3% for the period of 2021-2026.
• Over the last five years, the CAGR of sunflower oil production was 8.9%. In 2020, the production capacity of unrefined oil reached 434 thousand tonnes per year. Share of unrefined sunflower oil production in total sunflower oil production over the last five years reached 53%. In 2020, the production of unrefined oil increased by 1.9% compared to 2019, and CAGR of production during 2015-2019 was 17.1%.

Investment attractiveness of the project:
• Proximity to capacious markets. Considering the geographical proximity of the country to capacious sales markets of Russia and China, the short transport leverage makes it possible to establish exports to take a significant share in those consumption markets.
• Reliable suppliers of raw materials. The initiator entered into a forward purchase agreement for the supply of seeds with agricultural producers included in Ertis-Agro SEC. Cooperation with SEC members will ensure uninterrupted supply of raw materials for production.
• Reliable equipment supplier. As part of the preparation of a technical proposal for the equipment supply, an agreement was concluded with one of the leading manufacturers of equipment for agricultural food products processing.

Investment proposal
The Project requires investment of US$ 5,116 thousand, of which:
• 70% (US$ 3,581 thousand) – debt financing subject to collateral;
• from 30% (US$ 1,535 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.
Creation of pork production complex

Annual capacity:
- Pork – 2,268 thousand tons
- By-products – 425 thousand tons
Import of pork in China in 2020 – 4,304 thousand tons

Project
The investment project plans for the construction of a pig farm with a capacity of 40 thousands pigs and a feed mill with a capacity of 10 tons/hour.
A contract was signed for the lease of 40 hectares of land for pig farm construction and 10 hectares for feed mill construction. The project is focused on the development and increase of the country’s export potential in the markets of China and Russia.

Company
Petrovlagro LLP was established for the implementation of the project. The company’s management has professional knowledge in engineering construction and law.

Market
- According to the OECD and UN FAO forecasts, the global consumption of this type of meat will increase as the market recovers from the African swine fever from 2021. The CAGR in 2021-2029 will be 1.75%. Pork consumption is projected to increase by 9.2% by 2023.
- At the same time, these forecasts indicate an increase in per capita pork consumption. In 2020, this figure was 10.7 kg per person, and by 2029 it is forecasted to grow by 11.8 kg per person.
- The largest consumer of pork in the world is China, with 39% of global consumption. The Southeast Asian Countries, the EU countries, the USA and Russia are also major pork consumers.

What is the project's attractiveness?
- Favorable location. The location of the complex was chosen optimally, taking into account the distance from large settlements, which corresponds to the Company’s strategy to ensure maximum biosecurity of facilities, but at the same time, it allows the Company to significantly reduce logistics costs when delivering products to end consumers in Russia and China. The climatic conditions of the selected region are favorable for pig breeding. On the territory of the site and nearby there are ground communications: railway, high-voltage power line, as well as underground cable communication lines (telephone and Internet), sewerage, water supply.
- Independence from feed supplies and feed quality control. Under the Project, it is planned to build a feed, which meets the advanced global quality and biosafety standards. This will reduce feed costs, including shipping costs, as well as ensure feed quality and reduce the risk of supply chain disruption.

Investment proposal
The Project requires investment of US$27,723 thousand, of which:
- 70% (19,406 US$ thousand) – debt financing subject to collateral;
- From 30% (8,317 US$ thousand) – participation of Investor.
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.
Construction of a plant for the production of pectin in the “Taldykorgan” industrial zone
Agro-industrial complex

Project description:
Construction of a plant for the production of pectin and dry granulated feed from beet pulp (waste from the processing of sugar beet) based on the new practical technology for extracting pectin from beet pulp (new practical way).
Number of jobs created – 82.

Location:
Taldykorgan city, "Taldykorgan" industrial zone.

Initiator:
Green Technology Partners LLP.

Commercial products and capacities:
pectin - 600 tons per year,
granulated dry feed – 6,000 tons per year.

Sales markets: Kazakhstan, Kyrgyzstan, Tajikistan, Uzbekistan, Mongolia, UK, EU countries.

Manufacturing process:
raw materials washing - sorting and disintegration - extraction (extraction of pectin by heating the mixture) - cooling extraction - filtration - precipitation of pectin - liquid extraction of pectin – extraction of dry pectin into powder.

Key investment indicators

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment amount, US$ thous.</td>
<td>13,267</td>
</tr>
<tr>
<td>Project NPV, US$ thous.</td>
<td>9,090</td>
</tr>
<tr>
<td>IRR, %</td>
<td>19.7%</td>
</tr>
<tr>
<td>EBITDA margin, %</td>
<td>37.3%</td>
</tr>
<tr>
<td>Payback period, years</td>
<td>7.1</td>
</tr>
<tr>
<td>Discounted payback period, years</td>
<td>10.9</td>
</tr>
</tbody>
</table>

Investment structure

<table>
<thead>
<tr>
<th>Construction and assembly work</th>
<th>22%</th>
<th>$2.9 million</th>
</tr>
</thead>
<tbody>
<tr>
<td>Machinery and equipment</td>
<td>73%</td>
<td>$9.7 million</td>
</tr>
<tr>
<td>Initial working capital</td>
<td>5%</td>
<td>$0.6 million</td>
</tr>
</tbody>
</table>

Market prerequisites:

Absence of similar production in Kazakhstan. The absence of direct competitors on the market will make it possible to gain a large market share and implement an import substitution strategy.

Plentiful raw materials. The production volume of beet pulp in the Almaty Oblast alone reaches 150,000 tons annually. This Project will require 30,000 tons of beet pulp annually.

Project innovativeness. A new technology has been developed for extracting pectin from beet pulp, which is more economical than technologies for extracting pectin from citruses and apples. The developers of the technology registered their rights to the technology in accordance with the requirements of copyright laws in Kazakhstan. Registration has also been done in 167 countries around the world. When structuring the transaction, exclusive rights to the technology will be transferred by the authors to the Project Initiator on a long-term or perpetual basis.

Project profitability

<table>
<thead>
<tr>
<th>Year</th>
<th>Revenue, US$ thous.</th>
<th>EBITDA margin, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year 4</td>
<td>9,959</td>
<td>41%</td>
</tr>
<tr>
<td>Year 7</td>
<td>10,784</td>
<td>38%</td>
</tr>
<tr>
<td>Year 10</td>
<td>11,179</td>
<td>35%</td>
</tr>
<tr>
<td>Year 13</td>
<td>12,476</td>
<td>35%</td>
</tr>
<tr>
<td>Year 16</td>
<td>13,271</td>
<td>35%</td>
</tr>
</tbody>
</table>

Financing structure

- Initiator equity 15% ($1.99 million)
- Participation of the Fund (KIDF or KCM) 7.3% ($0.98 million)
- Debt financing subject to collateral 70% ($9.29 million)
- Participation of the Investor from 7.7% ($1.02 million)

The proposed financing structure is indicative, the final financing and project participation structures will be determined based on the results of negotiations with the Investor.
Project idea:
The project envisages an expansion of an existing pig farm from a capacity of 50,000 heads to 500,000 heads. Project implementation will create around 240 additional jobs.

Project location:
Taiynsha district of North Kazakhstan oblast

Project Initiator:
EMC Agro LLP

Production capacity:
51 thousand tons of finished products (2026), of which meat on bone is 68%, sausage products - 24% and offal - 8%. 86% of the total volume of finished products comes from slaughtering of pigs and 14% – from cattle.

Sales market:
The company plans to export 70% of its manufactured goods to China and sell the rest on the domestic market through distribution networks.

Production process:
An economically justified technological scheme for organizing pig breeding is considered to be a process with a complete production cycle, including the reproduction of piglets, nursery and feeding until the stage of commodity items. This mechanism provides a steady reproduction and formation of the herd, as well as the flow rate and uniformity of the arrival of young stock for fattening.

Investment attractiveness of the Project:

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment amount, US$ thousand</td>
<td>126,866</td>
</tr>
<tr>
<td>Project NPV, US$ thousand</td>
<td>121,368</td>
</tr>
<tr>
<td>IRR, %</td>
<td>26.4%</td>
</tr>
<tr>
<td>EBITDA margin, %</td>
<td>22%</td>
</tr>
<tr>
<td>Payback period, years</td>
<td>8.2</td>
</tr>
<tr>
<td>Discounted payback period, years</td>
<td>10.2</td>
</tr>
</tbody>
</table>

Project's profitability

Investment structure

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction and assembly work</td>
<td>53.2%</td>
</tr>
<tr>
<td>Machinery and equipment</td>
<td>26%</td>
</tr>
<tr>
<td>Initial working capital</td>
<td>8.1%</td>
</tr>
<tr>
<td>Primal biological assets</td>
<td>5.4%</td>
</tr>
<tr>
<td>Others</td>
<td>7.3%</td>
</tr>
</tbody>
</table>

Financing structure

- Initiator equity: $12% ($15 million)
- Participation of the Fund (KIDF or KCM): 7% ($9 million)
- Debt financing subject to collateral: 61% ($76.9 million)
- Participation of the Investor: From 20% ($26 million)

The proposed financing structure is indicative, the final financing and Project participation structures will be determined based on the results of negotiations with the Investor.

Prerequisites for the Project implementation:

Food base. The pig farm is located in the center of the grain region of Kazakhstan, rich in cultivated wheat, rapeseed, and soy. Availability of high-quality and inexpensive feed is one of the key conditions for pig farming and gives a significant competitive advantage. EMC Agro LLP purchases feed from the sister companies Aziaagrofud JSC and Bio Operations LLP (5 km from the pig farm).

Export to China. Over the past 5 years, China’s pork imports have increased 2.6 times and amounted to 2 million tonnes in 2019. It is expected that this indicator will grow due to the decline in the volume of domestic pork production. According to the agricultural survey 2020–2029 of the Ministry of agriculture of the People's Republic of China, it is expected that in 2020 pork production will decrease to 39 million tons (-9.2% by 2019) due to the African swine fever in China (hereinafter-ASF) and COVID-19. It is planned to include EMC Agro LLP in the Register of The General Customs Administration of the People’s Republic of China as a potential pork exporter to China.

Availability of the necessary infrastructure and qualification

The Initiator manages a modern pig farm, has a land plot with all engineering and technical communications. The pig complex, where technological processes are automated, includes: reproductive farm, artificial insemination station, growing and fattening farm, meat processing plant, own veterinary service, and equipped laboratory.

Project's profitability

Revenue, USD million: $29.5 million
EBITDA margin, %: 22%
Full-cycle cattle fattening and meat processing and sale enterprise
Agricultural sector

Project summary
Increasing the production capacity of a full-cycle enterprise for fattening cattle, processing and selling cattle meat in Almaty Oblast.

Under the project implementation in two locations it is planned to:
- expand in Boleksaz village of Kegen district the existing feedlot capacity, and to provide own forage resources on a leased land plot;
- build in Koshmambet village of Karasay district new feedlot, to increase the meat processing plant capacity.

Within the Project 192 jobs are expected to be created.

Project Initiator:
Meat Processing and Service LLP

Project location:
Republic of Kazakhstan, Almaty Oblast

Marketed products and Project capacity:
24,157 tons of meat annually since 2022.

Within the Project is planned to produce:
- chilled beef carcasses.

Consumer markets: domestic market of the Republic of Kazakhstan and China market.

Equipment suppliers: Jarvis Russia LLC, ScanRef Company LLC, Agromanagement Kazakhstan LLP, Individual entrepreneur Pesterev I.A.

Project profitability

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment, US$ thousand</td>
<td>35,508</td>
</tr>
<tr>
<td>Project NPV, US$ thousand</td>
<td>44,277</td>
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<td>IRR, %</td>
<td>27.8</td>
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<tr>
<td>EBITDA margin, %</td>
<td>11</td>
</tr>
<tr>
<td>Payback period, years</td>
<td>6.3</td>
</tr>
<tr>
<td>Discounted payback period, years</td>
<td>8.3</td>
</tr>
</tbody>
</table>

Investment attractiveness of the Project

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction and assembly work</td>
<td>20%</td>
</tr>
<tr>
<td>Machinery and equipment</td>
<td>7%</td>
</tr>
<tr>
<td>Other expenses</td>
<td>24%</td>
</tr>
<tr>
<td>Initial working capital</td>
<td>49%</td>
</tr>
</tbody>
</table>

Investment structure

$7.1 million
$2.4 million
$8.5 million
$17.5 million

Prerequisites for Project implementation
Trade and logistics chain - To sell its products under its own brand Asyl ET, the Company has its chain of meat stores Asyl ET and its own frozen meat distribution network MPS Distribution (neighbourhood store).

The Initiator is accredited for products distribution to China, Russia and the Middle East.

Company’s extensive material and technical base - The Company’s assets include large land plots for arable land and pastures, an operating meat processing plant, a feedlot, a trading network of five stores, seedling equipment and a granary, which greatly simplifies the Project implementation.

Proximity to potential clients - The location in the densely populated Almaty Oblast gives an advantage in proximity to the sales markets of Almaty and Almaty Oblast with a population of 3.8 million people.

In addition, the strategically convenient location of the region for cross-border trade with China will reduce transport costs when exporting products.

Financing structure

The proposed financing structure is indicative, the final financing and Project participation structures will be determined based on the results of negotiations with the Investor.
Greenhouse cultivation of strawberries

Agro-industrial sector

Project idea:
Construction of a greenhouse-type agro-industrial complex for the production of strawberries. Production will create over 100 new permanent workplaces.

Project location:
Panfilov rural area of Talgar district of Almaty region

Project Initiator:
Green Land Alatau LLP

Production capacity and sales market:
It is planned to produce strawberries at the capacity of 870 tonnes per year and sell them through the HoReCa segment, as well as in large retail chains and hypermarkets in Almaty, such as Ramstore, Metro Cash & Carry, Magnum Cash & Carry, Dastarkhan, SMALL, A-Store, Carrefood, Galmart.

Production process:
The cultivation of strawberries will be carried out in greenhouses using the hydroponic method. This method involves growing plants on artificial substrates without soil. When applying this method, the plant receives all the necessary nutrients from the solution in correct quantities.

Hydroponic cultivation technology

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Growth method</td>
<td>Coconut</td>
</tr>
<tr>
<td>Growth system</td>
<td>Hanging trays</td>
</tr>
<tr>
<td>Number of rows</td>
<td>8</td>
</tr>
</tbody>
</table>

Investment attractiveness of the Project

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment amount, US$ thousand</td>
<td>8,207</td>
</tr>
<tr>
<td>Project NPV, US$ thousand</td>
<td>5,995</td>
</tr>
<tr>
<td>IRR, %</td>
<td>20.1%</td>
</tr>
<tr>
<td>EBITDA margin, %</td>
<td>43%</td>
</tr>
<tr>
<td>Payback period, years</td>
<td>6.0</td>
</tr>
<tr>
<td>Discounted payback period, years</td>
<td>9.4</td>
</tr>
</tbody>
</table>

Investment structure

- Construction and assembly work: $3.5 million (42%)
- Machinery and equipment: $3.8 million (45%)
- Other: $1.0 million (13%)

Prerequisites for implementation of the Project

Priority investment project. Industrial cultivation of strawberries is categorised under 01. Crop production - growing other types of fruit trees, bushes and nuts, which is recognised as a priority investment project.

Import substitution opportunity. Project implementation will help replace a significant volume of imported products. The volume of strawberry imports in Kazakhstan in 2019 was 563 tons. The construction of a greenhouse with a capacity of 870 tons of strawberries per year will make it possible to replace imported supplies with high-quality domestic products.

Reliable partner – the Project group has significant experience in growing vegetables in greenhouse conditions. Initiator also has qualified personnel, which will allow to grow high-quality, competitive products, taking into account the necessary requirements and standards.

Project’s profitability

<table>
<thead>
<tr>
<th>Year</th>
<th>Revenue (thousand USD)</th>
<th>EBITDA margin, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>4,485</td>
<td>43%</td>
</tr>
<tr>
<td>5</td>
<td>5,367</td>
<td>43%</td>
</tr>
<tr>
<td>9</td>
<td>5,701</td>
<td>43%</td>
</tr>
<tr>
<td>11</td>
<td>5,844</td>
<td>43%</td>
</tr>
<tr>
<td>12</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The proposed financing structure is indicative, the final financing and Project participation structures will be determined based on the results of negotiations with the Investor.
Construction of an oil extraction plant
Agro-industrial complex

Project Description:
The construction of an oil extraction plant for the production of vegetable oils in North Kazakhstan oblast provides for the use of a combined process of processing up to 847 thousand tons of sunflower seeds, rapeseed and soybeans annually. The project provides for the creation of 364 jobs.

Estimated sales volumes and markets:
- on the domestic market - 145.4 thousand tons per year, including oil in the amount of 34.1 thousand tons, flakes - 58.1 thousand tons, fuel pellets - 51.4 thousand tons, vegetable lecithin - 1.8 thousand tons
- for export - $22.5 thousand tons per year, of which: oil - 193.5 thousand tons, meal - 329.0 thousand tons.

The plant's products are planned to be sold through its own trading house:
Location of the Project: Petropavl, North Kazakhstan oblast, Kazakhstan
Initiator of the project: LLP "Petropavlovsk Oil Extraction Plant"

Key investment indicators of the Project |
<table>
<thead>
<tr>
<th>Indicator</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment amount, US$ mill.</td>
<td>179.0</td>
</tr>
<tr>
<td>Project NPV, US$ mill.</td>
<td>252.3</td>
</tr>
<tr>
<td>IRR, %</td>
<td>25.5%</td>
</tr>
<tr>
<td>EBITDA margin, %</td>
<td>20.22%</td>
</tr>
<tr>
<td>Payback period, years</td>
<td>6.4</td>
</tr>
<tr>
<td>Discounted payback period, years</td>
<td>8.6</td>
</tr>
</tbody>
</table>

Prerequisites for Project implementation:
Rich raw material base - The gross harvest of sunflower, rapeseed and soybean seeds in Kazakhstan in 2019 amounted to 918, 241 and 282 thous. tons.
Price differential with neighboring countries. In general, there is a disparity in prices in Kazakhstan in comparison with prices for products in neighboring countries, which justifies the increased export of oilseeds from Kazakhstan in a number of positions.
Qualified staff. The company attracts qualified personnel for effective production management, as well as with scientific and practical experience in the selection of oilseed varieties with increased consumer properties.
A reliable partner and modern plant equipment. The Exoil Group has significant experience in processing, trading of oilseeds and grains, port handling and logistics. In 2016, the group put into operation a similar project for the production and deep processing of oilseeds with a capacity of 2,000 tons per day in the Lipetsk oblast, RF.

Project profitability

Investment structure
- Construction and assembly work 41% $73.6 million
- Machinery and equipment 51% $91.4 million
- Other expenses 8% $14.1 million

Financing structure
- Initiator equity 15% ($26.9 million)
- Debt financing subject to collateral 70% ($125.3 million)
- Participation of the Fund (KIDF or KCM) 7,35% ($13.1 million)

Participation of the Investor from 7,65% ($13.7 million)

The proposed financing structure is indicative, the final financing and Project participation structures will be determined based on the results of negotiations with the Investor.
Organization of a meat cluster for the production of lamb and beef in West Kazakhstan oblast
Agro-Industrial Complex

Description of the project:
Organization of a full-cycle meat cluster for the production of lamb and beef in West Kazakhstan oblast.

Prerequisites for implementation of the Project
Growing global demand for lamb. According to forecasts by the OECD and the UN FAO, there will be an increase in the global level of consumption of mutton. The average annual growth rate in 2020-2024 will be 2.39%.

Price differential with neighboring countries. The average price of mutton in the regions of the RF bordering with the RK is 37% higher than the average Kazakhstan prices. The average price in the PRC market (9.82 USD / kg) exceeds the average price of mutton in the RK by more than 2 times. The average import price of mutton in the Middle East is 54% higher than the domestic market’s average price.

Development of export to foreign countries. The export volumes of mutton from Kazakhstan have been growing rapidly in recent years (3 times since 2017) due to beginning of large supplies to Iran, China and Russia.

Favorable location. The climatic conditions of the region are favorable for sheep breeding. The selected plot for the farm is sown meadows with access to river water.

Location:
West Kazakhstan Oblast, Syrym district, Sholankatyn district, Toganas village

Initiator:
KazMeat Industry LLP - the main activity is the breeding of sheep and goats.

Output and capacity:
Mutton – 3,425 tons, beef - 33 tons. It is expected that mutton will be sold to meat-processing plants of the country and will be exported to the CIS countries, the Middle East and China. Beef will be sold to the regional meat processing plant.

Production process:
1. Maintenance of small cattle and broodstock. The farm has chosen a mixed system of keeping small cattle: a combination of pasture and stall keeping.
2. Slaughter, sorting, and preparation of meat products for sale (cooling and storage).

Investment attractiveness of the Project

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment amount, US$ thous.</td>
<td>18,468</td>
</tr>
<tr>
<td>Project NPV, US$ thous.</td>
<td>32,164</td>
</tr>
<tr>
<td>IRR, %</td>
<td>16.7%</td>
</tr>
<tr>
<td>EBITDA yield, %</td>
<td>26%</td>
</tr>
<tr>
<td>Payback period, years</td>
<td>11.1</td>
</tr>
<tr>
<td>Discounted payback period, years</td>
<td>15.7</td>
</tr>
</tbody>
</table>

Investment structure

| Construction and assembly work   | 29%     $5.4 million |
| Machinery and equipment         | 46%     $8.5 million |
| Acquisition of breeding stock   | 6%      $1.0 million |
| Other                           | 19%     $3.5 million |

Project Profitability

Financing structure

| Initiator equity                  | 30% ($5.5 million) |
| Participation of the Fund (KIDF or KCM) | 6% ($1.2 million) |
| Debt financing subject to collateral | 57% ($10.6 million) |

The proposed financing structure is indicative, the final financing and Project participation structures will be determined based on the results of negotiations with the Investor.

Initiator:
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Output and capacity:
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<tr>
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</tr>
<tr>
<td>Payback period, years</td>
<td>11.1</td>
</tr>
<tr>
<td>Discounted payback period, years</td>
<td>15.7</td>
</tr>
</tbody>
</table>

Investment structure

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The proposed financing structure is indicative, the final financing and Project participation structures will be determined based on the results of negotiations with the Investor.
Development of an aquaculture complex to produce black caviar and commercial sturgeon

Agricultural sector

Project description:
Development of an aquaculture complex to produce black caviar and commercial sturgeon, with the creation of 31 additional workplaces.

Project location:
West-Kazakhstan Oblast, Uralsk, Zachagansk Village

Project Initiator:
Scientific Research Complex for Aquaculture Pilot Production LLP ("SRCPPA")

Product and output:
Smoked fish – 3 tonnes
Fresh-frozen fish – 6.7 tonnes
Black caviar - 10 tonnes.

Sales market:
Domestic market: 2 tonnes of caviar and 3 tonnes of smoked fish;
Exports: fresh-frozen fish 6.7 tonnes (Russia) and 8 tonnes of caviar (Russia, UAE, USA, Japan, EU).

Production process:
1. Maintenance in a closed water supply system unit (obtaining larvae, juvenile rearing, rearing to a mature brood fish, hibernation)
2. Preparation of marketable product (selection, pasteurization, addition of preservatives)

Key investment indicators of the Project

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment amount, US$ thousands</td>
<td>8,400</td>
</tr>
<tr>
<td>Project NPV, US$ thousands</td>
<td>30,533</td>
</tr>
<tr>
<td>IRR, %</td>
<td>36.5%</td>
</tr>
<tr>
<td>EBITDA margin, %</td>
<td>58%</td>
</tr>
<tr>
<td>Payback period, years</td>
<td>7.4</td>
</tr>
<tr>
<td>Discounted payback period, years</td>
<td>8.7</td>
</tr>
</tbody>
</table>

Investment structure

- Biological assets: 35% = $2.9 million
- Machinery and equipment: 9% = $0.8 million
- Initial working capital: 6% = $0.5 million
- Other: 50% = $4.2 million

Prerequisites for Project implementation

Revival of the population of rare species - the Company’s activities are aimed to resolve the ecological problem of extinction and to revive the population of sturgeon in the Caspian region.

Growing demand for fish and sturgeon caviar - According to forecasts by the OECD and UN FAO, there will be an increase in the total level of fish consumption in the world. Average annual growth rate (CAGR) in 2019-2025 will be 1.8%. Thus, whilst in 2018 fish consumption per capita amounted to 20.3 kg per person, by 2027 consumption will reach the level of 21.3 kg per person.

According to forecasts, the global caviar market will also grow with a significant CAGR of 7% for 2015-2025. It is estimated that by 2025 the caviar market will be valued at US$ 560.6 mln.

Import substitution – Total volume of imports of sturgeon caviar in 2019 had shown a 1.5 times increase compared to 2018 and amounted to 3.4 tonnes. That provides the possibility to occupy a significant niche in the market by producing the quality products at reasonable prices.

Project profitability

Financing structure

The proposed funding structure is indicative, the final structure of financing and shares of participation in the Project will be determined based on the results of joint negotiations with the Investor.
Juice, beverage and milk production in Nur-Sultan

Agricultural sector

Project summary
The Project stipulates retrieving a plant producing juice, juice drinks, ice tea and ultra-pasteurised milk in Nur-Sultan from a bank pledge, and launching and relaunching production. The plant was previously commissioned in 2015 and shut down in 2018. The Project will create 82 jobs.

Project Initiator:
Astana Bottlers LLP

Project location:
Republic of Kazakhstan, Nur-Sultan

Marketed products and Project capacity:
The Company is planning to reach planned capacity of 79.2 million units from 2026.

- “Kariba” juices and nectars;
- “Kariba” ice tea alcohol-free beverages;
- “Zhanym” milk;
- “Mirovoi” non-alcoholic beverages;
- “Balapan” children’s food.

Consumer markets: Domestic market, the markets of Kyrgyzstan, Uzbekistan and Russia.

Investment attractiveness of the Project

<table>
<thead>
<tr>
<th>Financial indicators</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment, US$ thousand</td>
<td>15,655</td>
</tr>
<tr>
<td>Project NPV, US$ thousand</td>
<td>19,300</td>
</tr>
<tr>
<td>IRR, %</td>
<td>23.9%</td>
</tr>
<tr>
<td>EBITDA margin, %</td>
<td>22.5%</td>
</tr>
<tr>
<td>Payback period, years</td>
<td>7.4</td>
</tr>
<tr>
<td>Discounted payback period, years</td>
<td>10.3</td>
</tr>
</tbody>
</table>

Investment structure

- Land plot: 0% $0.03 million
- Construction and assembly work: 17% $2.6 million
- Machinery and equipment: 37% $5.8 million
- Other: 46% $7.3 million

Prerequisites for Project implementation
Demand for non-alcoholic beverages in Kazakhstan — Average annual growth in the sale of non-alcoholic beverages for 2017-2019 was 9.3%, demonstrating an intensive growth. According to Fitch Solutions, the expected inflation slowdown and growth in real purchase power across the country will help maintain the 8.7% sales growth seen in non-alcoholic beverages in 2020-2024 (CAGR).

Milk production deficit — According to Fitch Solutions, milk consumption in Kazakhstan will follow global trends in 2020-2024 and grow by an average of 4.7%. The historical balance of the production, consumption, export and import of liquid milk and cream in Kazakhstan points to a production deficit in the country. In 2019, the production deficit amounted to 21.5 thousand tons.

Modern production base in Nur-Sultan that is a part of a food agglomeration — The initiator is the only major producer of drinks in Nur-Sultan agglomeration. The location of the plant in Nur-Sultan is a profitable advantage for prompt delivery to the regions of Kazakhstan and the Russian market. The plant is fully fitted with production and packaging equipment and aseptic filling lines. The plant also has its own infrastructure and utilities networks.

Project profitability

<table>
<thead>
<tr>
<th>Year</th>
<th>Sales, US$ thousand</th>
<th>EBITDA margin, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>-2%</td>
<td>-2%</td>
</tr>
<tr>
<td>2</td>
<td>15%</td>
<td>15%</td>
</tr>
<tr>
<td>3</td>
<td>19%</td>
<td>19%</td>
</tr>
<tr>
<td>4</td>
<td>21%</td>
<td>21%</td>
</tr>
<tr>
<td>5</td>
<td>22%</td>
<td>22%</td>
</tr>
<tr>
<td>6</td>
<td>23%</td>
<td>23%</td>
</tr>
<tr>
<td>7</td>
<td>23%</td>
<td>23%</td>
</tr>
<tr>
<td>8</td>
<td>23%</td>
<td>23%</td>
</tr>
<tr>
<td>9</td>
<td>PPP</td>
<td>PPP</td>
</tr>
<tr>
<td>10</td>
<td>70%</td>
<td>70%</td>
</tr>
<tr>
<td>11</td>
<td>$15.7 million</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>15% ($2.4 million)</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>15% ($11 million)</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>15% ($2.3 million)</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>15% ($2.3 million)</td>
<td></td>
</tr>
</tbody>
</table>

The proposed financing structure is indicative, the final financing and Project participation structures will be determined based on the results of negotiations with the Investor.
Production and bottling of mineral water in the Almaty region
Agro-industrial complex

Project Description:
Construction of a filling line for the production of carbonated and non-carbonated mineral water in glass bottles of 0.33 and 0.5 liters. Water from artesian well No. 791 of the Khorgos field will be used as a raw material. The project will create 35 new job places.

Location:
Almaty oblast, 39 km south of Zharkent.

Initiator:
Kartex Group LLP is a supplier of oilfield equipment for oil producing companies in the Republic of Kazakhstan and Turkmenistan.

Output, capacity and sales markets:
Output is mineral water in glass bottles of 0.33 and 0.5 liters: 5.2 mln bottles of 0.5 liters and 7.8 mln bottles of 0.33 liters are going to be produced after gaining maximum production capacity. All products manufactured under the project will be exported to China.

Production process:
Acceptance of mineral water from the well, filtration, saturation with carbon dioxide, disinfection, preparation of bottles, filling, packaging and storage.

Investment attractiveness of the Project

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment amount, US$ thous.</td>
<td>4,841</td>
</tr>
<tr>
<td>Project NPV, US$ thous.</td>
<td>4,576</td>
</tr>
<tr>
<td>IRR, %</td>
<td>29%</td>
</tr>
<tr>
<td>EBITDA yield, %</td>
<td>22.62%</td>
</tr>
<tr>
<td>Payback period, years</td>
<td>5.23</td>
</tr>
<tr>
<td>Discounted payback period, years</td>
<td>6.92</td>
</tr>
</tbody>
</table>

Investment structure

Construction and assembly work 31% $1.8 mln
Machinery and equipment 45% $2.6 mln
Land rent 7% $0.4 mln
Initial working capital 17% $1.0 mln

Prerequisites for implementation of the Project

Water composition. The water of the Khorgos field is unique for its ultra-freshness and balanced composition of cations and anions. This composition is rarely found in Central Asia and is comparable to the composition of premium mineral waters.

Location. The plant’s location is perfect for cross-border trade with the regions of China: the distance from the wells to the border with China is 35 km. It significantly reduces transport costs and ensures prompt delivery of products.

Work experience with the Chinese market. Initiator currently supplies oilfield service equipment from China, i.e. Initiator has an experience of interacting with large Chinese supply companies in various fields.

Project Profitability

<table>
<thead>
<tr>
<th>Year</th>
<th>Revenue, thousand USD</th>
<th>EBITDA Margin, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>8,919</td>
<td>26%</td>
</tr>
<tr>
<td>5</td>
<td>10,354</td>
<td>20%</td>
</tr>
<tr>
<td>10</td>
<td>11,239</td>
<td>21%</td>
</tr>
<tr>
<td>14</td>
<td>11,459</td>
<td>21%</td>
</tr>
<tr>
<td>PPP</td>
<td>11,459</td>
<td>30%</td>
</tr>
</tbody>
</table>

Financing structure

- Initiator equity 25% ($1.5 mln)
- Debt financing subject to collateral 70% ($4.1 mln)
- Participation of the Investor on 5% ($0.3 mln)

The proposed financing structure is indicative, the final financing and Project participation structures will be determined based on the results of negotiations with the Investor.
Project profitability

Prerequisites for Project implementation

Reduction of the level of environmental pollution. Production involves the usage of pulp brown coal (oxidized in mine), that is classified as unusable recovered waste. the storage of which referred as non-manufacturing costs and is considered a factor of environmental pollution.

Growing demand for organic fertilizers - currently the concept of a “green” economy is gaining popularity in the world. The harmful effects of chemical fertilizers, leading to soil depletion, have contributed to the limitation of their use at the legislative level in several developed countries around the world.

Import substitution – total volume of imports of organic fertilizers in 2019 had shown a 5 times increase compared to 2015 and amounted to 1.6 thousand tonnes. That provides the possibility to occupy a significant niche in the market by producing the quality products at reasonable prices.

Project description:
Construction of a plant for the production of organic and humic complex fertilizers with the creation of 30 new workplaces.

Project location:
Karaganda oblast, Karaganda, on the territory of the SEZ “Sary Arka”

Project Initiator:
ESMAR LLP

Product and output:
Organo-humic fertilizers from brown coal (sodium humate) - 36.5 thousand tonnes per year

Sales market:
The entire volume of manufactured products is planned to be sold on the domestic market.

Production process:
1. Crushing of oxidized brown coal, alkalization and addition of microelements, production of organomineral fertilizers.
2. Preparation of marketable product (prepackaging operation, packaging and transportation).

Key investment indicators of the Project

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment amount, US$ thousands</td>
<td>4,308</td>
</tr>
<tr>
<td>Project NPV, US$ thousands</td>
<td>6,243</td>
</tr>
<tr>
<td>IRR, %</td>
<td>33%</td>
</tr>
<tr>
<td>EBITDA margin, %</td>
<td>22%</td>
</tr>
<tr>
<td>Payback period, years</td>
<td>5.6</td>
</tr>
<tr>
<td>Discounted payback period, years</td>
<td>6.9</td>
</tr>
</tbody>
</table>

Investment structure

- Construction and assembly works: 28% $1.2 million
- Machinery and equipment: 39% $1.7 million
- Technique and transport: 14% $0.6 million
- Initial working capital: 19% $0.8 million

The proposed funding structure is indicative, the final structure of financing and shares of participation in the Project will be determined based on the results of joint negotiations with the investor.
The proposed financing structure is indicative, the final financing and Project participation structures will be determined based on the results of negotiations with the Investor.
Cheese plant construction in Almaty
Agro-industrial complex

Project description
The investment project envisages the construction of a cheese plant with a capacity of 150 tonnes of raw materials per day on the territory of Almaty industrial zone. The Project creates over 250 highly qualified jobs.

Initiator:
Agroholding Dinara Group LLP is a diversified holding based in Almaty Oblast. The holding structure includes: Agrofirm Dinara Ranch (feedlots, meat processing plant and dairy farm), SPK Plemzavod Almaty (dairy farm, sheep-breeding farm and feed production), PK Dinara (rice growing, processing and storage) and Agrofood LLP (combined feed production).

Commodity production and capacity:
From 2026, it is planned to reach full design capacity with production volume 6,408 thousand tonnes. Produced goods:
- Semi-hard cheese;
- Mozzarella cheese;
- Ricotta cheese;
- Butter.

Sales markets:
Export (China, the UAE) and domestic market.

Key investment indicators of the Project

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment amount, US$ thousand</td>
<td>23,292</td>
</tr>
<tr>
<td>Project NPV, US$ thousand</td>
<td>36,995</td>
</tr>
<tr>
<td>IRR, %</td>
<td>31.4%</td>
</tr>
<tr>
<td>EBITDA margin, %</td>
<td>26%</td>
</tr>
<tr>
<td>Payback period, years</td>
<td>6.6</td>
</tr>
<tr>
<td>Discounted payback period, years</td>
<td>7.7</td>
</tr>
</tbody>
</table>

Investment structure
- Construction and assembly work: 16% $3.7 million
- Machinery and equipment: 75% $17.3 million
- Initial working capital: 7% $1.7 million
- Other capital expenses: 2% $0.6 million

Prerequisites for Project implementation

**Extensive material and technical base.**
The Initiator’s assets comprise two large dairy farms that provide a raw material base. Among other things, the Initiator’s group also owns land plots for pasture and irrigation, an operating meat processing plant, a feedlot, seedling equipment and a granary.

**Demand for products.**
Over the last 5 years, the production of cheese and cottage cheese in the country remained at the same level - 30 thousand tonnes in 2019, while the product consumption increased from 50 thousand tonnes in 2015 to 52 thousand tonnes in 2019. Production and consumption indicators for the first half of 2020 also exceed the indicators for the same period of the previous year.

**Proximity to substantial consumer markets.**
The location in the densely populated Almaty Oblast gives an advantage in proximity to the large consumer markets of Almaty city and Almaty Oblast (population of about 4 million people). In addition, the strategically convenient location of the region for cross-border trade with China will reduce transportation costs.

Project profitability

![Project profitability chart]

Financing structure
- Initiator equity: 15% ($3.5 million)
- Debt financing subject to collateral: 70% ($16.3 million)
- Funds participation (KIDF, KCM, SKI): 7% ($1.7 million)

The proposed financing structure is indicative, the final financing and Project participation structures will be determined based on the results of negotiations with the Investor.
Construction of a full-cycle mushroom growing complex in Almaty region
Agro-industrial complex

Project description
The project proposes the construction of a full-cycle mushroom growing complex with the following range of products: canned mushrooms, fresh mushrooms, compost phase 3 production in the Almaty region. The production is planned on a land plot with an area of 45 ha in Karaoiskiy village, Ili district. The total area of the complex of 3 plants will be 69,000 sq. m.

The following tasks will be solved within the framework of the project:
- providing the domestic market with high-quality competitive products using advanced proven technologies for production, supply and distribution;
- increasing the export potential of agricultural products to the UAE, Russia and the CIS countries, which will increase the production capacity with added value;
- creation of 157 permanent jobs.

Initiator:
Alma Agri Industries LLP.

Commodity production and capacity:
Reaching full design capacity is expected from 2023. Produced goods:
- canned mushrooms;
- mixed compost.

Sales markets: export (Russia, UAE) and domestic market.

Key investment indicators of the Project

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment amount, US$ thousand</td>
<td>44,229</td>
</tr>
<tr>
<td>Project NPV, US$ thousand</td>
<td>43,655</td>
</tr>
<tr>
<td>IRR, %</td>
<td>17.5%</td>
</tr>
<tr>
<td>EBITDA margin, %</td>
<td>47.0%</td>
</tr>
<tr>
<td>Payback period, years</td>
<td>6.7</td>
</tr>
<tr>
<td>Discounted payback period, years</td>
<td>8.9</td>
</tr>
</tbody>
</table>

Investment structure

| Construction and assembly work      | 29%     |
| Machinery and equipment            | 66%     |
| Other capital expenses             | 5%      |
| Initial working capital            | 7%      |

Project profitability

Investment structure

$11.7 million
$27.3 million
$2.2 million
$3.0 million

Financing structure

Initiator equity
Debt financing subject to collateral
Funds participation (KIDF, KCM, SKJ)
Participation of the Investor from 9% ($4.0 million)

The proposed financing structure is indicative, the final financing and Project participation structures will be determined based on the results of negotiations with the Investor.

Prerequisites for Project implementation

Import substitution.
Currently, mushrooms are not grown on an industrial scale in Kazakhstan. Due to the country’s 100% import dependence, prices for both fresh mushrooms and canned products in Kazakhstan remain at a high level.

Global demand for mushrooms and its products.
The global mushroom growing market in 2019 was estimated at 23,291 million US dollars. It is expected to reach 37,088 million US dollars by 2025. CAGR for the forecast period will be 8%.

Close to large markets.
Considering that Almaty and Almaty region have an extensive road transport and logistics infrastructure for access to sizeable sales markets, like the Russian Federation and the CIS countries, a short transport shoulder makes it possible to establish exports in order to occupy a significant share in their consumption markets.

Project profitability

PPP
Sales, US$ thousand
EBITDA margin, %
Launch of a modern pig farm in Almaty Oblast
Agro-Industrial complex

Project idea:
The project provides for the construction of a slaughterhouse with a capacity of 800 heads per shift and the launch of a pig-breeding complex for 46,800 heads. The project plans to create 113 jobs.

Project location:
Daulet village, Talgar district, Almaty oblast

Project Initiator:
EcoMeat LLP

Production capacity:
It is planned to produce (2023) 3,338 tons of products annually (2,781 tons of meat and 556 tons of by-products).

Sales market:
The company plans to export pork meat (83%) to China, offal (17%) to the domestic market.

Production process:
An economically justified technological scheme for organizing pig breeding is considered to be a process with a complete production cycle, including the reproduction of piglets, nursery and feeding until the stage of commodity items. This mechanism provides a steady reproduction and formation of the herd, as well as the flow rate and uniformity of the arrival of young stock for fattening.

Investment attractiveness of the Project

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment amount, US$ thousand</td>
<td>5,708</td>
</tr>
<tr>
<td>Project NPV, US$ thousand</td>
<td>9,788</td>
</tr>
<tr>
<td>IRR, %</td>
<td>22.6%</td>
</tr>
<tr>
<td>EBITDA margin, %</td>
<td>22.9%</td>
</tr>
<tr>
<td>Payback period, years</td>
<td>5.8</td>
</tr>
<tr>
<td>Discounted payback period, years</td>
<td>7.6</td>
</tr>
</tbody>
</table>

Investment structure
- Buildings and structures: $2.9 million (50.2%)
- Machinery and equipment: $1.6 million (28.5%)
- Biological assets: $1.0 million (17.5%)
- Vehicles: $0.06 million (1.1%)
- Others: $0.15 million (2.7%)
- Debt financing subject to collateral: $4.0 million (70%)

The proposed financing structure is indicative, the final financing and Project participation structures will be determined based on the results of negotiations with the Investor.

Prerequisites for the Project implementation

**Favourable location.** The location in the densely populated Almaty Oblast gives an advantage in proximity to the sales markets of Almaty and Almaty Oblast of 3.8 million people. In addition, the strategically convenient location of the region for cross-border trade with China will reduce transportation costs when exporting products.

**Export to China.** Over the past 5 years, China’s pork imports have increased 2.6 times and amounted to 2 million tonnes in 2019. It is expected that this indicator will grow due to the decline in the volume of domestic pork production. According to the agricultural survey 2020-2029 of the Ministry of agriculture of the People’s Republic of China, it is expected that in 2020 pork production will decrease to 39 million tons (-9.2% by 2019) due to the African swine fever in China (hereinafter -ASF) and COVID-19.

**Availability of the necessary infrastructure and qualification.** The Initiator manages a modern pig farm, equipped with necessary engineering and technical communications. The slaughterhouse complex, where technological processes are automated, includes: reproductive farm, artificial insemination station, reproduction workshop, fattening workshop, feed shop equipped with a mechanical feed from the feed kitchen and other.
Project overview:
Organization of integrated farming for the breeding and incubation of catfish and barramundi, the production of fish and related products.

Project location:
Almaty Oblast, Talgar district, Kaynar rural district, 25 km away from Almaty.

Initiator:
Zor Fish LLP

Project’s peak capacity:
729 thousand units of canned catfish (Clarias gariepinus), 900 tonnes of barramundi (Lates calcarifer), 600 thousand units of fry per year.

Principal products:
Canned food, fish, fish products, chilled fish, fish products and semi-finished products in the range.

Production process:
Fish farming, fish processing (production of canned food, fish products, semi-finished products, minced fish).

Market assumptions
Growing demand for fish - According to the OECD and FAO UN projections, there will be an increase in total fish consumption in the world. The average annual growth rate (CAGR) will be equal to 1.8% in the years 2019-2025. So, if in 2018 fish consumption per capita was equal to 20.3 kg per capita, by 2027 it will reach the level of 21.3 kg per capita.

Import substitution - The share of imports in the structure of consumption of fish and fish products in the country equals to 74%, which indicates a high import dependence of the country. Thus, in 2018, Kazakhstan imported 30 thousand tonnes of frozen fish, which is 5 times higher than its own production.

Export potential - Kazakhstan also provides biogenous fish products for export. In 2018, exports of fish amounted to 12.5 thousand tonnes, showing an increase of 64% compared with 2013.

Key investment indicators

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment, US$ thousands</td>
<td>18,716</td>
</tr>
<tr>
<td>Project NPV, US$ thousands</td>
<td>23,739</td>
</tr>
<tr>
<td>IRR, %</td>
<td>23.38%</td>
</tr>
<tr>
<td>EBITDA returns, %</td>
<td>61.8%</td>
</tr>
<tr>
<td>Payback period, amount of years from the start of production</td>
<td>5.87</td>
</tr>
<tr>
<td>Discounted payback period, amount of years from the start of production</td>
<td>8.04</td>
</tr>
</tbody>
</table>

Project location:
Almaty Oblast

Land

<table>
<thead>
<tr>
<th>Soil Type/Purpose</th>
<th>Area, sq. m</th>
</tr>
</thead>
<tbody>
<tr>
<td>Building developments</td>
<td>13,786</td>
</tr>
<tr>
<td>Covering</td>
<td>10,887</td>
</tr>
<tr>
<td>Planting</td>
<td>43,569</td>
</tr>
<tr>
<td>Ponds</td>
<td>12,737</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>80,979</strong></td>
</tr>
</tbody>
</table>
**Project description:** Construction of a biopharmaceutical plant for the production of biological products according to the GMP (Good Manufacturing Practice) standard with a capacity of 15 million doses per year.

**Project goals:** Construction of the first biopharmaceutical plant in Kazakhstan in accordance with the international GMP standard.

**Project initiator:** Republican State Enterprise "Research Institute for Biological Safety Problems".

**Product and output:**
- Smallpox vaccine – 3,750 thousand doses;
- Avian influenza vaccine – 2,250 thousand doses;
- Cattle Nodular Dermatitis Vaccine – 3,000 thousand doses;
- Cattle Plague Vaccine – 2,250 thousand doses;
- Small Cattle Ecthyma Vaccine – 1,500 thousand doses;
- Animal Brucellosis Vaccine – 2,250 thousand doses.

**Key investment indicators of the Project**

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment amount, thous. USD</td>
<td>10,171</td>
</tr>
<tr>
<td>Project NPV, thous. USD</td>
<td>8,603</td>
</tr>
<tr>
<td>IRR, %</td>
<td>22.4%</td>
</tr>
<tr>
<td>EBITDA margin, %</td>
<td>57%</td>
</tr>
<tr>
<td>Payback period, years</td>
<td>8.2</td>
</tr>
<tr>
<td>Discounted payback period, years</td>
<td>11.2</td>
</tr>
</tbody>
</table>

**Project location:**
Almaty Oblast, Zhambyl district, urban-type settlement Gvardeyski.

**Prerequisites for Project implementation**

**Lack of production in accordance with GMP standards**
As of today, there are no production of biological products that meets international GMP standards in Kazakhstan. Compliance with GMP standards will provide laboratory comprehensive verification and regulation of production parameters, the quality of all products, and reduce the risk of manufacturing errors to a minimum.

**The growth of cattle, small cattle and poultry**
Currently, Kazakhstan has seen an increase in the number of cattle, small cattle and birds. For example, in 2018, the increase in the number of cattle was 6%, small cattle 2% and birds 11%. For this reason, the need for veterinary drugs for the prevention and treatment of animals is increasing.

**Import substitution**
The share of imports in the structure of consumption of veterinary drugs in the country is 78%, which indicates a high import dependence. In 2018, imports to the country amounted to 246 tons of veterinary drugs, of which 200 tons were imported from Russia.

**Project profitability**

![Graph showing project profitability](image)

**Biological product manufacturing technology**

- The accumulation of virus-containing suspension
- Preliminary cleaning (clarification)
- Virus inactivation
- The manufacture of the vaccine (target product)
- Vaccine formulation
- Concentration and Cleaning

*Agro-industrial complex*

Construction of a plant for the production of biological products according to the GMP standard
Construction of a trout farm

Project description

The project provides for the organization of the activities of a commercial fish breeding enterprise in the basins along the Chilik river, Almaty region, as well as in the cages at the Bartogai reservoir. The total volume of production will be 7,200 tonnes of trout fish per year. The company is the largest producer of rainbow trout in the Republic of Kyrgyzstan. The current capacity of production and processing of products is 600 tonnes of rainbow trout per year.

Project location

Market analysis

I. Main exporter of trout fish products to Kazakhstan is Russia with share ~98%.

Trout fish import and production in Kazakhstan, tonnes

II. Main exporters of trout fish products to Russia are Armenia and Turkey with share ~95%.

Trout fish import to Russia by country, t/h tonnes

During 2015-2017, import of trout fish products to Russia increased 2.4 times.

Target Investor Mandate

Long cheap financial resources

Investment highlights

Upfront investment | $16 MM
NPV | $37 MM
IRR | 41%
Payback period | 5 years

Competitive advantage

The company is the largest producer of rainbow trout in the Republic of Kyrgyzstan, and it has long-term offtake contracts with Russia for the whole amount of produced trout fish.

Trout fish import prices of Russia vs prices of producer in Kazakhstan, USD/tonne

Kazakhstan has comparative price advantage among other importers in Russian market.

Value proposition

The project has the benefits of location, possibility of efficient use of water resources for trout production, and potential for import substitution and increase export volume.

Sources: Statistics Committee of the Ministry for national economy of the RK, International Trade Centre
The project plan is to expand production of ducks from 150 tonnes to 6 thousand tonnes of poultry meat per year and 3.3 million heads of poultry per year. The initiator is a large agricultural holding in the North Kazakhstan region, which produces grains, oilseeds, leguminous crops and breeds cattle. It also has 430 thousand hectares, 540 units in the machine-tractor park and a storage capacity of 550 thousand tonnes.

Market analysis
There is an increase in imports of duck meat over the past 4 years. The growth accounted for 27%, which shows an increase in demand for the product in the Kazakhstan market.

During 2014-2017, main importers in Kazakhstan were the following countries: Hungary (58%), Russia (28%) and USA (14%). At the same time, Kazakhstan exported duck meat to: Russia (28,24 tonnes) and UAE (0,01 tonnes).

Competitive advantage
I. The sale price of duck meat, which JSC “Atameken agro” charges, is 35% lower than the price of imported duck meat.

<table>
<thead>
<tr>
<th>Price of “Atameken agro” JSC</th>
<th>Imported price</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1 USD/tonne</td>
<td>3.3 USD/tonne</td>
</tr>
</tbody>
</table>

II. Average price of bird feed in North Kazakhstan region is 10% lower than the average price in other regions.

Average price of bird feed, tenge/kg

<table>
<thead>
<tr>
<th>Region</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>North</td>
<td>39</td>
</tr>
<tr>
<td>Others</td>
<td>43</td>
</tr>
</tbody>
</table>

Bird feed is one of the main operating expenditures, which accounts for 60% of total operating expenditures.

Value proposition
The project allows to occupy a niche in the domestic market as the largest producer of duck meat and produce 6 000 tonnes of poultry meat per year.
Development of the Aksoran deposit

**Products**

Average annual capacity:
- 5,019 tonnes of tungsten in scheelite concentrate;
- 227 tonnes of molybdenum middlings.

**Project investment attractiveness**:

- Investment – US$ 117,868 thousand
- Project NPV – US$ 112,177 thousand
- IRR – 29.4%
- Payback period – 5.6 years

**What is the project’s attractiveness?**

- **Reserve evaluation.** An estimate of the deposit reserves is available from the Committee of Geology based on local KAZRC standard; JORC Code compliant estimate was also made. The reserves were recognized in the State Register of Reserves in 2019. Aksoran is known to be one of the richest tungsten deposits in Central Asia.
- **Contacts with potential customers.** The Initiator received letters of interest to purchase his products from businesses located in China, Russia, Germany, Austria and Singapore.
- **Geographic position.** The Project has an advantageous location in terms of geographic proximity to China, the main consumer of tungsten.

**Investment proposal**

The Project requires investment of US$ 117,868 thousand, of which:
- 50% (58,934 thousand USD) – debt financing subject to collateral;
- 20% (23,574 thousand USD) – shareholder’s equity;
- from 30% (35,360 thousand USD) – 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.

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**Project**

The Project envisages the construction of a mining complex to be based on the Aksoran molybdenum-tungsten ore deposit, the largest in Kazakhstan, for the production of tungsten in scheelite concentrate and molybdenum middlings. The plan is to employ a sublevel caving method for the development of the deposit, with an end ore drawing and further ore flotation.

**Company**

The project initiator is Yessil-Mining LLP, whose core activities are geological exploration and survey. The Initiator holds license No. 2-ML dated 31 March 2020 for mining at the Aksoran deposit (until 2045).

**Market**

- According to the forecast of Chromatus Consulting, the world tungsten market is expected to show a stable growth trend from 3.27 US$ billion in 2020 to 5.28 US$ billion in 2028 with a CAGR of 6.35% for this period.
- Global tungsten production is on an upward trend despite the 2020 crisis caused by the COVID-19 pandemic, when production volumes increased slightly by 0.2% (84,000 tonnes) compared to 2019 (83,800 tonnes).
- According to Mordor Intelligence forecast, molybdenum consumption will increase from 247 thousand tonnes in 2020 to 303 thousand tonnes in 2025 with a CAGR of 4% for this period.
Upgrade of the Irtysh Chemical and Metallurgical Plant

Commercial products
Design capacity: 1,385 tonnes of products per year.

Project description
The Project envisages the upgrade of the Irtysh Chemical and Metallurgical Plant to expand the output of products from rare earth metals. The design capacity of the plant will be 1,385 tonnes of products per year.

Company
DINATRON-KAZAKHSTAN Ltd LLP is a specially created company, part of the HOLDING "DINATRON", operating on the basis of the Irtysh chemical and metallurgical plant, leading its history of the production of rare and rare-earth metals since 1958. The goal of the company is to create a new modern complex for the production of rare metals and products from them, including metallurgical facilities using forging, sheet-rolling and pipe-rolling industries.

Market
- Titanium sponge production in 2016-2020 followed a steady positive trend. The production volume increased from 170 thousand tonnes in 2016 to 210 thousand tonnes in 2020 with a CAGR of 5.4%. In 2020, China was the leader in the sector and produced 107 thousand tonnes of titanium sponge, while Kazakhstan ranked fourth with a volume of 15 thousand tonnes.
- 360ResearchReports predicts that the titanium products market will continue to show a strong positive trend through 2026 with a CAGR of 1.3%.

Investment attractiveness of the project:
- Investment – US$ 205,177 thousand
- Project NPV – US$ 79,102 thousand
- IRR – 19.7%
- Payback period – 9.08 years

What is the attractiveness of the project?
Import substitution and expansion of production. Kazakhstan doesn't have enterprises for the production of high value added products from rare non-ferrous metals. The project implementation will allow for advanced processing and finished products of a high conversion rate - ingots, powder, rods, wire, pipes, shaped articles made of niobium, tantalum, zirconium, titanium and their alloys, which will further cover domestic demand for these types of products.

Developed infrastructure. The plant is located 70 km from Ust-Kamenogorsk, in Pervomay village, in a safe distance from large settlements. The plant territory is located in close proximity to the highway leading to Ust-Kamenogorsk and also has its own railway siding.

Investment proposal
The Project requires investment of US$ 205,177 thousand, of which:
- 70% (US$ 143,623.9 thousand) – debt financing subject to collateral;
- from 30% (US$ 61,553.1 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 description:
Construction of a plant to produce aluminum foil. Number of jobs created - 135.

Location:
Pavlodar oblast, Pavlodar, Pavlodar Special Economic Zone.

Initiator:
Pavlodar SEZ, which is looking for an investor with experience in the aluminum foil production.

Commercial products and capacities:
- packaging foil - 6,019 tons,
- pharmaceutical strip - 6,019 tons,
- blister foil - 2,257 tons,
- cooking foil - 752 tons.

Sales markets:
Kazakhstan, border regions of Russia, Uzbekistan, Tajikistan, Kyrgyzstan, Turkmenistan.

Manufacturing process:
1. Melt slabs and pour ingots. Roll ingots into a strip billet and then roll foil from a strip billet.
2. Roll the finished foil onto the core and rewind the foil into a roll on the rewinding machine.

Key investment indicators

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment amount, US$ thous.</td>
<td>19,098</td>
</tr>
<tr>
<td>Project NPV, US$ thous.</td>
<td>38,208</td>
</tr>
<tr>
<td>IRR, %</td>
<td>28.9%</td>
</tr>
<tr>
<td>EBITDA margin, %</td>
<td>27.01%</td>
</tr>
<tr>
<td>Payback period, years</td>
<td>6.3</td>
</tr>
<tr>
<td>Discounted payback period, years</td>
<td>7.8</td>
</tr>
</tbody>
</table>

Market prerequisites:

Availability of a raw material and cheap energy resources. Kazakhstan has a rich resource base and is the largest producer of aluminum and alumina in the world. The SEZ and the region, which is historically industrial, has a built infrastructure. There is a surplus of electricity generated by the Ekibastuz GRES-1, respectively, low prices for energy resources.

Geographic proximity to aluminum suppliers. Potential aluminum suppliers for the Project are located in close geographic proximity (40 km), which reduces transportation risks and associated overhead costs.

Favorable location. The region where the production is located is distinguished by an extensive transport and logistics infrastructure. Also, location in the Pavlodar Special Economic Zone will ensure obtaining investment preferences.

Project profitability

Revenue, US$ thous. | EBITDA margin, % |
---------------------|------------------|
Year 2              | 14%              |
Year 5              | 27%              |
Year 8              | 27%              |
Year 11             | 27%              |
Year 15             | 27%              |

Investment structure

- Construction and assembly work: 7% of $1.4 million
- Machinery and equipment: 86% of $16.3 million
- Initial working capital: 7% of $1.4 million

Financing structure

- Initiative equity: 0%
- Participation of the Fund (KIDF or KCM): 14.7% ($2.81 million)
- Debt financing subject to collateral: 70% ($13.37 million)
- Participation of the Investor: from 15.3% ($2.92 million)

The proposed financing structure is indicative, the final financing and Project participation structures will be determined based on the results of negotiations with the Investor.
Construction of a mining and processing plant for the extraction and processing of lithium in the East Kazakhstan region

Mining and metallurgical complex

Project description:
Construction of mining and processing plant for the extraction and processing of lithium in the Ulan district of the East Kazakhstan region.

The following activities are planned within the framework of the Project: geological exploration at the Akhmetkino, Bakennoye, Verkhne-Baimurzinskoye, Medvedka, Yubileinoye deposits; putting new reserves on the state balance; organization of lithium mining; construction of a mining and processing plant; start of sales of spodumene concentrate and lithium carbonate.

Number of jobs created – 170.

Location:
Ulan district, East Kazakhstan region, Kazakhstan.

Initiator: Alatau Lithium LLP.

Commercial products and capacities:
The design capacity of processed ore is 1,095 thousand tons per year. The design volume of production of spodumene concentrate is 25 thousand tons per year, lithium carbonate - 4 thousand tons per year.

Sales markets: South Korea and Japan.

Key investment indicators

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment amount, US$ thous.</td>
<td>102,040</td>
</tr>
<tr>
<td>Project NPV, US$ thous.</td>
<td>64,079</td>
</tr>
<tr>
<td>IRR, %</td>
<td>24.2%</td>
</tr>
<tr>
<td>EBITDA margin, %</td>
<td>40.1%</td>
</tr>
<tr>
<td>Payback period, years</td>
<td>9.3</td>
</tr>
<tr>
<td>Discounted payback period, years</td>
<td>10.0</td>
</tr>
</tbody>
</table>

Investment structure

- Buildings and constructions: 73% $74.44 mln
- Machinery and equipment: 19% $19.07 mln
- Other: 8% $8.53 mln

Market prerequisites:

Existing licenses for deposits.
The initiator is the holder of licenses for the extraction of minerals from the Akhmetkino, Bakennoye, Verkhne-Baimurzinskoye, Medvedka, Yubileinoye deposits in the East Kazakhstan region.

Increased demand for lithium.
The key factors driving the growth in lithium carbonate production are the growing demand for end-products made from lithium, such as lithium-ion batteries, equipment on electric vehicles, electronics, home appliances, etc. The largest growth from end users is expected due to the positive trends of growth in the production of electric vehicles.

Availability of own funds to launch the Project.
The company has its own funds in the amount of 3-5 mln US dollars for exploration work, statement of reserves to the state balance sheet and transfer of these reserves according to JORC (Australian Code of Reporting on Exploration Results, Mineral Resources and Ore Reserves).

Project profitability

Revenue, US$ thous. vs. EBITDA margin, %

<table>
<thead>
<tr>
<th>Year</th>
<th>Revenue</th>
<th>EBITDA margin</th>
</tr>
</thead>
<tbody>
<tr>
<td>2024</td>
<td>$11,269</td>
<td>48%</td>
</tr>
<tr>
<td>2030</td>
<td>$89,907</td>
<td>49%</td>
</tr>
<tr>
<td>2036</td>
<td>$137,210</td>
<td>53%</td>
</tr>
<tr>
<td>2042</td>
<td>$133,714</td>
<td>54%</td>
</tr>
<tr>
<td>2049</td>
<td>$80,351</td>
<td>51%</td>
</tr>
</tbody>
</table>

Financing structure

- Initiator equity: 10.0% ($10.2 mln)
- Fund participation (KIDF, KCM, SKI): 9.8% ($10.0 mln)
- Debt financing subject to collateral: 70.00% ($71.4 mln)
- Investor participation: from 10.2% ($10.4 mln)

The proposed financing structure is indicative, the final financing and Project participation structures will be determined based on the results of negotiations with the Investor.
**Mining and metallurgical complex**

**Construction of a metallurgical complex for the production of pig iron in Mangystau Oblast**

**Project description:**
The project involves construction of a complex for the production of pig iron, with ROMELT technology. Iron ore mining and crushing will be carried out at the Beskempir deposit. The processing complex with the ROMELT technology, to which iron ores are going to be transported after crushing, will be located on the SEZ "Seaport Aktau".

**Product:** intermediate pig iron.

**Production process:**
- **Mining** – open-pit;
- **Processing** – ROMELT, liquid phase recovery with energetic coals.

**Initiator:** Technogran Aktobe LLC.

**Location:** Mangystau district, Mangystau Oblast

**Consumer markets:** China, Russia

**Annual production capacity:** 250 thousand tonnes of pig iron.

**Key investment indicators**

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amount of investments, US$ thousands</td>
<td>179,220</td>
</tr>
<tr>
<td>Project NPV, US$ thousands</td>
<td>77,054</td>
</tr>
<tr>
<td>IRR, %</td>
<td>21.9%</td>
</tr>
<tr>
<td>EBITDA margin, %</td>
<td>45%</td>
</tr>
<tr>
<td>Payback period, years</td>
<td>6.5</td>
</tr>
<tr>
<td>Discounted payback period, years</td>
<td>9.5</td>
</tr>
</tbody>
</table>

**Project location:** Mangystau district, Mangystau Oblast

---

**Project implementation assumptions:**

**Existence of a rich resource base.** Beskempir deposit, located in the central part of the Karatau ridge, is the largest iron ore deposit in Mangystau oblast.

**Positive price dynamics.** After the downturn in 2014-2015, the last two years have shown prices for pig iron returning to a positive trend. According to the market analysts (available in the Bloomberg database), these prices will remain relatively stable in the medium term.

**Export potential for pig iron.** Currently, the export of pig iron in Kazakhstan is underdeveloped (in particular, there were no exports to China before 2018). Moreover, imports of pig iron in Russia is growing rapidly. Since 2018 China’s interest in imports of intermediate pig iron from Kazakhstan is growing rapidly: in 2018 China imported 93 thousand tons of pig iron, of which 39 thousand tons were imported from Kazakhstan. In the period from 2017 to 2018, the import of pig iron in the Russian Federation increased from 96 thousand tons to 540 thousand tons (463%). These factors create preconditions for the development of export potential for Kazakhstani producers.

**Projected growth in demand for pig iron.**
According to forecasts from the World Steel Association, global demand for steel (product obtained from pig iron processing) will increase by 1.4% and 1.7% in 2019 and 2020, respectively. Thus, taking into account the specifics of the pig iron and steel market, the growth in demand for pig iron is also expected.

---

**Project profitability**

![Graph showing profitability over years](image)
Project description:
The project involves construction of a complex for the extraction of barite-celestine ores and their processing into barite concentrate for use as weighting agents for drilling muds. The mining of barite-celestine ores and their processing will be carried out at the North Aurtas deposit.

Product: Barite-celestine based weighting agent («BCWA»), carbonate based weighting agent («CWA»).

Reserves (Category C1): 3,579 thousand tons

Initiator: Chemicals trading LLC.

Location: Mangystau district, Mangystau Oblast

Annual production capacity: 200 thousand tons of ore per year;
• BCWA - 186 thousand tons;
• CWA - 14 thousand tons.

Key investment indicators:

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amount of investments, US$ thousands</td>
<td>14,123</td>
</tr>
<tr>
<td>Project NPV, US$ thousands</td>
<td>14,999</td>
</tr>
<tr>
<td>IRR, %</td>
<td>32.5%</td>
</tr>
<tr>
<td>EBITDA margin, %</td>
<td>34-41%</td>
</tr>
<tr>
<td>Payback period, years</td>
<td>5.0</td>
</tr>
<tr>
<td>Discounted payback period, years</td>
<td>6.1</td>
</tr>
</tbody>
</table>

Project location: Mangystau district, Mangystau Oblast

Project implementation assumptions:

Existence of a rich resource base.
The Aurtas deposit, located in Mangistau Oblast, is the largest barite ore deposit with a balance stock of 3.5 million tons of ore. Additionally, ore reserves may increase during additional geological exploration of the area during mining operations.

Advantageous location.
The geographical proximity of the Aurtas deposit to the oil and gas fields of western Kazakhstan and to the Caspian Sea and the ports of Aktau and Kuryk provides a favorable logistic advantage in the delivery of final products to both domestic and foreign consumers.

Development of the oil and gas industry of Kazakhstan.
The last four years, the volume of purchases of the entire oil and gas market in Kazakhstan has increased by an average of 20% per year. The total amount of oil services purchased in 2018 amounted to US$ 8.26 billion, which is 15.5% more than in 2017 (US$ 7.15 billion).

Lack of competition in foreign markets and export potential.
According to the analysis of competitors in foreign markets in Turkmenistan, Russia, Azerbaijan and Saudi Arabia, the extraction and processing of barite is insufficient or completely absent to meet domestic demand.

Project profitability:

- Revenue, US$ thousands
- EBITDA margin, %
**Project overview:**
This investment project ("Project") provides for the commercial development of the Zhaissan deposit in Zhambyl Oblast, involving copper mining and processing.

**Products:** Cathode copper, pelleted silver.

**Manufacturing process:**
*Mining* – underground method;
*Processing* – mined oxidized ores are going to be transported by road to the heap leaching site of the Shatyrkul mine. Sulphide ores are going to be transported by truck to the station Berlik-1, then by rail to the Balkhash beneficiation plant (BOF). The copper concentrate obtained at the BOF will be processed at the Balkhash Metallurgical Plant.

**Initiator:** Zhanashyr Project LLP, subsidiary organization Kazakhmys Corporation LLP.

**Project location:** Zhambyl Oblast, Shu district.

**Annual production capacity:** 600 thousand tonnes of ore.

**Key investment indicators**

<table>
<thead>
<tr>
<th>Index</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment, US$ thousands</td>
<td>118,436</td>
</tr>
<tr>
<td>Project NPV, US$ thousands</td>
<td>111,287</td>
</tr>
<tr>
<td>IRR, %</td>
<td>27.4%</td>
</tr>
<tr>
<td>EBITDA return, %</td>
<td>60%</td>
</tr>
<tr>
<td>Payback period, years</td>
<td>10.2</td>
</tr>
<tr>
<td>Discounted payback period, years</td>
<td>11.4</td>
</tr>
</tbody>
</table>

**Project location: Shu district, Zhambyl Oblast**

**Project implementation assumptions:**

**High demand.** A stable increase in demand for the refined copper is expected over the next years. Copper plays a significant role in infrastructure, generation and transmission of electricity, transport, communications, in the production of industrial equipment and electrical appliances. Demand for the refined copper is forecasted to increase annually by 2% and 1.5% in 2019 and 2020, respectively.


**World silver production.** In recent 5 years, Kazakhstan was among the world’s ten largest silver producers; Kazakhstan is the third largest country by world silver reserves, according to the USGS geological survey.

<table>
<thead>
<tr>
<th>Deposit reserves</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Index</strong></td>
</tr>
<tr>
<td>Zhaissan</td>
</tr>
<tr>
<td>Copper (C1)</td>
</tr>
<tr>
<td>Copper (C2)</td>
</tr>
<tr>
<td>Molybdenum (C1)</td>
</tr>
<tr>
<td>Silver (C2)</td>
</tr>
</tbody>
</table>

**Project profitability**

- **Revenue, US$ thousands**
  - Year 9: 101,209
  - Year 10: 103,335
  - Year 11: 105,239
  - Year 12: 107,039
  - Year 13: 109,731
  - Year 14: 124,805
  - Year 22: 129,810
- **EBITDA margin, %**
  - Year 9: 63%
  - Year 10: 63%
  - Year 11: 63%
  - Year 12: 60%
  - Year 13: 60%
  - Year 22: 59%
  - Year 26: 64%

August 2019

KAZAKH INVEST:
Investment proposal
**Mining and metallurgical complex**

**Industrial development of non-ferrous and precious metal deposits in the East Kazakhstan Oblast**

**Project overview:**
Investment project (the "Project") provides for industrial development for the extraction and processing of non-ferrous and precious metal ores at the Belousovsky deposit in the East Kazakhstan Oblast.

**Products:** Cathode copper, silver pellets, gold bars, zinc in zinc concentrate.

**Production process:**
1) Mining – underground;
2) Ore beneficiation is planned at the Nikolayevsky plant, owned by Kazakhmys;
3) Refining of copper, gold and silver concentrates (obtaining a final product) will be carried out by the Balkhash smelting plant owned by Kazakhmys.

**Initiator:** Kazakhmys Barlau LLP.

**Project location:** East Kazakhstan Oblast, Glubokovsky district, Belousovka village.

**Annual production capacity:** 250 thousand tonnes of ore.

**Key investment indicators**

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amount of investments, US$ thousands</td>
<td>13,378</td>
</tr>
<tr>
<td>Project NPV, US$ thousands</td>
<td>30,009</td>
</tr>
<tr>
<td>IRR, %</td>
<td>42.2%</td>
</tr>
<tr>
<td>EBITDA margin, %</td>
<td>28%</td>
</tr>
<tr>
<td>Payback period, years</td>
<td>3.8</td>
</tr>
<tr>
<td>Discounted payback period, years</td>
<td>4.4</td>
</tr>
</tbody>
</table>

**Project location:** East Kazakhstan Oblast, Glubokovsky district

**Project implementation assumptions:**

**High copper demand.** A stable increase in demand for the refined copper is expected over the next years as copper is the major resource and industrial driver in the modern technological society. Demand for refined copper is forecasted to increase annually by 2% and 1.5% in 2019 and 2020, respectively.

**Stable gold demand.** Gold consumption in Kazakhstan is mainly created as a result of gold processing done by three refineries: Kazzink in Ust-Kamenogorsk, Kazakhmys in Balkhash and Tau-Ken-Alty in Nur-Sultan. Currently, all of the produced refined gold is used for the purpose of replenishing the country’s currency reserves. According to experts, by 2020, refining volumes in Kazakhstan will reach up to 80-90 tons.

**World silver production.** Kazakhstan is one of the largest silver producers. In recent 5 years, Kazakhstan was among the world’s ten largest silver producers. Kazakhstan ranks third by world silver reserves, according to the USGS geological survey.

**Deposit reserves, thousand tonnes**

<table>
<thead>
<tr>
<th>Ore/metal</th>
<th>On-balance reserves by category</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A</td>
</tr>
<tr>
<td>Ore</td>
<td>15</td>
</tr>
<tr>
<td>Copper</td>
<td>0.5</td>
</tr>
<tr>
<td>Lead</td>
<td>0.1</td>
</tr>
<tr>
<td>Zinc</td>
<td>0.8</td>
</tr>
<tr>
<td>Ore</td>
<td>-</td>
</tr>
<tr>
<td>Gold, kg</td>
<td>-</td>
</tr>
<tr>
<td>Silver, tons</td>
<td>-</td>
</tr>
</tbody>
</table>

**Project profitability**

![Graph showing project profitability](image)

Revenue, US$ thous. | EBITDA margin, %
-------------------|------------------|
Year 3             | 27.05%           |
Year 4             | 26.92%           |
Year 5             | 27.87%           |
Year 6             | 28.78%           |
Year 7             | 28.98%           |
Year 8             | 28.68%           |
Year 9             | 29.03%           |
Year 10            | 28.83%           |
Year 11            | 28.30%           |
Year 12            | 27.83%           |
Year 13            | 27.40%           |

September 2019

KAZAKH INVEST:
Investment proposal
Project description:
This investment project ("Project") provides for the construction of mining and processing complex at the Aidarly deposit in the East Kazakhstan Oblast.

Product: Cathode copper, copper concentrate.

Objective of the project: development of the Kazakhmys Corporation resource base, creation of an effective integrated business for the extraction and processing of copper ore and the sale of cathode copper in the domestic market and abroad.

Manufacturing process: mining – open-pit method. Oxide ores processing (stage 1) – processing of oxide ores will occur at a heap leaching plant with the production of cathode copper. Sulphide ores processing (stages 2 and 3) – processing of sulphide ores will occur at a processing plant with the production of copper concentrate.

Initiator: Aidarly Project LLP, subsidiary organization Kazakhmys Corporation LLP.

Project implementation assumptions:
High demand. A stable increase in demand for the refined copper is expected over the next years. Copper plays a significant role in infrastructure, generation and transmission of electricity, transport, communications, in the production of industrial equipment and electrical appliances. Demand for the refined copper is forecasted to increase annually by 2% and 1.5% in 2019 and 2020, respectively.


Import substitution and local production growth. While the dynamics of the trade balance shows a surplus in the category "refined copper and crude copper alloys", the opposite situation is observed for the category of goods with a greater depth of processing as "plates, sheets and strips or strips of copper".

Project location: Ayagoz district, East-Kazakhstan Oblast

### Key investment indicators

<table>
<thead>
<tr>
<th>Index</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment, US$ thousands</td>
<td>1,474,770</td>
</tr>
<tr>
<td>Project NPV, US$ thousands</td>
<td>104,605</td>
</tr>
<tr>
<td>MIRR, %</td>
<td>8.2%</td>
</tr>
<tr>
<td>EBITDA return, %</td>
<td>29%</td>
</tr>
<tr>
<td>Payback period, years</td>
<td>18.3</td>
</tr>
<tr>
<td>Discounted payback period, years</td>
<td>21.0</td>
</tr>
</tbody>
</table>

### Deposit reserves, thousand tonnes

<table>
<thead>
<tr>
<th>Index</th>
<th>Oxide ores</th>
<th>Sulphide ores</th>
</tr>
</thead>
<tbody>
<tr>
<td>On-balance reserves in the pit contour</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>C1</td>
<td>B</td>
</tr>
<tr>
<td>Ore</td>
<td>5,878</td>
<td>317,849</td>
</tr>
<tr>
<td>Copper</td>
<td>20.5</td>
<td>1,220/0</td>
</tr>
<tr>
<td>Molybdenum, tonnes</td>
<td>154,278</td>
<td>14,141</td>
</tr>
<tr>
<td>Gold, kg</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Silver, tonnes</td>
<td>2,170.4</td>
<td></td>
</tr>
</tbody>
</table>

### Project profitability

![Graph showing Project profitability](image-url)
**Project overview:**
This investment project (hereinafter referred to as the "Project") provides for the construction of a mining and metallurgical complex at the Besshoky field.

**Project goals:** development of a group of deposits on Besshoky Square, creation of an effective integrated business for the extraction and processing of copper-molybdenum ore.

**Initiator:** Ulmus Fund B.V.

**Production process:** open pit mining; ore processing at the processing plant and production of copper-molybdenum concentrate; processing of concentrate at a smelter to produce copper and molybdenum.

**Products:** copper and molybdenum

**Production capacity:** 10 mln tons of ore per year

**Key investment indicators**

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amount of investments, US$ thousands</td>
<td>210,000</td>
</tr>
<tr>
<td>Project NPV, US$ thousands</td>
<td>116,747</td>
</tr>
<tr>
<td>IRR, %</td>
<td>21.2%</td>
</tr>
<tr>
<td>EBITDA margin, %</td>
<td>14-28%</td>
</tr>
<tr>
<td>Payback period, years</td>
<td>8.5</td>
</tr>
<tr>
<td>Discounted payback period, years</td>
<td>11.7</td>
</tr>
</tbody>
</table>

**Project location:** Besshoky square, Karagandy oblast

**Project implementation assumptions:**

**Large reserves of copper.** Kazakhstan takes the 8th place in the world in copper reserves with a share of 4.7% of world reserves (37 million tons).

**High demand.** Copper plays a significant role in modern infrastructure, generation and transmission of electricity, in the production of industrial equipment and electrical appliances. According to the forecasts of the International Copper Study Group, the annual growth in demand for refined copper will be 2% in 2019 and 1.5% in 2020.

**Price stabilization.** According to Bloomberg, the price of refined copper is expected to increase with its subsequent stabilization in the medium term: 2019 - 6038.5 USD, 2023 – 6087 USD per ton.

**Molybdenum price increase.** Despite a significant drop in molybdenum prices from 2013 (24,889 USD) to 2015 (11,625 USD), according to the London Metal Exchange (LME) index, the price of molybdenum began to rise steadily to 24.9 thousand USD in 2018 (CAGR for 2015-2018 - 29%).

**Project profitability**

**Field reserves by JORC (2012)**

<table>
<thead>
<tr>
<th>Field</th>
<th>Ore, mln tons</th>
<th>Copper, ths tons</th>
<th>Cu, %</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>East Besshoky</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Measured</td>
<td>9.64</td>
<td>74.58</td>
<td>0.77</td>
</tr>
<tr>
<td>Indicated</td>
<td>19.09</td>
<td>116.93</td>
<td>0.61</td>
</tr>
<tr>
<td><strong>South Besshoky</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Measured</td>
<td>44.36</td>
<td>164.52</td>
<td>0.37</td>
</tr>
<tr>
<td>Indicated</td>
<td>147.32</td>
<td>527.03</td>
<td>0.36</td>
</tr>
<tr>
<td><strong>Kaindyshoky</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Measured</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Indicated</td>
<td>37.87</td>
<td>143.52</td>
<td>0.38</td>
</tr>
</tbody>
</table>
**Mining and smelting industry**

**Extraction and processing of nickel-cobalt ore deposit Bogetkol**

**Project Description**
This investment project provides for the extraction and processing of nickel-cobalt ores from the Bugetkol deposit in the Aktobe region (the "Project").

**Project goals:**
- Development of the resource base of Sary Arka Mining Company LLP, creation of an effective integrated business for the extraction and processing of cobalt/nickel ores and the sale of final products in the domestic market and abroad;
- obtaining high-quality, export-oriented, competitive products through rational and effective field development using advanced proven technologies.

**Project Initiator**
Mining company "Sary Arka" LLP

**Production**
- Nickel concentrate;
- Cobalt concentrate.

**Annual production capacity:**
Nickel – from 4,508 to 9,125 tons, Cobalt – from 281 to 580 tons.

**Project Profitability**

**Market prerequisites:**
**Rising prices for nickel and cobalt.** According to forecasts by Bloomberg analysts, the average nickel price in 2019 will increase by 27% and amount to US$ 13,550 per ton, and for the period 2019 – 2022, the average annual price will increase yearly by 9% and rise to US$ 15,900 per ton by 2027.

**Export potential.** The country’s domestic demand for cobalt and nickel is low, so it is possible to cover it with excess. nickel-cobalt ore reserves in Kazakhstan allow the export of this mineral in significant quantities to China, South Korea, Russia, Japan and Ukraine. China is the main importer of nickel, nickel concentrates, cobalt ores and cobalt concentrates.

**In-situ recovery (ISR) method of mining with sulphurous acid leaching:** The extracted productive solution (which contain nickel and cobalt ores) then goes to the processing plant. Received productive solution further goes through the following stages:
- Nickel/cobalt extraction from pregnant solutions by ion exchange;
- Eluate neutralization;
- Nickel/cobalt sulphate purification and recovery;
- Tailings neutralisation, storage and evaporation.

**Project location:** Aytekebi district, Aktobe region

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**Indicators**

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment amount, thous. USD</td>
<td>574,743</td>
</tr>
<tr>
<td>Project NPV, thous. USD</td>
<td>384,347</td>
</tr>
<tr>
<td>IRR, %</td>
<td>35.5%</td>
</tr>
<tr>
<td>EBITDA margin, %</td>
<td>58-61%</td>
</tr>
<tr>
<td>Payback period, years</td>
<td>4.2</td>
</tr>
<tr>
<td>Discounted payback period, years</td>
<td>4.9</td>
</tr>
</tbody>
</table>

**Field Reserves**

<table>
<thead>
<tr>
<th>Category</th>
<th>min tones</th>
<th>%Ni</th>
<th>%Co</th>
<th>Ni, thous. tones</th>
<th>Co, thous. tones</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Inside Tenement</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indicated</td>
<td>36.01</td>
<td>0.68</td>
<td>0.037</td>
<td>243,366</td>
<td>13,221</td>
</tr>
<tr>
<td>Inferred</td>
<td>1.76</td>
<td>0.68</td>
<td>0.039</td>
<td>11,986</td>
<td>682</td>
</tr>
<tr>
<td><strong>Outside Tenement</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indicated</td>
<td>1.11</td>
<td>0.71</td>
<td>0.041</td>
<td>7,855</td>
<td>454</td>
</tr>
<tr>
<td>Inferred</td>
<td>0.39</td>
<td>0.55</td>
<td>0.045</td>
<td>2,140</td>
<td>173</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>37.12</td>
<td>0.68</td>
<td>0.037</td>
<td>251,221</td>
<td>13,675</td>
</tr>
<tr>
<td>Indicated</td>
<td>2.15</td>
<td>0.66</td>
<td>0.040</td>
<td>14,126</td>
<td>855</td>
</tr>
</tbody>
</table>

**Key Investment indicators**

- **Project location:** Aytekebi district, Aktobe region
Description of the Project
The present investment project (the “Project”) provides for the construction of a mining and processing complex for the production of manganese concentrate at the Karamola deposit in the Almaty region.

Product: manganese concentrate.

Aims of the Project: Creation of an innovative mining and metallurgical complex for the production of manganese concentrate in the Almaty region.

Manufacturing process: The developed technological enrichment scheme includes two-stage crushing of the initial ore to a fineness of 40 mm, followed by wet screening into fineness classes of 40-5 mm, 5-125 mm and 1.25-0.0 mm.

Initiator: Tentek LLP.

Production volumes: ore - 49.6 thousand tons per year, concentrate - 19.2 thousand tons per year.

Market conditions:
High demand. Manganese in ferromanganese alloys is used to “deoxidize” steel during its melting (to remove oxygen from it). The high growth of steel production in the world and the strategic importance of the further development of industries using steel as raw materials create a steady demand for the products manufactured under the Project. According to the forecasts of the International Steel Association, the global demand for steel and steel products will increase by 1.4% in 2019. According to Lucintel forecasts, the average annual growth rate (CAGR) for steel pipes will be 1.6% in 2019-2024.

Export potential. China is the world’s largest importer of manganese concentrate (27 656 thousand tons in 2018). Russia is the fourth largest importer of manganese concentrate (1318 thousand tons in 2018). Over the past 5 years, the growth rates of imported manganese concentrate by China and Russia amounted to 14.3 and 6.6%, respectively.

Deposit reserves
Currently, one area has been explored with estimated reserves of 1.5 - 2.0 million tons of manganese ores, including the estimated and approved GKZ RK C1 - 233.4 thousand tons (Mn 22.65%), C2 - 215, 0 thousand tons (Mn 22.53%). The reserves of the deposit are estimated at more than 16 million tons of manganese and 80 million tons of ore. The manganese content in ores varies from 12-14% to 38-46%, with a phosphorus content of up to 0.1%. Estimated reserves in general for 23 ore sites (including the Karamola deposit) of the Karamola area are estimated at 250 million tons.

Key investment indicators of the Project

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment amount, US$ thous.</td>
<td>10,114</td>
</tr>
<tr>
<td>Project NPV, US$ thous.</td>
<td>5,651</td>
</tr>
<tr>
<td>IRR, %</td>
<td>24.04%</td>
</tr>
<tr>
<td>EBITDA yield, %</td>
<td>75.2%</td>
</tr>
<tr>
<td>Payback period, years</td>
<td>6.48</td>
</tr>
<tr>
<td>Discounted payback period, years</td>
<td>8.22</td>
</tr>
</tbody>
</table>

Project location: Alakol district, Almaty Oblast
Project overview: construction of the mining and metallurgical facility to process 2 mln tonnes of ore at the Syrymbet deposit (“Project”).

Processing capacity: 2 mln tonnes of ore a year

Raw materials: tin, copper and fluorite ore

Production:

Main products:
1) Tin concentrate - an average of 3,500 tons of tin in concentrate per year; 2) Tin sublimates - an average of 4,900 tons of tin in concentrate per year.

By-products:
1) Copper concentrate - an average of 2,000 tons of copper in concentrate per year; 2) Fluorite concentrate - an average of 173,000 tons of fluorite in concentrate per year.

Initiator: Tin One Mining JSC is operating based on a 30-year subsoil use license in Kazakhstan dated Sept. 23, 1998 (5 yrs of exploration and 25 yrs of mining)

Location: North-Kazakhstan Oblast

Sales market: Kazakhstan, China, Russia

Key investment indicators

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project implementation period, years</td>
<td>15</td>
</tr>
<tr>
<td>incl. investment stage, years</td>
<td>2</td>
</tr>
<tr>
<td>operational stage, years</td>
<td>13</td>
</tr>
<tr>
<td>Investment, US$ thousands</td>
<td>285,136</td>
</tr>
<tr>
<td>Project NPV, US$ thousands</td>
<td>380,017</td>
</tr>
<tr>
<td>Project NPV, US$ thousands (without accounting for tax preferences)</td>
<td>276,642</td>
</tr>
<tr>
<td>IRR, %</td>
<td>41.2%</td>
</tr>
<tr>
<td>EBITDA return, %</td>
<td>51%</td>
</tr>
<tr>
<td>Payback period, years</td>
<td>4.7</td>
</tr>
<tr>
<td>Discounted payback period, years</td>
<td>5.3</td>
</tr>
</tbody>
</table>

Project profitability

Market assumptions:

Available raw materials base – The Syrymbet deposit is Kazakhstan’s only and world’s biggest undeveloped deposit of explored and classified tin reserves, according to the 2012 JORC Code.

Import substitution and potential export – Tin is not produced in Kazakhstan, and the country is totally dependent on imports. Tin is imported from Indonesia, Russia, Belgium, Poland and China. The latter is the largest tin consumer and accounts for 48% of the overall import of tin products in the world.

Rise in prices and demand - The world prices for tin and tin concentrate are currently rising due to the increasing demand for this product as a result of stabilization of the world economy.

Deposit reserves

<table>
<thead>
<tr>
<th>Category</th>
<th>Ore, thousand tonnes</th>
<th>Tin, %</th>
<th>Tin, tonnes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measured</td>
<td>46,552</td>
<td>0.46%</td>
<td>214,139</td>
</tr>
<tr>
<td>Indicated</td>
<td>9,164</td>
<td>0.33%</td>
<td>30,241</td>
</tr>
<tr>
<td>Probable</td>
<td>68,945</td>
<td>0.37%</td>
<td>256,632</td>
</tr>
<tr>
<td>Total</td>
<td>124,661</td>
<td>0.40%</td>
<td>501,012</td>
</tr>
</tbody>
</table>
**Project overview:**
Produce and process rare-metal ore at the Drozhilov field in Kostanai Oblast

**Commercial product and production output for the entire Project period:**
- Lithium concentrate – 2,490 thousand tonnes (lithium – 149 thousand tonnes)
- Molybdenum trioxide – 176.6 thousand tonnes (molybdenum – 118.3 thousand tonnes)
- Artificial scheelite – 62.26 thousand tonnes (tungsten trioxide – 48.6 thousand tonnes)

**Initiator:** JV Kazakhstan-Russian Ore Company LLP has a contract in place to explore and produce molybdenum and tungsten at the Drozhilov field

**Project implementation location:** Kostanai Oblast, Denisov District

**Potential markets:** Russia, China

**Key investment data**

<table>
<thead>
<tr>
<th>Index</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project implementation period, years</td>
<td>26</td>
</tr>
<tr>
<td>including the investment stage, years</td>
<td>1</td>
</tr>
<tr>
<td>operational stage, years</td>
<td>25</td>
</tr>
<tr>
<td>Investment, US$ thousands</td>
<td>88,556</td>
</tr>
<tr>
<td>Project NPV, US$ thousands</td>
<td>332,269</td>
</tr>
<tr>
<td>IRR, %</td>
<td>46.6%</td>
</tr>
<tr>
<td>EBITDA returns, %</td>
<td>30%</td>
</tr>
<tr>
<td>Payback period, years</td>
<td>6.6</td>
</tr>
<tr>
<td>Discounted payback period, years</td>
<td>7.0</td>
</tr>
</tbody>
</table>

**Project location: Kostanai Oblast**

**Market assumptions:**
- **Growing demand for rare metals.** Over the next decade, global demand for tungsten is predicted to increase as its use is strongly linked to the development of the processing industry and vehicle production. Lithium consumption in battery production has increased significantly in recent years as rechargeable lithium batteries are being used more and more often in portable electronic devices and electric car batteries.
- **Rising metal prices.** In the last three years, the lithium oxide price has increased 2.5 times due to growing demand. Average prices for molybdenum trioxide grew 20% in the same period. Prices for tungsten derivatives are currently growing. The lack of available financing and low metal content in ore limit supply and act as a stimulus for further rare-metal price rises.
- **Raw materials base.** Kazakhstan has the highest tungsten reserves in the world (63% of global reserves). It also has significant molybdenum and lithium reserves.

**Project economics**

**Drozhilov field reserves**

<table>
<thead>
<tr>
<th>Reserves, mln tonnes</th>
<th>Metals, thousand tonnes</th>
<th>Content, %</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mo</td>
<td>W</td>
</tr>
<tr>
<td>Proven</td>
<td>140</td>
<td>263</td>
</tr>
<tr>
<td>Calculated</td>
<td>131</td>
<td>78</td>
</tr>
<tr>
<td>Estimated</td>
<td>300</td>
<td>150</td>
</tr>
</tbody>
</table>
Mining and metallurgical complex
Construction of Tymlai Mining, Chemical and Metallurgical Complex

Project overview:
Construction of a mining, chemical and metallurgical complex for the production of derivative products from processing of titanium magnetite ores. The complex consists of two production facilities: a mining and processing plant at the Tymlai ore field and a chemical and metallurgical plant in the SEZ Pavlodar.

Production volume:
1) Titanium dioxide – 601 thousand tonnes per year; 2) Special steel – 1956 thousand tonnes per year; 3) Silicon dioxide – 76 thousand tonnes per year.

Products: 1) titanium dioxide pigment; 2) special steel grades; 3) silicon dioxide;

Initiator: TENIR-Logistic LLP

Location: Zhambyl Region, Kordai District; SEZ Pavlodar

Potential customers: Kazakhstan, nearby countries

Key investment indicators

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project implementation period, years</td>
<td>29</td>
</tr>
<tr>
<td>incl. investment stage, years</td>
<td>7</td>
</tr>
<tr>
<td>operating stage, years</td>
<td>26</td>
</tr>
<tr>
<td>Investment amount, $US thousands</td>
<td>2,585,904</td>
</tr>
<tr>
<td>Project NPV, $US thousands</td>
<td>5,465,840</td>
</tr>
<tr>
<td>IRR, %</td>
<td>46.4%</td>
</tr>
<tr>
<td>EBITDA margin, %</td>
<td>57%</td>
</tr>
<tr>
<td>Payback period, years</td>
<td>7.5</td>
</tr>
<tr>
<td>Discounted payback period, years</td>
<td>8.1</td>
</tr>
</tbody>
</table>

Project profitability

Market prerequisites:
**Stable demand.** High historical production growth rates and strategic importance for the further development of industries using steel and titanium dioxide as raw materials create a steady demand for the products produced within the Project.

**Import substitution and export.** The lack of production of titanium dioxide in Kazakhstan, and a small amount of production in the CIS, creates prospects for sales. Regarding alloyed types of steel, the volume of imports for the last 5 years were in average 828 thousand tonnes in the Russian Federation and 2,627 thousand tonnes per year in the PRC. Moreover, currently there are forward contracts for the supply of special types of steels being already signed.

Ore field reserves

<table>
<thead>
<tr>
<th>Name of the ore deposit</th>
<th>Industrial reserves (mln tonnes)</th>
<th>Prognosed resources (mln tonnes)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>C1</td>
<td>C2</td>
</tr>
<tr>
<td>Tymlai</td>
<td>226</td>
<td></td>
</tr>
<tr>
<td>Sarysai</td>
<td>100</td>
<td>60</td>
</tr>
<tr>
<td>Akdala (South)</td>
<td>70</td>
<td>40</td>
</tr>
<tr>
<td>Akdala (North)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Akterek</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td>396</td>
<td>100</td>
</tr>
<tr>
<td><strong>Total C1+C2+P1+P2</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Location of project implementation: Kordai district of Zhambyl region; SEZ Pavlodar
Project overview:
This investment project provides for the exploitation and development of Alaigyr lead-silver deposit ("Project").

Raw material:
lead-silver ores

Product:
Concentrate containing:
- Lead - about 30 thousand tonnes per year
- Silver - about 13 thousand kilograms per year

Initiator:
National Company Tau-Ken Samruk JSC, which specializes in exploration, development, production, processing and sale of solid minerals. Project's operator - Alaigyr LLP.

Location:
Karaganda Oblast, on the border between Shetsky and Karkaralinsky districts

Potential market:
Domestic market, KazZinc LLP

Key investment data

<table>
<thead>
<tr>
<th>Index</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project implementation period, years</td>
<td>25</td>
</tr>
<tr>
<td>including investment period, years</td>
<td>2</td>
</tr>
<tr>
<td>operation period, years</td>
<td>23</td>
</tr>
<tr>
<td>Investment, US$ thousands</td>
<td>177,962</td>
</tr>
<tr>
<td>Project NPV, US$ thousands</td>
<td>49,002</td>
</tr>
<tr>
<td>IRR, %</td>
<td>19.9%</td>
</tr>
<tr>
<td>EBITDA return, %</td>
<td>43%</td>
</tr>
<tr>
<td>Payback period, years</td>
<td>7.3</td>
</tr>
<tr>
<td>Discounted payback period, years</td>
<td>12.5</td>
</tr>
</tbody>
</table>

Project profitability

Market assumptions:
Growing demand. According to BMI Research, the world primary market of lead will experience shortfall by 2019 amid gradual supply cuts: lead consumption will exceed its production by 10 thousand tonnes in 2019. According to the Silver Institute, the last five years are characterised by a global silver shortfall; in 2017, this index reached 35 mln ounces (810 tonnes). The metal mining declined (a 4% fall in 2017).

Import substitution. Although the lead and lead-ore production consistently increased over the past few years, the country's market was met by 46% only. Metal production in the domestic market amounted to 112 thousand tonnes in 2017, while its consumption was 245 thousand tonnes.

Deposit reserves approved by Kazakhstan State Reserves Committee

<table>
<thead>
<tr>
<th>Category</th>
<th>Ore, thousands of tonnes</th>
<th>Grade</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pb, %</td>
<td>Ag, g/t</td>
<td>Pb, tonnes</td>
</tr>
<tr>
<td>C1</td>
<td>13,160</td>
<td>5.69</td>
<td>27.6</td>
</tr>
<tr>
<td>C2</td>
<td>5,358</td>
<td>4.70</td>
<td>22.4</td>
</tr>
<tr>
<td>Total</td>
<td>18,518</td>
<td>5.60</td>
<td>26.1</td>
</tr>
</tbody>
</table>
Development of Batalinskoye and Krasnoarmeyskoye copper ore deposits

**Project description:**
The Project involves construction of copper ore beneficiation industrial plant at Batalinskoye and Krasnoarmeyskoye deposits that are located in Kostanay Oblast.

**Product:** copper concentrate (incl. subsequent processing at Kazzinc LLP’s plant in Ust-Kamenogorsk Oblast, which will then be sold to end customers).

**Initiator:** Mystau LLP.

**Location:** Denisovsky district, Kostanay Oblast.

**Potential markets:** non-ferrous metal processing plants in CIS, China and Europe.

**Market conditions:**

**Large copper reserves.** Kazakhstan holds the 6th place in the world for its copper reserves of 36.6 million tonnes, which accounts for 4.7% of global reserves.

**High demand.** It is expected that refined copper demand will have a constant growth for the following years because copper is the major factor in economic activity and modern technological society. The expected demand growth for the refined copper will reach 2.99% in 2018 and 2.15% in 2019.

**Price growth.** Global market prices for refined copper demonstrate increasing dynamics related to increased demand for that product as a result of global economic stabilization. According to the forecasts, a moderate increase in copper prices is expected during the following years: 2020 – US$ 6833, 2021 – US$ 6849 per tonne.

**Export potential.** The trade deficit in products such as copper sheets, strips and tapes indicates the import substitution potential. Also, Kazakhstan has an opportunity to increase its exports to China and neighbor countries.

---

**Key investment indicators of the Project**

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project implementation period, years</td>
<td>17</td>
</tr>
<tr>
<td>incl. investment stage, years</td>
<td>2</td>
</tr>
<tr>
<td>operational stage, years</td>
<td>15</td>
</tr>
<tr>
<td>Investment amount, US$ thousands</td>
<td>298,600</td>
</tr>
<tr>
<td>Project NPV, US$ thousands</td>
<td>163,693</td>
</tr>
<tr>
<td>IRR, %</td>
<td>22.5%</td>
</tr>
<tr>
<td>EBITDA margin, %</td>
<td>31-53%</td>
</tr>
<tr>
<td>Payback period, years</td>
<td>7.9</td>
</tr>
<tr>
<td>Discounted payback period, years</td>
<td>10.3</td>
</tr>
</tbody>
</table>

**Project location:** Denisovsky district, Kostanay Oblast

---

**Deposit reserves**

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Unit</th>
<th>Balance reserves by C2 category</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Batalinskoye</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Copper</td>
<td>thous. Tonnes</td>
<td>561.7</td>
</tr>
<tr>
<td>Ore</td>
<td>thous. Tonnes</td>
<td>130,899.7</td>
</tr>
<tr>
<td>Content</td>
<td>%</td>
<td>0.43-0.45</td>
</tr>
<tr>
<td><strong>Krasnoarmeyskoye</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Copper</td>
<td>thous. Tonnes</td>
<td>203.9</td>
</tr>
<tr>
<td>Ore</td>
<td>thous. tonn.</td>
<td>85,050.20</td>
</tr>
<tr>
<td>Content</td>
<td>%</td>
<td>0.24</td>
</tr>
</tbody>
</table>
Mining and metallurgical complex
Construction of hydrometallurgical plant for cathode copper production

Project description:
The Project considers the construction of copper ore processing industrial plant which will be targeted towards cathode copper production with a capacity of 5000 tonnes per year.

Product: cathode copper (pure copper of no less than 99.99%).
Capacity: 5000 tonnes of cathode copper per year.
Production process: extraction – open-pit; processing – flotation and heap leaching, and SX-EW.
Initiator: AK Minerals LLP – the owner of the exclusive copper processing right at Ai-Karaaul.
Location: East-Kazakhstan Oblast. The Plant will be located in Urjar District, 40 km. away from Ayagoz town, and relatively close to the Ai-Karaaul deposit.
Potential markets: Kazakhstan, Russia and China.

Key investment indicators of the Project

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project implementation period, years</td>
<td>11</td>
</tr>
<tr>
<td>Incl. Investment stage, years</td>
<td>1</td>
</tr>
<tr>
<td>Operational stage, years</td>
<td>10</td>
</tr>
<tr>
<td>Investment, US$ thousands</td>
<td>25,643</td>
</tr>
<tr>
<td>Project NPV, US$ thousands</td>
<td>24,396</td>
</tr>
<tr>
<td>IRR, %</td>
<td>45.6%</td>
</tr>
<tr>
<td>EBITDA returns, %</td>
<td>41%</td>
</tr>
<tr>
<td>Payback period, years</td>
<td>3.9</td>
</tr>
<tr>
<td>Discounted payback period, years</td>
<td>4.4</td>
</tr>
</tbody>
</table>

Project profitability

![Graph showing key investment indicators of the Project]

Market conditions:

Large copper reserves. Kazakhstan holds the 6th place in the world for its copper reserves of 36.6 million tonnes, which accounts for 4.7% of global reserves.

High demand. It is expected that refined copper demand will have a constant growth for the following years because copper is the major factor in economic activity and modern technological society. The expected demand growth for the refined copper will reach 2.99% in 2018 and 2.15% in 2019.

Price growth. Global market prices for refined copper demonstrate increasing dynamics related to increased demand for that product as a result of global economic stabilization. According to the forecasts, a moderate increase in copper prices is expected during the following years: 2020 – US$ 6997, 2021 – US$ 7250 per tonne.

Export potential. The trade deficit in products such as copper sheets, strips and tapes indicates the import substitution potential. Also, Kazakhstan has an opportunity to increase its exports to China and neighbor countries.

Project location:
East-Kazakhstan Oblast

Ai-Karaaul deposit reserves (The Report of Interregional Commission on reserves “Vostkazedra”)

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Open-pit mining</th>
<th>Underground mining</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Oxide ore</td>
<td>Sulphide ores</td>
</tr>
<tr>
<td>Copper, thousand tonnes</td>
<td>17.79</td>
<td>23.75</td>
</tr>
<tr>
<td>Copper content, %</td>
<td>1.48</td>
<td>1.89</td>
</tr>
<tr>
<td>Silver, tonnes</td>
<td>2.6</td>
<td>8.8</td>
</tr>
<tr>
<td>Content, g/tonne</td>
<td>2.21</td>
<td>7.01</td>
</tr>
</tbody>
</table>
Project description:
Mining and processing of rare-metal ores from South Zhaur deposit in Karaganda Oblast.

Products:
- 57% concentrate of tungsten trioxide
- 50% concentrate of molybdenum

Production process:
- Open-pit
- Sulphide-scheelte flotation, including grinding in one stage, sulphide flotation and scheelte flotation.

Maximum processing capacity:
4,000 thousand tonnes of commodity ore per annum.

Initiator: JV Saryarka Tungsten LLP.
Location: Karaganda Oblast, Shetsky district
Project implementation period: 35 years

Market conditions:

Raw material base – Kazakhstan holds the 6th place in the world for its tungsten reserves of 2 million tonnes, which accounts for 63% of global reserves. Availability of significant molybdenum reserves (160 thousand tonnes) in Kazakhstan opens up a potential for reviving the molybdenum mining industry in the future.

Metal price growth – The lack of readily available financing and low metal content in the ore deposits are the main reasons for the limited supply of metal in the market, which in the future, may serve as an incentive for further price increases for tungsten and molybdenum.

Growing demand – According to the forecasts, over the next 10 years, global demand for tungsten will increase from 72,552 to 121,679 tonnes (5.3% CAGR). The development of the steel industry affects the growing demand for molybdenum. In the long term it is expected that the growth rate of demand for this metal will be equal to 3.6% per annum until 2024.

Key investment indicators of the Project

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project implementation period, years</td>
<td>35</td>
</tr>
<tr>
<td>Incl. Investment stage, years</td>
<td>2</td>
</tr>
<tr>
<td>Operational stage, years</td>
<td>33</td>
</tr>
<tr>
<td>Investment, US$ thousands</td>
<td>70,942</td>
</tr>
<tr>
<td>Project NPV, US$ thousands</td>
<td>173,323</td>
</tr>
<tr>
<td>IRR, %</td>
<td>32.7%</td>
</tr>
<tr>
<td>EBITDA returns, %</td>
<td>49%</td>
</tr>
<tr>
<td>Payback period, years</td>
<td>5.4</td>
</tr>
<tr>
<td>Discounted payback period, years</td>
<td>6.7</td>
</tr>
</tbody>
</table>

Project location: Karaganda Oblast

South Zhaur deposit reserves (JORC)

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Balance reserves by C2 category</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Quantity, tonnes</td>
</tr>
<tr>
<td>Ore</td>
<td>122,189,700</td>
</tr>
<tr>
<td>Tungsten trioxide</td>
<td>198,953</td>
</tr>
<tr>
<td>Molybdenum</td>
<td>13,062</td>
</tr>
<tr>
<td>Bismuth</td>
<td>6,408</td>
</tr>
</tbody>
</table>
Mining and metallurgical complex

Steel production at the Velikhovskoye deposit in Aktobe Oblast

**Project Description:**
The project provides for the construction of a complex for the production of steel, through the beneficiation and processing of iron-bearing ores at the Velikhovskoye Yuzhnoye deposit in the Aktobe region.

**Raw materials:**
Low alloy construction steel, carbon construction steel, quality carbon construction steel

**Initiator:** Aktobe-Temir-VS Subsidiary, JSC

**Location:** Kargalinsky district, Aktobe oblast

**Potential markets:** Kazakhstan, Russia, China

---

**Market assumptions:**

**Steady demand for steel.** High rates of historical production growth and the strategic importance of further development of industries using steel as raw materials create a stable demand for the products that the project is going to produce.

**Further growth in demand for steel.** According to the forecasts of the International Steel Association, the global volume of demand for steel and steel products will increase by 1.8% and 0.7% in 2018 and 2019 respectively.

**Potential for import substitution and export of steel.** The existence of the trade deficit over the past few years shows a good potential for import substitution and the availability of stable demand for steel on the domestic market of Kazakhstan. Also, due to the geographical proximity of large world steel consumers such as Russia and China, there is good export potential for the supply of products to these countries.

---

**Key investment indicators**

<table>
<thead>
<tr>
<th>Index</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment, US$ thousands</td>
<td>550,727</td>
</tr>
<tr>
<td>Project NPV, US$ thousands</td>
<td>421,198</td>
</tr>
<tr>
<td>IRR, %</td>
<td>25.9%</td>
</tr>
<tr>
<td>EBITDA returns, %</td>
<td>38%</td>
</tr>
<tr>
<td>Payback period, years</td>
<td>6.8</td>
</tr>
<tr>
<td>Discounted payback period, years</td>
<td>8.8</td>
</tr>
</tbody>
</table>

---

**Project Profitability**

- Year 4: 305 million US$ with 37% EBITDA margin
- Year 5: 471 million US$ with 37% EBITDA margin
- Year 6: 596 million US$ with 38% EBITDA margin
- Year 7: 625 million US$ with 38% EBITDA margin
- Year 8: 661 million US$ with 39% EBITDA margin
- Year 14: 821 million US$ with 40% EBITDA margin

**Revenue, US$ mln**

- Year 4: 135 million US$
- Year 5: 217 million US$
- Year 6: 296 million US$
- Year 7: 325 million US$
- Year 8: 362 million US$
- Year 14: 611 million US$
- Year 23: 821 million US$

---

**Estimation of resources according to JORC**

<table>
<thead>
<tr>
<th>Type</th>
<th>Category</th>
<th>Cut-off grade</th>
<th>tonnage</th>
<th>Average Content Fe (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Magnetite resources, ore body – I</td>
<td>Measured</td>
<td>16</td>
<td>112,851,680</td>
<td>20.91</td>
</tr>
<tr>
<td>Martite resources &lt;30% Fe</td>
<td>Measured</td>
<td>16</td>
<td>4,455,263</td>
<td>20.86</td>
</tr>
<tr>
<td>Magnetite resources, ore body – I</td>
<td>Inferred</td>
<td>16</td>
<td>344,762,786</td>
<td>20.02</td>
</tr>
<tr>
<td>Magnetite resources, ore body – II</td>
<td>Inferred</td>
<td>16</td>
<td>9,829,786</td>
<td>20.18</td>
</tr>
<tr>
<td>Martite resources &lt;30% Fe</td>
<td>Inferred</td>
<td>16</td>
<td>17,570,097</td>
<td>19.59</td>
</tr>
<tr>
<td>Martite resources &gt;30% Fe</td>
<td>Inferred</td>
<td>20</td>
<td>4,991,815</td>
<td>41.00</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td>494,461,430</td>
<td>20.43</td>
</tr>
</tbody>
</table>

*Report on the Mineral Resources of the Velikhovskoye South deposit in accordance with the JORC Code for February 2, 2012*
Mining and smelting industry

Development of Zhezdybassay copper deposits in Mangistau Oblast

**Project overview:**
This investment project (the "Project") involves construction of an industrial complex for the extraction and beneficiation of copper ores at Zhezdybassay deposit and at nearby located deposits in the Mangistau region. Copper concentrate is planned to be processed into cathode copper at the copper plant KazZink, with its subsequent sale as a final product.

**Commercial product:** cathode copper (in sheets)

**Project initiator:** Tekhnogran Aktobe LLP

**Project implementation location:** Mangistau district, Mangistau Oblast

**Potential market:** Non-ferrous metals processing plants of neighbouring countries, China and Europe

**Market assumptions:**

- **Large copper reserves.** Kazakhstan is ranked 6th in the world for copper reserves, which is 4.7% of world reserves or 36.6 million tonnes in volume terms.
- **High demand.** Demand for the refined copper is forecasted to increase by 2.99% and 2.15% in 2018 and 2019, respectively.
- **Rise in prices.** According to the World Bank’s forecast, the moderate rise in prices for copper is expected.
- **Export potential.** Trade deficit in considered copper products indicates potential for import substitution. Moreover, Kazakhstan has the opportunity to boost export to the People’s Republic of China and neighbouring countries.

---

**Key investment data**

<table>
<thead>
<tr>
<th>Index</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project implementation period, years</td>
<td>17</td>
</tr>
<tr>
<td>including the investment stage, years</td>
<td>4</td>
</tr>
<tr>
<td>Operational stage, years</td>
<td>13</td>
</tr>
<tr>
<td>Investment, US$ thousands</td>
<td>23,000</td>
</tr>
<tr>
<td>Project NPV, US$ thousands</td>
<td>29,435</td>
</tr>
<tr>
<td>IRR, %</td>
<td>29.5%</td>
</tr>
<tr>
<td>EBITDA returns, %</td>
<td>39-61%</td>
</tr>
<tr>
<td>Payback period, years</td>
<td>7.4</td>
</tr>
<tr>
<td>Discounted payback period, years</td>
<td>8.7</td>
</tr>
</tbody>
</table>

---

**Project implementation location:** Mangistau district, Mangistau Oblast

---

**Reserves of Project’s deposits**

<table>
<thead>
<tr>
<th>Deposits/Mineral occurrences</th>
<th>Reserves, resources category</th>
<th>Ore, mln tons</th>
<th>Copper grade, %</th>
<th>Amount of copper, thou. tonnes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zhezdybassay</td>
<td>C2+P1</td>
<td>6.7</td>
<td>0.58</td>
<td>39.2</td>
</tr>
<tr>
<td>Dolnainskoye</td>
<td>C2+P1</td>
<td>1.8</td>
<td>0.6</td>
<td>10.8</td>
</tr>
<tr>
<td>Sarshasaikoye</td>
<td>P1</td>
<td>2.4</td>
<td>0.6</td>
<td>14.0</td>
</tr>
<tr>
<td>East-Shairskoye</td>
<td>P1</td>
<td>1.1</td>
<td>0.8</td>
<td>8.8</td>
</tr>
<tr>
<td>Kyzyltanskoye</td>
<td>C2+P1</td>
<td>0.8</td>
<td>0.6</td>
<td>4.8</td>
</tr>
<tr>
<td>Shaniyazskoye</td>
<td>P1</td>
<td>0.09</td>
<td>1.1</td>
<td>1.0</td>
</tr>
<tr>
<td>Koktas</td>
<td>P1</td>
<td>0.36</td>
<td>0.4</td>
<td>0.9</td>
</tr>
<tr>
<td>Other occurrences and areas</td>
<td>P1</td>
<td>2.1</td>
<td>0.5</td>
<td>10.5</td>
</tr>
<tr>
<td>Total:</td>
<td>C2+P1</td>
<td>15.3</td>
<td></td>
<td>90.0</td>
</tr>
</tbody>
</table>

---

**Revenue, US$ mln**

<table>
<thead>
<tr>
<th>Year</th>
<th>3</th>
<th>6</th>
<th>8</th>
<th>10</th>
<th>12</th>
<th>17</th>
</tr>
</thead>
<tbody>
<tr>
<td>8.9</td>
<td>12.5</td>
<td>32.9</td>
<td>36.0</td>
<td>38.6</td>
<td>35.4</td>
<td></td>
</tr>
</tbody>
</table>

**EBITDA margin, %**

- 40%
- 45%
- 54%
- 57%
- 59%
- 60%

- 0%
- 10%
- 20%
- 30%
- 40%
- 50%
- 60%
- 70%

- 5,000
- 10,000
- 15,000
- 20,000
- 25,000
- 30,000
- 35,000
- 40,000
- 45,000

---

**Project economics**

- Revenue, US$ mln
- EBITDA margin, %

---

**Diagram:**

- 40%
- 45%
- 54%
- 57%
- 59%
- 60%

- 0%
- 10%
- 20%
- 30%
- 40%
- 50%
- 60%
- 70%

- 5,000
- 10,000
- 15,000
- 20,000
- 25,000
- 30,000
- 35,000
- 40,000
- 45,000
Project Description:
The project involves construction of an industrial complex for the extraction and beneficiation of zinc-copper ores at the Alexanderovskoye deposit in East Kazakhstan Oblast.

Product and average annual production:
Copper concentrate - 6,881 tonnes (963 tonnes of copper)
Zinc concentrate – 22,696 tonnes (10,213 tonnes of zinc)

Processing power:
360 thousand tonnes of ore

Initiator:
"Varsa Mining" LLC

Location:
Kurshim district, East Kazakhstan Oblast

Consumer markets:
Processing plants of non-ferrous metals in the CIS countries, China and Europe

Market assumptions:
Growing demand.
The demand for refined copper is expected to grow by 2.99% in 2018 and by 2.15% in 2019.
Demand for refined zinc, will reach 14,389 thousand tonnes in 2020, increasing by 1.8% in 2019 and by 1.9% in 2020.

Potential for exporting.
Kazakhstan has a geographical advantage which allows an increase of exporting of the product to China. Kazakhstan, being the main exporter of copper products to the Russian Federation, can increase the volumes of supplies of copper concentrates.
In China (the largest consumer of zinc), the demand for refined zinc is expected to grow from 6,596 thousand tonnes in 2018 to 7,257 thousand tonnes in 2020. Kazakhstan, unlike Peru and Australia, has a convenient geographical location for exporting products to China.
Kazakhstan is also the main exporter of zinc concentrates to Russia.

Key investment indicators

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project implementation period, years</td>
<td>8</td>
</tr>
<tr>
<td>incl. investment stage, years</td>
<td>3</td>
</tr>
<tr>
<td>operational stage, years</td>
<td>5</td>
</tr>
<tr>
<td>Investment, US$ thousands</td>
<td>15,620</td>
</tr>
<tr>
<td>Project NPV, US$ thousands</td>
<td>11,997</td>
</tr>
<tr>
<td>IRR, %</td>
<td>49.1%</td>
</tr>
<tr>
<td>EBITDA returns, %</td>
<td>42%</td>
</tr>
<tr>
<td>Payback period, years</td>
<td>4.7</td>
</tr>
<tr>
<td>Discounted payback period, years</td>
<td>5.1</td>
</tr>
</tbody>
</table>

Project location: Kurshim district, East Kazakhstan Oblast

Project Profitability

<table>
<thead>
<tr>
<th>Year</th>
<th>Revenue</th>
<th>EBITDA margin, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>25,864</td>
<td>35%</td>
</tr>
<tr>
<td>5</td>
<td>25,847</td>
<td>41%</td>
</tr>
<tr>
<td>6</td>
<td>27,508</td>
<td>43%</td>
</tr>
<tr>
<td>7</td>
<td>29,513</td>
<td>45%</td>
</tr>
<tr>
<td>8</td>
<td>19,992</td>
<td>44%</td>
</tr>
</tbody>
</table>

Alexanderovskoye deposit reserves

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Category</th>
<th>Ед. изм.</th>
<th>Calculation of reserves</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sulphide zinc-copper ore</td>
<td>C₁–C₂</td>
<td>thousand tonnes</td>
<td>13,000</td>
</tr>
<tr>
<td>Zinc content</td>
<td>%</td>
<td>3.83</td>
<td></td>
</tr>
<tr>
<td>Copper content</td>
<td>%</td>
<td>0.34</td>
<td></td>
</tr>
<tr>
<td>Calculation of zinc reserves</td>
<td>tonnes</td>
<td>49,799</td>
<td></td>
</tr>
<tr>
<td>Calculation of copper reserves</td>
<td>tonnes</td>
<td>4,394</td>
<td></td>
</tr>
</tbody>
</table>

*Initiator’s proprietary calculations in 2018, based on drilling results.*
**Project Description**
Extraction and processing of cobalt-nickel ores from Shevchenkovskoye deposit

**Project Initiator**
"KazCobalt" LLP, subsoil user of the deposit JSC Qazgeology

**Production**
Ferronickel

**Reserves**
according to 2005 estimates from Bateman Minerals and Metals Ltd., Shevchenkovskoye deposit reserves amount to 104.4 million tonnes of ore, containing on average 0.79% of nickel and 0.045% of cobalt.

**Project location:**
50 km to the south west of Zhetikara, Kostanay Oblast

**Potential consumer markets**
Kazakhstan, China

---

**Key Investment indicators**

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project implementation period, years</td>
<td>46</td>
</tr>
<tr>
<td>incl. investment stage, years</td>
<td>1</td>
</tr>
<tr>
<td>operational stage, years</td>
<td>45</td>
</tr>
<tr>
<td>Amount invested, US$ thousands</td>
<td>250,000</td>
</tr>
<tr>
<td>Project NPV, US$ thousands</td>
<td>175,989</td>
</tr>
<tr>
<td>IRR, %</td>
<td>19.3%</td>
</tr>
<tr>
<td>Rate of return in terms of EBITDA, %</td>
<td>71%</td>
</tr>
<tr>
<td>Payback period, years</td>
<td>7.5</td>
</tr>
<tr>
<td>Discounted payback period, years</td>
<td>11.7</td>
</tr>
</tbody>
</table>

---

**Project Profitability**

- **Revenue**
  - Year 2: 10,385 US$ thousands
  - Year 6: 87,253 US$ thousands
  - Year 10: 143,332 US$ thousands
  - Year 30: 230,669 US$ thousands
  - Year 46: 214,951 US$ thousands

- **EBITDA margin, %**
  - Year 2: 62%
  - Year 6: 67%
  - Year 10: 69%
  - Year 30: 72%
  - Year 46: 73%

---

**Ore field description**
**Explored reserves of C1 and C2 categories**

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Amount, tonnes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ore</td>
<td>104.4 million</td>
</tr>
<tr>
<td>Proven</td>
<td>21.4 million</td>
</tr>
<tr>
<td>Possible</td>
<td>83 million</td>
</tr>
<tr>
<td>Nickel</td>
<td>825 thousand (0.79%)</td>
</tr>
<tr>
<td>Cobalt</td>
<td>47 thousand (0.045%)</td>
</tr>
</tbody>
</table>

- Ore extraction on Shevchenkovskoye can be carried out through an open pit mining, since the depth of ore deposits reaches 40m.
- Extraction of nickel and cobalt by hydrometallurgical and electric smelting methods amounts to 90-95% for nickel and 85-90% for cobalt.

---

**Market prerequisites:**

**Rising prices for metals** – According to the forecasts of S&P and Capital IQ, prices for nickel will rise by 23.9%, from US$ 12,985 per tonne in 2018 to US$ 16,094 per tonne in 2022. Prices for cobalt will rise by 1.6% from US$ 82,695 per tonne in 2018 to US$ 84,018 per tonne in 2022.

**Rising demand for metals** – Development of industries (e.g. production of electronic devices, medical equipment and electric vehicles), that use nickel batteries, will provide long-term demand for the metal. According to WMBS, in 2017, the deficit of refined nickel on the world market amounted to around 96 thousand tonnes. According to Palisade and Macquarie, demand for cobalt will rise by 5.1% annually within the next 5 years.

**Export potential** – In 2015, China consumed 65% of total world produced cobalt and nickel products. With the rapidly developing market of electronic devices and electric vehicles, China’s reserves of cobalt and nickel are depleting.
Mining and metallurgical complex

Construction of a metallurgical complex for the production of pig iron in Aktobe Oblast

**Project description:**
The project involves construction of a complex for the production of pig iron, through beneficiation and processing of iron-bearing ores from nearby deposits in Aktobe Oblast.

**Product:** intermediate pig iron

**Initiator:** Altyn plc.

**Location:** Shalkar district, Aktobe Oblast

**Consumer markets:** China, Russia, Kazakhstan

**Annual production capacity:**
- 826 thousand tonnes of pig iron;
- 800 thousand tons of granulated slag.

**Market prerequisites:**

**Existence of a rich resource base.** Aktobe Oblast has a number of deposits with reserves of iron ore. Moreover, Aktobe region borders with Karaganda and Kostanay Oblasts, which have the greatest amount of iron ore deposits across Kazakhstan.

**Positive price dynamics.** After a downturn in 2014-2015, the last two years have shown prices for pig iron returning to a positive trend. According to the forecasts of market participants, prices for this metal will continue to move in a positive trend and will stabilize in the near future.

**Potential for pig iron exporting.** Currently, in Kazakhstan, the export of pig iron is underdeveloped. In particular, exports to China are completely non-existent. Moreover, the import of pig iron in Russia and China is growing rapidly, thereby creating exporting potential for producers in Kazakhstan.

**Projected growth in demand for cast iron.** According to the forecasts of the International Steel Association, the global demand for steel (product obtained from pig iron processing) will increase by 3.9% and 1.4% in 2018 and 2019, respectively. Thus, taking into account the specifics of the iron and steel market, the growth in demand for pig iron is also expected.

**Developed railway infrastructure.** In the village of Shalkar (location of the metallurgical complex) there is a railway station named "Shalkar". A significant competitive advantage of the Shalkar station lies within its direct railway access towards China, Russia, as well as towards the seaport of Kuryk, through which maritime shipping across the Caspian Sea is carried out.

### Key investment indicators

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amount of investments, US$ thousands</td>
<td>497,047</td>
</tr>
<tr>
<td>Project NPV, US$ thousands</td>
<td>653,709</td>
</tr>
<tr>
<td>IRR, %</td>
<td>55.2%</td>
</tr>
<tr>
<td>EBITDA margin, %</td>
<td>66%</td>
</tr>
<tr>
<td>Payback period, years</td>
<td>5.1</td>
</tr>
<tr>
<td>Discounted payback period, years</td>
<td>5.5</td>
</tr>
</tbody>
</table>

**Project location: Shalkar district, Aktobe Oblast**

**Project profitability**

- **Revenue, US$ millions:** $307, 312, 319, 327, 335, 360, 480
- **EBITDA margin, %:** 2%, 2%, 2%, 3%, 2%, 1%, 2%

---

October 2018

KAZAKH INVEST: Investment proposal
Mining and smelting industry

Kogadyr-6 gold ore deposits

**Project overview:**
The extraction of proven gold ore deposits at the Kogadyr-6 field and construction of gold recovery plant

**Investment amount:** US$ 111,362 thousand

**Capacity:** 300,000 tonne/year

**Product:** Dore gold

**Location:**
Dzhambul Oblast, Kordai District, Kogadyr

**Project implementation period:**
13 years and the possibility of subsurface management license extension

**Selling market:** Kazzinc, Kazakhmys and Tau-Ken Altyn state plant refineries purchase Dore gold and cathode gold

**Marked prerequisites:**
- **Growth in world demand** – gold is one of the main materials used in the jewellery industry and frequently as a main currency metal.
- **Shortage of gold supply in the market** - Industry analysis shows that domestic gold production does not cover its primary use in Kazakhstan.
- **The cost of production is low** due to the availability of cheap raw materials with estimated gold reserves of 1,160 tonnes (1.8% of global reserves) and a metal content ratio in ore of more than 6.3 grams/tonne.

**Key investment indicators**

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment amount, US$ thousands</td>
<td>111,362</td>
</tr>
<tr>
<td>Project NPV, US$ thousands</td>
<td>163,521</td>
</tr>
<tr>
<td>IRR</td>
<td>53.9%</td>
</tr>
<tr>
<td>EBITDA margin</td>
<td>42%</td>
</tr>
<tr>
<td>Payback period, years</td>
<td>3.5</td>
</tr>
<tr>
<td>Discounted payback period, years</td>
<td>3.9</td>
</tr>
</tbody>
</table>

**Project location: Dzhambul Oblast, Kordai District**

**Project profitability**

![Graph showing project profitability with EBITDA margin percentages for years 3 to 13.]

**Kogadyr-6 deposit reserves**

<table>
<thead>
<tr>
<th>Class</th>
<th>Type</th>
<th>Tones (Mt)</th>
<th>Au (g/t)</th>
<th>Contained Metal (koz Au)</th>
<th>Contained Metal (tones Au)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicated</td>
<td>Transition</td>
<td>4.1</td>
<td>0.91</td>
<td>120</td>
<td>3.7</td>
</tr>
<tr>
<td></td>
<td>Fresh</td>
<td>7.9</td>
<td>0.98</td>
<td>248</td>
<td>7.7</td>
</tr>
<tr>
<td>Subtotal Measured + Indicated</td>
<td>Transition</td>
<td>4.1</td>
<td>0.91</td>
<td>120</td>
<td>3.7</td>
</tr>
<tr>
<td></td>
<td>Fresh</td>
<td>7.9</td>
<td>0.98</td>
<td>248</td>
<td>7.7</td>
</tr>
<tr>
<td>Inferred</td>
<td>Transition</td>
<td>0.7</td>
<td>1.12</td>
<td>25</td>
<td>0.8</td>
</tr>
<tr>
<td></td>
<td>Fresh</td>
<td>17.7</td>
<td>1.28</td>
<td>730</td>
<td>22.7</td>
</tr>
<tr>
<td>Total Measured + Indicated + Inferred</td>
<td>Transition</td>
<td>4.8</td>
<td>0.94</td>
<td>145</td>
<td>4.5</td>
</tr>
<tr>
<td></td>
<td>Fresh</td>
<td>25.6</td>
<td>1.19</td>
<td>978</td>
<td>30.4</td>
</tr>
</tbody>
</table>
Project overview:
Development of Kokbulak iron ore deposit and build concentrate enrichment plant
**Investment amount: US$ 418,986 thousand**
**Capacity:** 8-million tonne/year
**Product:** Concentrate with an iron content of at least 60% to produce steel
**Location:** Aktobe Oblast, Aktobe-Steel Production LLP
**Project implementation period:** 24 years, including construction period
**Selling market:** Domestic market, Russia and China

**Key investment indicators**

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment amount, US$ thousands</td>
<td>418,986</td>
</tr>
<tr>
<td>Project NPV, US$ thousands</td>
<td>36,668</td>
</tr>
<tr>
<td>IRR</td>
<td>14.9%</td>
</tr>
<tr>
<td>EBITDA margin</td>
<td>24%</td>
</tr>
<tr>
<td>Payback period, years</td>
<td>9.4</td>
</tr>
<tr>
<td>Discounted payback period, years</td>
<td>16.3</td>
</tr>
</tbody>
</table>

**Project location:**
Aktobe Oblast, Shalkar district

**Market prerequisites:**
- **Large iron ore reserves** – Kazakhstan ranks 11th in the world in terms of iron ore reserves with a 2% share of global reserves.
- **High demand** - Iron ore demand is, first of all, conditioned by the demand for steel, which, in turn, directly reflects global economic development trends.
- **Export potential** – Since the volume of iron ore produced in Kazakhstan meets domestic demand in full, the bulk of pellets and concentrate produced is exported, predominantly to Russia and China (90-99%).

**Kokbulak deposit reserves**

<table>
<thead>
<tr>
<th>Class</th>
<th>Reserves, million tonnes</th>
<th>Fe, %</th>
<th>P₂O₅, %</th>
<th>Sulphur, %</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Central zone</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>163.1</td>
<td>41.3</td>
<td>1.67</td>
<td>0.06</td>
</tr>
<tr>
<td>C1</td>
<td>198.1</td>
<td>37.8</td>
<td>1.48</td>
<td>0.09</td>
</tr>
<tr>
<td>Total</td>
<td>361.2</td>
<td>39.4</td>
<td>1.57</td>
<td>0.08</td>
</tr>
<tr>
<td></td>
<td>North zone</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C1</td>
<td>561.9</td>
<td>42.1</td>
<td>1.46</td>
<td>0.06</td>
</tr>
<tr>
<td>C2</td>
<td>49.3</td>
<td>37.9</td>
<td>1.36</td>
<td>0.06</td>
</tr>
<tr>
<td>Total</td>
<td>611.2</td>
<td>38.1</td>
<td>1.39</td>
<td>0.06</td>
</tr>
<tr>
<td></td>
<td>South zone</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C2</td>
<td>295.9</td>
<td>35.2</td>
<td>1.38</td>
<td>0.09</td>
</tr>
<tr>
<td>Total</td>
<td>295.9</td>
<td>35.2</td>
<td>1.38</td>
<td>0.09</td>
</tr>
<tr>
<td></td>
<td>Off-balance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C1</td>
<td>410.7</td>
<td>26.6</td>
<td>0.99</td>
<td>0.11</td>
</tr>
<tr>
<td>C2</td>
<td>238.1</td>
<td>28.3</td>
<td>1.09</td>
<td>0.1</td>
</tr>
<tr>
<td>Total</td>
<td>648.8</td>
<td>27.2</td>
<td>1.03</td>
<td>0.11</td>
</tr>
</tbody>
</table>
Project overview:
Construction of cobalt-nickel ore processing complex to produce nickel, matte, cobalt and commercial FN-20 ferronickel through the innovative upgrading of an existing industrial enterprise to ensure the efficient use of natural resources and improve product quality

Investment amount: US$ 252,504 thousand
Capacity: 1.9 million tonnes of ore and 9,500 tonnes of nickel in matte (or 63,000 tonnes of matte) per year
Product: nickel, stein, cobalt and FN-20 ferronickel
Location: East-Kazakhstan Oblast, Beskaragay District
Project implementation period: 19 years (until 2036)

Market prerequisites:
• Kazakhstan is in the top 20 countries in terms of nickel reserves with 1.5 million tonnes or 2% of the global total. Its cobalt reserves amount to at least 100 thousand tonnes or 1.4% of the global total.
• Potential to export - Domestic demand for cobalt and nickel is low and may be covered by surplus reserves, once exports have been made major consumers such as China and Russia.
• Production costs are low due to the availability of cheap raw materials.

Key investment indicators

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment amount, US$ thousands</td>
<td>252,504</td>
</tr>
<tr>
<td>Project NPV, US$ thousands</td>
<td>73,613</td>
</tr>
<tr>
<td>IRR</td>
<td>18%</td>
</tr>
<tr>
<td>EBITDA margin</td>
<td>57% - 63%</td>
</tr>
<tr>
<td>Payback period, years</td>
<td>7.0</td>
</tr>
<tr>
<td>Discounted payback period, years</td>
<td>12.0</td>
</tr>
</tbody>
</table>

Project location: East-Kazakhstan Oblast, Beskaragay District

Deposit reserves

<table>
<thead>
<tr>
<th>Cut-off grade</th>
<th>Capacity (m³)</th>
<th>Tonnes (thous)</th>
<th>Ni (%)</th>
<th>Metal Ni (thous)</th>
<th>Co (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>30,694,458</td>
<td>38,982</td>
<td>0.74</td>
<td>289</td>
<td>0.054</td>
</tr>
<tr>
<td>Indicated</td>
<td>0.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>12,358,506</td>
<td>15,695</td>
<td>0.75</td>
<td>117</td>
<td>0.056</td>
</tr>
<tr>
<td>Inferred</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Project overview:
The extraction of gold ore from considerable measured resources at the Tokhtar, South Tokhtar and South-Tokhtar-Barambayev (hereinafter STB) deposits. It also involves developing a mine at the Tokhtar deposit and a new mine at the South Tokhtar deposit.

**Investment amount:** US$ 322,034 thousand

**Capacity:** 450,000 tonne/year

**Product:** Cathodic gold

**Location:** Kostanai Oblast, Zhetikara

**Project implementation period:** 11 years and the possibility of subsurface management license extension

**Selling market:** Kazzinc, Kazakhmys and Tau-Ken Altyn state plant refineries purchase Dore gold and cathode gold

---

**Market prerequisites:**
- *Growth in world demand* – gold is one of the main materials used in the jewellery industry and frequently as a main currency metal.
- *Shortage of gold supply in the market* – Industry analysis shows that domestic gold production does not cover its primary use in Kazakhstan.
- *The cost of production is low* due to the availability of cheap raw materials with estimated gold reserves of 1,160 tonnes (1.8% of global reserves) and a metal content ratio in ore of more than 6.3 grams/tonne.

---

**Key investment indicators**

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment amount, US$ thousands</td>
<td>322,034</td>
</tr>
<tr>
<td>Project NPV, US$ thousands</td>
<td>260,341</td>
</tr>
<tr>
<td>IRR</td>
<td>50.3%</td>
</tr>
<tr>
<td>EBITDA margin</td>
<td>51%</td>
</tr>
<tr>
<td>Payback period, years</td>
<td>3.3</td>
</tr>
<tr>
<td>Discounted payback period, years</td>
<td>3.8</td>
</tr>
</tbody>
</table>

**Project location:** Kostanai Oblast, Zhetikara

---

**Deposit reserves**

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Unit of measurement</th>
<th>C1</th>
<th>C2</th>
<th>C1+C2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Tokhtar</strong>&lt;br&gt;Gold</td>
<td>kg</td>
<td>1,662</td>
<td>10,055</td>
<td>11,717</td>
</tr>
<tr>
<td>Content</td>
<td>g/tonne</td>
<td>8.2</td>
<td>10</td>
<td>9.7</td>
</tr>
<tr>
<td><strong>South Tokhtar</strong>&lt;br&gt;Gold</td>
<td>kg</td>
<td>3,509</td>
<td>20,806</td>
<td>24,315</td>
</tr>
<tr>
<td>Content</td>
<td>g/tonne</td>
<td>4.9</td>
<td>5.4</td>
<td>5.3</td>
</tr>
<tr>
<td><strong>STB</strong>&lt;br&gt;Gold</td>
<td>kg</td>
<td>12,353</td>
<td>12,353</td>
<td></td>
</tr>
<tr>
<td>Content</td>
<td>g/tonne</td>
<td>2.6</td>
<td>2.6</td>
<td>2.6</td>
</tr>
</tbody>
</table>
**Project description:**
Extraction and processing of gold and silver ores at Kumysti filed (the “Project”)

**Commercial products:** gold and silver concentrates

**Output capacity:**
640 kg of gold and 3.9 tonnes of silver per annum

**Project implementation period:** 11 years

**Initiator:** Central Asia Mining Co LLP. The company explores alluvial gold in Kumysti area.

**Project implementation location:** Turkestan Oblast, Suzaksky district

**Potential markets:** The concentrate will be processed at production facilities of KazTsink LLP and Tau-Ken Altyn LLP with subsequent sale of the final product to these companies or to other consumers.

**Market assumptions:**

**Raw materials availability** – Low COGS is achieved due to the availability of own cheap raw materials base. Kazakhstan holds the 6th place in the world for the amount of its explored gold reserves. Silver reserves in Kazakhstan are discovered in more than 100 ore fields.

**Export potential** – Taking into account the fact that 24% of the global demand for gold comes from China, Kazakhstan has a huge export potential. Kazakhstan has exported 4,500 tonnes of gold-bearing ore to China in 2017. Also, one of the other main importers of Kazakhstan gold is Russia, which has imported 7,349 tonnes of gold-bearing ore in 2017.

In addition, China and Russia are among the top 10 silver importing countries as of 2017.

---

**Key investment indicators**

<table>
<thead>
<tr>
<th>Index</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project implementation period, years</td>
<td>11</td>
</tr>
<tr>
<td>incl. investment stage, years</td>
<td>1</td>
</tr>
<tr>
<td>operational stage, years</td>
<td>10</td>
</tr>
<tr>
<td>Investment, US$ thousands</td>
<td>41,775</td>
</tr>
<tr>
<td>Project NPV, US$ thousands</td>
<td>34,852</td>
</tr>
<tr>
<td>IRR, %</td>
<td>41.7%</td>
</tr>
<tr>
<td>EBITDA returns, %</td>
<td>60.1%</td>
</tr>
<tr>
<td>Payback period, years</td>
<td>3.6</td>
</tr>
<tr>
<td>Discounted payback period, years</td>
<td>4.2</td>
</tr>
</tbody>
</table>

**Project location:**
Turkestan Oblast, Suzaksky district

---

**Kumysti field reserves**

<table>
<thead>
<tr>
<th>Name of the deposit (ore occurrence)</th>
<th>Gold reserves, kg.</th>
<th>Silver reserves, kg.</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mynshukur (aaluvial)</td>
<td>309.8</td>
<td>619.6</td>
<td>C1</td>
</tr>
<tr>
<td>Altyntau (hard-rock)</td>
<td>320</td>
<td>960</td>
<td>P1</td>
</tr>
<tr>
<td>Terbakty (hard-rock)</td>
<td>770</td>
<td>2,310</td>
<td>P2</td>
</tr>
<tr>
<td>Aktobe (hard-rock)</td>
<td>2,000</td>
<td>6,000</td>
<td>P2</td>
</tr>
<tr>
<td>Shovan (hard-rock)</td>
<td>359</td>
<td>2,154</td>
<td>C1+C2</td>
</tr>
<tr>
<td>Zhobbarysty (hard-rock)</td>
<td>835</td>
<td>5,010</td>
<td>C1+C2</td>
</tr>
<tr>
<td>Kelinshkektau (hard-rock)</td>
<td>2,205</td>
<td>13,230</td>
<td>C1+C2</td>
</tr>
<tr>
<td>Verhne-Kumysti (hard-rock)</td>
<td>879.4</td>
<td>5,276.4</td>
<td>C1+C2</td>
</tr>
<tr>
<td>Nizhne-Kumysti (hard-rock)</td>
<td>875.3</td>
<td>5,251.8</td>
<td>C1+C2</td>
</tr>
</tbody>
</table>
Machinery construction and metallurgy
Polymer-coated rolled metal production

Annual capacity:
- rolled metal with polymer coating thickness 0.65 mm – 25,000 tonnes;
- rolled metal with polymer coating thickness 0.45 mm – 25,000 tonnes;
- rolled metal with polymer coating thickness 0.3 mm – 10,000 tonnes.

Project
The Project envisages the construction of a zinc-coated rolled metal coating plant. The capacity of a plant is 60 thousand tonne/year. The Project is due to be realised on a 4-hectare site in special economic zone Saryarka, Karagandy region.

Polymer-coated rolled metal is cold-rolled steel with primer and polymer layers at its base.

Company
Karaganda PolymerMetall LLP was established for the implementation of the project. The main activity of the company is metal treatment and metal coating.

Market
- Polymer-coated rolled metal imports into Kazakhstan averaged 57 thousand tonnes in 2020. Imports in 2020 reached 64 thousand tonnes, of which 61% came from Russia.
- According to MarketLine, the Kazakhstan construction sector is due to grow to 21 billion USD by 2024. The positive trend in construction is the driver of the increase in demand for steel products, including polymer-coated rolled metal.

Project investment attractiveness:
- Investment – 13,668 USS thousand
- Project NPV – 20,349 USS thousand
- IRR – 30.2%
- Payback period – 6.3 years

What is the project’s attractiveness?
- Import substitution. Only one enterprise currently produces polymer rolled metal in Kazakhstan. The Project will help supply local construction and industrial sector enterprises with raw materials and reduce import dependence.
- Geographical location. The Project is well located from the perspective of production capability and raw materials base access (the zinc-coated rolled metal supplier is JSC ArcelorMittal Temirtau in Karaganda Oblast).
- Increase in construction work volume. Total construction and assembly work in Kazakhstan has grown 41% since 2016 to 4.9 trillion tenge in monetary terms. Further increases are expected against the backdrop of greater subsidy programmes. This should lead to increased demand for civil engineering product, including polymer-coated rolled metal.

Investment proposal
The Project requires investment of US$ 13,668 thousand, of which:
- 70% (9,568 thousand USD) – debt financing subject to collateral;
- 30% (4,100 thousand USD) – 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.
Construction of an aluminium can production plant in Pavlodar

Metallurgy

Project description:
Investment project stipulates the construction of a plant to produce 520.4 million aluminium cans per year in the Pavlodar SEZ. The number of jobs created is 50.

Location:
The Pavlodar special economic zone is in the city of Pavlodar, Pavlodar Oblast.

Initiator:
JSC Pavlodar SEZ

Proposed sales and market size:
Domestic market. The main product sales channels are beer, energy drink and mineral water producers. Secondary channels include juice, soda, premium class and other beverage producers. Direct sales to producers as well as sales through intermediary services are assumed. The plant is due to be commissioned in 2023 and reach stable production of 520 million cans from 2026. 25% of the demand for 0.5 litre cans will be achieved in plant operating year one, with the figure rising to 60-70% of the market for all categories 4 years later.

Key investment indicators

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment amount, US$ thous.</td>
<td>25,863</td>
</tr>
<tr>
<td>Project NPV, US$ thous.</td>
<td>34,217</td>
</tr>
<tr>
<td>IRR, %</td>
<td>18%</td>
</tr>
<tr>
<td>EBITDA margin, %</td>
<td>11.12%</td>
</tr>
<tr>
<td>Payback period, years</td>
<td>8.13</td>
</tr>
<tr>
<td>Discounted payback period, years</td>
<td>10.54</td>
</tr>
</tbody>
</table>

Investment structure

- Machinery and equipment: $20.2 mln (78.3%)
- Construction and assembly work: $1.5 mln (5.9%)
- Initial working capital: $4.1 mln (15.7%)
- Others: $0.02 mln (0.1%)

Market prerequisites:
Lack of similar industries in Kazakhstan.
The absence of direct competitors in the market will make it possible to gain a large market share and implement an import substitution strategy. Due to the lack of domestic production, the bulk of aluminum cans is imported, which leads to high prices for them in the country. Analysis of aluminium container imports for all substances shows that on average imports amounted to 5,716 thousand tonnes per year between 2015 and 2019.

Logistic advantage.
Modern transportation routes link the oblast with other countries and regions of Kazakhstan and Russia on South-Siberian and Mid-Siberian rail, aircraft, pipeline and river routes. A viable multisector industrial complex whose industrial potential has been defined by major export-focused production entities has been created in Pavlodar Oblast.

Project profitability

<table>
<thead>
<tr>
<th>Year</th>
<th>Revenue, USD million</th>
<th>EBITDA margin, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>2023</td>
<td>16.2</td>
<td>14.7%</td>
</tr>
<tr>
<td>2025</td>
<td>76.1</td>
<td>11.8%</td>
</tr>
<tr>
<td>2027</td>
<td>107.9</td>
<td>10.5%</td>
</tr>
<tr>
<td>2029</td>
<td>116.2</td>
<td>10.5%</td>
</tr>
<tr>
<td>2031</td>
<td>121.3</td>
<td>10.5%</td>
</tr>
<tr>
<td>2033</td>
<td>126.8</td>
<td>10.5%</td>
</tr>
</tbody>
</table>

Financing structure

- Participation of the private equity fund (KIDF, KCM, SKI): 14.7% ($3.3 mln)
- Debt financing subject to collateral participation of Investor: 70% ($18.1 mln)
- Participation of Investor from 15.3% ($3.9 mln)

$25.9 million

The proposed financing structure is indicative, the final financing and Project participation structures will be determined based on the results of negotiations with the investor.
Project description:
This investment project provides for the launch of production of long products at the Aktau Foundry, carried out as part of a comprehensive reengineering program.

Production capacity:
180,000 tones/year

Project objectives:
- Creation of an efficient integrated business for long product production and its sale on domestic and foreign markets;
- Obtaining high quality, competitive products using advanced approved production technologies corresponding to the world class level of the long products manufacturing.

Products: rebar, I-beam, structural channel, angle.
Initiators: ALZ LLP and BCC Invest.

Market background:
**Growth in consumer demand for long products.** According to Metal Expert forecasts, in the non-residential construction sector, the main drivers of demand will be actively initiated government programs and measures to stimulate industrial production and investment. In the conservative scenario, demand is expected to grow by 3-5%.

**Import substitution.** Growth in consumer demand has sharpened competition between domestic producers and suppliers from the Russian Federation. Also, in Kazakhstan there are no enterprises producing a full range of long products.

**Export Development.** Over the past five years, Kazakhstan mainly exported rebars (among long products). In the structure of exports, the share of Tajikistan in the total volume of exports of rebars is 73% (86,663 tons); Russian Federation and Kyrgyzstan account for 11% (13,217 tons) and 10% (12,031 tons), respectively.

Key investment indicators

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment amount, US$ thousands</td>
<td>79,348</td>
</tr>
<tr>
<td>Project NPV, US$ thousands</td>
<td>59,687</td>
</tr>
<tr>
<td>IRR, %</td>
<td>15.9%</td>
</tr>
<tr>
<td>EBITDA margin, %</td>
<td>19%</td>
</tr>
<tr>
<td>Payback period, years</td>
<td>9.7</td>
</tr>
<tr>
<td>Discounted payback period, years</td>
<td>16.4</td>
</tr>
</tbody>
</table>

Project location:
Mangystau oblast, Aktau, Industrial area

KAZAKH INVEST: Investment proposal

![Diagram of the technological process]

**Furnace-charge preparation**
**Furnace-charge loading into the furnace**
**Steel desulfurization**
**Steel deoxidation**
**Drainage of steel into the intermediate ladle**
**Steel casting into CCM(a) mold**
**Pulling the ingots with the dummy bar**
**Workpiece cooling**

Final product
Construction of a storage battery plant Kainar-A LLP

Commercial products
Annual capacity: 1.2 million lead-acid batteries per year

Project description
The Project envisages to build lead-acid battery production plant Kainar-A LLP in the SEZ in the Beles village in West-Kazakhstan region with a production capacity of 3.6 million batteries per year.

Company
The main activity of Kainar-A LLP is the production, promotion and sale of lead-acid storage batteries for consumers located in the west of Kazakhstan and in Europe. The company is an affiliated company of Kainar-AKB LLP, the main manufacturer of lead-acid batteries in the Republic of Kazakhstan.

Market
• The global market for automotive lead-acid batteries in 2020 amounted to US$ 16.9 billion. This figure is projected to reach US$ 23.7 billion by 2028. According to research by Insight Partners, the growing number of passenger cars around the world is driving the growing demand for lead-acid batteries.

Investment attractiveness of the project:
• Initiator’s Experience. Kainar-AKB LLP has extensive experience in the production of storage batteries since 1975, and is the only manufacturer of these products in the Republic of Kazakhstan. Kainar-AKB LLP has a number of contracts with European consumers, which contribute 60% of the company’s revenue. Kainar-AKB LLP has a number of representations and partnerships overseas, including in target countries such as Russia, Italy, Germany, Poland, Georgia, Armenia, Azerbaijan, Ukraine and Belarus.

Investment proposal
The Project requires investment of US$ 48,379 thousand, of which:
• 70% (US$ 33,865 thousand) – debt financing subject to collateral;
• 30% (US$ 14,514 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.
Production of personal protective equipment (gas masks)

**Commercial products**
Annual capacity:
- OM-90 – 25 thousand units;
- CM-6 – 25 thousand units.

**Project description**
The Project envisages the production of modern, global standard, military and civil gas masks in Kokshetau, Akmola Oblast. Proposed annual production capacity will be 50 thousand units.

**Company**
The Project contractor is, whose core activities include producing Russian-developed aviation industry units, machinery and automation equipment for civil and military aircraft.

**Market**
- According to BIS Research, the global personal protective equipment market was valued at 4.9 billion USD in 2019, and is expected to reach 8.2 billion USD by 2025.
- The main supplier of breathing masks in 2020 was Russia, accounting for 56% of imports into Kazakhstan, with total supplies reaching 3,926 thousand USD. In 2019, the share of imports from Russia amounted to 41% (4,439 thousand USD).
- Local production in Kazakhstan does not cover demand for breathing masks, making the country import dependent.

**Investment attractiveness of the project:**
- **License.** The Company holds a license to develop, repair and produce ammunition, arms and military technology, spare parts, components and accessories, special materials and equipment to produce them.
- **Personnel qualifications.** Given the Company’s profile and its many years of experience in the aircraft and defence industries, production capacity and the qualifications of current personnel will aid gas mask production without having to hire overseas specialist.

**Investment proposal**
The Project requires investment of US$ 3,236 thousand, of which:
- 70% (US$ 2,265.2 thousand) – debt financing subject to collateral;
- 30% (US$ 970.8 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.
Manufacturing of lift equipment

Annual capacity:
- cargo-passenger elevators – 275 units
- disabled lifts – 98 units
- modernization of elevators - SKD – 123 units.

Project
This investment project (the “Project”) provides for the manufacturing of lifts and wheelchair lifts at the production sites of Kazlift LLP. Kazlift has been operating since 2018; all the necessary infrastructure and engineering lines have been installed. The total area of the plant is 2,280 sq. m.

Company
Spetsmash Astana LLP is a joint venture between Kazlift (share – 35% and Kazakhstan Engineering National Company JSC (share – 65%).

Main activity: other professional, scientific and technical activities, not included in other categories.

Under the Project, in the distribution of functional responsibilities between the participants, commercial and administrative issues were allocated to the competence of Spetsmash Astana LLP.

Market
- The global lift market is estimated at US$ 119 billion in 2019. The lift market is projected to reach US$ 183 billion by 2027. The main driver is the recovery and growth of the construction sector in the world.
- The main demand for lifts is covered by imported equipment sold through distributors. In 2020, Kazakhstan imported 6,227 lifts and skip lifts.
- The volume of lift manufacturing in Kazakhstan averages 391 units. However, the lift manufacturing cycle in Kazakhstan is incomplete.

Project investment attractiveness:
Investment – 3,371 USS thousands
Project NPV – 13,567 USS thousands
MIRR – 29.8%
Payback period – 1.5 years

What is the project’s attractiveness?
- Initiator’s experience. The client portfolio of Kazlift includes national companies from NWF Samruk-Kazyna JSC group, Kazakhstan Mortgage Company JSC, as well as construction organizations.
- Availability of a developed infrastructure. LGS Kazakhstan Elevator Group, a subsidiary of Kazlift, provides equipment for the lift manufacturing.
- Branded products and compliance with standards. The products of Kazlift, included in the register of domestic manufacturers, have been certified for compliance with the National Standard of the Republic of Kazakhstan for installation and operation of lifts, escalators, travelators and wheelchair lifts and has a certificate of origin of goods form CT-KZ.

Investment proposal
The Project requires investment of US$ 3,371 thousand, of which:
- 30 % (US$ 1,011 thousand) – debt financing subject to collateral;
- from 70 % (US$ 2,360 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 idea:
Construction of a new plant for the production of pumping equipment, pipeline fittings and asynchronous electric motors. Project implementation will create 125 jobs.

Project location:
SEZ Ontustik, Shymkent, Republic of Kazakhstan.

Project Initiator:
Karlskrona LC AB LLP

Production capacity:
UPP (submersible borehole pumps) – 7,368 pcs.;
CHP (cantilever pumps) – 1,474 pcs.;
CNP (split casing pump) – 737 pcs.;
APSP (pressure boosting pumping stations) – 1,474 pcs.;
CHMP (horizontal multistage pumps) – 737 pcs.;
Pipeline fittings – 14,737 pcs.;
Asynchronous motors – 14,737 pcs.;
Submersible borehole motors – 737 pcs.;
Foundry products – 15,000 tons.

Sales market:
Initiator plans to sell products mainly through direct sales in the territory of Kazakhstan through the conclusion of offtake contracts, as well as to export about 40% of the volume to Russia, the countries of Central Asia and the Middle East.

Investment attractiveness of the Project

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment amount, US$ thousand</td>
<td>64,959</td>
</tr>
<tr>
<td>Project NPV, US$ thousand</td>
<td>33,287</td>
</tr>
<tr>
<td>IRR, %</td>
<td>23.5%</td>
</tr>
<tr>
<td>EBITDA margin, %</td>
<td>39%</td>
</tr>
<tr>
<td>Payback period, years</td>
<td>6.3</td>
</tr>
<tr>
<td>Discounted payback period, years</td>
<td>9.9</td>
</tr>
</tbody>
</table>

Project's profitability

Prerequisites for the Project implementation

Location
SEZ Ontustik provides tax preferences, and has all the necessary infrastructure for the successful implementation of the Project: access to railways and highways, all engineering communications.

Import substitution opportunity.
A significant part of the demand for mechanical engineering products is covered by the import. For instance, in 2019, the import volume of centrifugal pumps was 587 thousand units, while the number of domestic sales was only 11.4 thousand units.

Off-take contracts.
NWF Samruk Kazyna JSC has developed the concept of off-take contracts, under which domestic producers receive guaranteed long-term orders from the national companies of the fund.

Investment structure

Construction and assembly work: $9.0 million (13.9%)
Machinery and equipment: $51 million (78.5%)
Initial working capital: $4.96 million (7.6%)

Financing structure

Initiator equity: 20% ($13 million)
Participation of the Fund (KIDF or KCM): 4.9% ($3.18 million)
Debt financing subject to collateral: 70% ($45.47 million)
Participation of the Investor: 5.1% ($3.31 million)

The proposed financing structure is indicative, the final financing and Project participation structures will be determined based on the results of negotiations with the Investor.
Household appliances manufacturing

Mechanical engineering

**Project idea:**
The project envisages the expansion of kitchen appliances production in Taraz, Zhambyl Oblast. It is planned to create about 300 jobs.

**Project location:**
Taraz, Zhambyl oblast

**Project Initiator:**
AlimaDelux LLP. The main activity of AlimaDelux LLP is household appliances manufacturing (production of household and electrical appliances). The Company’s production base is an industrial complex consisting of a production and storage facility with a total area of 11 hectares. The company produces a wide range of household gas, gas-electric (combined) and electric stoves, as well as built-in kitchen appliances under the brand name “Alima Delux”.

**Production capacity and sales market:**
The target group of the Company’s products consumers (gas stoves, gas heating boilers, refrigerators, air conditioners, heaters and electric ovens) are enterprises specialised in the sale of household appliances. The project involves the sale of products in the domestic and foreign markets.

**Investment attractiveness of the Project**

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment amount, US$ thousand</td>
<td>7,190</td>
</tr>
<tr>
<td>Project NPV, US$ thousand</td>
<td>6,400</td>
</tr>
<tr>
<td>IRR, %</td>
<td>34.4%</td>
</tr>
<tr>
<td>EBITDA margin, %</td>
<td>13.8%</td>
</tr>
<tr>
<td>Payback period, years</td>
<td>4.0</td>
</tr>
<tr>
<td>Discounted payback period, years</td>
<td>5.5</td>
</tr>
</tbody>
</table>

**Investment structure**

- **Buildings and structures**: $1.2 million (33.1%)
- **Machinery and equipment**: $3.6 million (50.7%)
- **Initial working capital**: $2.4 million (16.2%)

**Market prerequisites:**
**Favourable location.**
Zhambyl Oblast has a developed transport hub with access to all regions of the country and neighbouring countries (Russia, China, Uzbekistan and Kyrgyzstan). On the territory of Zhambyl Oblast, there are 25 railway communications with 50 routes connecting the oblast with all regions of Kazakhstan, Russia (7 railway connections), Kyrgyzstan (6 railway connections) and Uzbekistan (1 railway connection).

**High quality products.**
The company has already made a name for itself in the market as a supplier of quality equipment. The accumulated experience, high technology and high-quality spare parts and parts for assembly create all conditions for creating high-quality products.

**Imports reduction.**
Household appliances are mainly imported to Kazakhstan. Manufacturing in Kazakhstan will significantly reduce the cost of production, as expenses on transport, taxes and customs duties will decrease.

**Project’s profitability**

<table>
<thead>
<tr>
<th>Year</th>
<th>2022</th>
<th>2024</th>
<th>2026</th>
<th>2028</th>
<th>2030</th>
<th>2032</th>
<th>2034</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenue, USD million</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19.3</td>
<td>21.1</td>
<td>23.3</td>
<td>25.3</td>
<td>26.9</td>
<td>28.0</td>
<td>29.3</td>
<td></td>
</tr>
<tr>
<td>EBITDA margin, %</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15.2%</td>
<td>14.6%</td>
<td>14.1%</td>
<td>13.7%</td>
<td>13.3%</td>
<td>13.0%</td>
<td>12.2%</td>
<td></td>
</tr>
</tbody>
</table>

**Financing structure**

- Initiator equity 1% ($0.08 million)
- Participation of the Fund (KIDF, KCM, SKI) 14% ($1.0 million)
- Debt financing subject to collateral 70% ($5.0 million)
- Participation of the Investor from 15% ($1.1 million)

The proposed financing structure is indicative, the final financing and Project participation structures will be determined based on the results of negotiations with the investor.
Project idea:
Launch of a factory with a research and development centre for development and manufacture of aids for the blind and vision-impaired, with a capacity of 14.5 thousand unit per year.

The successful implementation of the Project will create an efficient business for the production of aids, solve the problems of providing the domestic market with high-quality competitive products, and create about 53 new jobs in Nur-Sultan, which will partially solve the problem of employment of the visually impaired.

Project location:
Nur-Sultan

Project Initiator:
Sezual LLP

Production capacity:
Reaching full capacity is planned for the 10th year from the date of launch, after which production levels will be stable at the level of 14,5 thousand units per year. The list of the manufactured of products includes:
• Braille machines – 12 thous. units/year;
• SEZUAL sonar apparatus – 2.5 thous. units/year.

Sales market:
• Domestic market of Kazakhstan (25% of finished products);
• Export to countries of near and far abroad, including Russia, USA, UAE, EU, Japan, etc. (75%).

Investment attractiveness of the Project

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment amount, US$ thousand</td>
<td>3,229</td>
</tr>
<tr>
<td>Project NPV, US$ thousand</td>
<td>11,430</td>
</tr>
<tr>
<td>IRR, %</td>
<td>28.5%</td>
</tr>
<tr>
<td>EBITDA margin, %</td>
<td>31%</td>
</tr>
<tr>
<td>Payback period, years</td>
<td>7.3</td>
</tr>
<tr>
<td>Discounted payback period, years</td>
<td>10.0</td>
</tr>
</tbody>
</table>

Prerequisites for implementation of the Project

• **Product is patent protected.** The Company holds Kazakhstan Patent No. 4186 for the “Electronic Braille Readers” utility model.
• **Contemporary experience and innovation.** The Initiator has tested prototypes with positive results.
• **Non-competitive conditions.** As the Company product is recognised as innovative, there are no direct equivalents capable of being recognised as functional competition.
• **Extensive product range and application area.** Access to resources, state support and the use of innovative production technology will help increase production capacity and diversify product range.

Project’s profitability

Investment structure

| Building, construction and assembly work | 65% | $2.1 mln |
| Machinery and equipment                 | 31% | $0.999 mln |
| Purchase of transportation assets        | 2%  | $0.075 mln |
| Other costs                             | 2%  | $0.065 mln |

Financing structure

- Debt financing subject to collateral
  - 70% of $2.3 mln
- Participation of the Investor from 30% ($0.969 mln)

The proposed financing structure and state support instruments are indicative, the final financing and Project participation structure will be determined based on the results of negotiations with the investor.
Project idea:
The Project envisages finding a strategic partner to develop current cable and conductor production at the JSC Kazenergokabel plant.

Successful implementation of the Project will provide:
- The creation of new types of cable and conductor products to achieve more effective production;
- An increase in product sales and expand the geography of product sales;
- Ensure Kazakhstan consumer demand is fully met by local production.

Project location:
Northern industrial district of Pavlodar

Project Initiator:
JSC Kazenergokabel

Production capacity:
In 2027, the plant intends to achieve full production capacity of 60 thousand km of cable and conductor products per year.

Sales market:
In addition to domestic sales, the Company exports its products to Russia, Uzbekistan, Kyrgyzstan, Ukraine and Israel.

Investment attractiveness of the Project

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment amount, US$ thousand</td>
<td>5,000</td>
</tr>
<tr>
<td>Project NPV, US$ thousand</td>
<td>14,042</td>
</tr>
<tr>
<td>IRR, %</td>
<td>38%</td>
</tr>
<tr>
<td>EBITDA margin, %</td>
<td>4.3%</td>
</tr>
<tr>
<td>Payback period, years</td>
<td>4.2</td>
</tr>
<tr>
<td>Discounted payback period, years</td>
<td>4.94</td>
</tr>
</tbody>
</table>

Project’s profitability

![Project’s profitability graph]

Financing structure

- Debt financing subject to collateral 70% ($3.5 mln)
- Participation of the Investor from 30% ($1.5 mln)

Investment structure

- Working capital 100% $5 mln

The proposed financing structure and state support instruments are indicative, the final financing and Project participation structure will be determined based on the results of negotiations with the investor.
Healthcare and pharmaceuticals
Dialyzer unit production plant

Annual capacity:
Dialyzers – 1 million units/year. All finished products will be sold domestically.

Project
The Project proposes the construction of a plant to manufacture dialysis units with capacity of 1 million units per year. The plant will be built in Aktobe Oblast on a 4 ha leased site. Production premises will cover an area of 3,100 m².

Company
Global Service Company XXI LLP. The Company has been selling imported dialysis units in Kazakhstan since 2018.

Market
• In Kazakhstan, dialysis unit production is a current issue due to the steady growth in the number of patients with terminal kidney disease and forced to undergo substitutive therapy – haemodialysis. According to the III National Congress of Kazakhstan Nephrologists, Dialysis Doctors and Transplantologists (Semei, September 2019), the number of patients on haemodialysis at the start of 2019 was 7,370.
• The dialysis unit production process in Kazakhstan is underdeveloped due to distances from raw material suppliers. Domestic demand for haemodialysis consumables is covered by imports. Official statistics on dialysis unit production in Kazakhstan are not kept.

What is the project’s attractiveness?
• Low level of competition. The Project will supply medical institutions with domestic products and reduce import reliance, as dialysis units are currently not produced in Kazakhstan.
• State support. The Project is recognised as a priority sector for state support, which offers a range of concessions, preferences and land. The Initiator is planning to enter into a long-term agreement to supply medical items with SK-Pharmacy LLP within the framework of a 10-year programme to support domestic manufacturers.

Investment proposal
The Project requires investment of 6,138 thousand USD, of which:
• 30% (1,841 thousand USD) – investor participation;
• from 70% (4,297 thousand USD) – debt financing subject to collateral.

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.
Pharmaceuticals

Project profitability

Investment proposal

December 2021

Location

Merusar and K LLP

Nonwoven manufacturing

Commercial products

Project description
The project envisages the construction of a nonwovens plant with a capacity of 10,000 tonnes annually. Nonwovens are widely used in the production of personal protective equipment – disposable medical masks, gowns, sheets, overalls, etc. The production will be located in the Special Economic Zone in Pavlodar.

Company
Merusar and K LLP was founded in 2001. The company has many an extensive experience in the sale of medical products (sterile and non-sterile kits for medicine and cosmetology) to healthcare institutions across the country.

Market
• According to Mordor Intelligence, the world market for nonwovens will reach 61 billion USD by 2025. Average annual growth will be 6.68% in 2021-2025.
• The demand for nonwovens in Kazakhstan reached 53,465 tonnes in 2020, down 9% from the previous year. The shortage of nonwovens remains in the country, averaging 72% for the period between 2016 and 2020.

Investment attractiveness of the project:
Investment – US$ 43,591 thousand
Project NPV – US$ 18,272 thousand
IRR – 19.0%
Payback period – 7.6 years

What is the attractiveness of the project?
• Local content. Local production will allow occupying a significant niche in the market of disposable medical devices, reducing import dependence.
• Initiator’s experience. The company has an extensive experience in the sale of medical devices (sterile and non-sterile kits for medicine and cosmetology) to healthcare institutions across the country.
• Consumer demand. During the period from 2016 to 2020, there was an increase in demand for medical and hygiene products made from nonwovens.

Investment proposal
The Project requires investment of US$ 43,591 thousand, of which:
• 70% (30,513.7 thousand USD) – debt financing subject to collateral;
• from 30% (13,077.3 thousand USD) – 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.
Production of a cannabidiol-based antiepileptic drug

Products
During 2024–2026: CBD isolate – 461 kg/year;
From 2027: cannabidiol-based antiepileptic drug – 46,076 packages/year.
Domestic demand: 68 thousand people suffering from epilepsy.

Project idea
The Project envisages the production of a cannabidiol-based antiepileptic drug at the Taraz Chemical Park SEZ in Dzhambul Oblast. Total complex area covers 7.5 thousand m². The construction of an industrial complex and laboratory is expected in accordance with international GMP standards.

Company
The initiator of the project is Rooftop Holdings LLP. The Initiator has a number of offers of scientific collaboration from global scientific research institutions such as Harvard Medical School International Phytomedicine and Medical Cannabis Institute and the Massachusetts Institute of Technology Whitehead Institute For Biomedical Research. The consulting partner for developing a strategy and clinical research is Cleveland Clinic Innovations.

Market
• According to research published by the World Health Organisation in 2019, around 50 million people suffer from epilepsy. Furthermore, according to the same research, roughly 80% of people with epilepsy live in low or medium income countries.
• In 2019, the global CBD market was valued at 6.74 billion USD. It is forecast to grow by 2025 to 18.35 billion USD with CAGR at 18.2% (2020-2025).

Investment attractiveness of the project:
Investment amount – US$ 14,246 thousands
Project NPV – US$ 26,979 thousands
IRR – 38.9%
Payback period – 4.5 years

Prerequisites for the Project implementation
• Innovative nature of the Project. Due to the current lack of domestic producers and reliance on overseas equivalents, the plan is to produce a CBD-based antiepileptic drug.
• Access to raw materials. The Initiator plans to make initial cannabis seed purchases overseas and then supply the Project with its own seed material. It has the opportunity to expand its cannabis growing capabilities at the Taraz Chemical Park SEZ.

Required investments and structure of financing
The Project requires investment of US$ 14,246 thousand, of which:
• 70% (9,972 thousand USD) – debt financing subject to collateral;
• from 30% (4,274 thousand USD) – 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.
Construction of a plant for the production of diapers in Nur-Sultan

Commercial products
Annual capacity: 2.88 million packs of baby diapers

Project description
This investment project plans to build a plant for the production of baby diapers with an annual capacity of 2.88 million packs within “Astana – New City” Special Economic Zone in the city of Nur-Sultan. The plant area is 1,125 sq. m.

Company
The Project Initiator, United Care Group LLP is a project company established to implement a project to build a plant for the production of baby diapers. The founders of the Company are Aesthetics Group LLP (50%) and Kausar-Pharm LLP (50%).

Market
• In 2020, the global diaper market revenue reached US$ 48,915 million. According to forecasts by Allied Market Research, the world will see an increase in total revenue, with CAGR at 4.7% in 2021-2024.

• The production of hygiene products in Kazakhstan reached 311 tonnes in 2020. The compound annual growth rate (CAGR) for 2016-2020 was 30%. The only domestic manufacturer of children’s disposable diapers is Sachiko Olzha Products LLP. In 2020, the company's share in the market of diapers and baby pants in Kazakhstan amounted to 5.3% or KZT 4.4 billion.

What is the attractiveness of the project?
• Favorable location. Location in Nur-Sultan is an advantage given an easy access to the target group of consumers and a developed transport hub, which ensures prompt deliveries to the regions of Kazakhstan and the neighboring markets such as Russia, China, Uzbekistan and Kyrgyzstan. These factors will allow achieving a lower, competitive production cost.

• Growing demand and entering new markets. According to MarketLine forecasts, there will be an increase in the total revenue of the diaper market and consumption around the world, which will facilitate further expansion to the neighboring sales markets.

Investment attractiveness of the project:
Investment – US$ 3,569 thousand
Project NPV – US$ 6,926 thousand
IRR – 34.6%
Payback period – 5.3 years

Investment proposal
The Project requires investment of US$ 3,569 thousand, of which:
• 70% (US$ 2,498.3 thousand) – debt financing subject to collateral;
• from 30% (US$ 1,070.7 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 description:
Construction of a pharmaceutical plant to produce the original drug substance “N-Pentoxenial” and the original drug “Notaloron” in the form of an injection solution for the treatment of liver diseases. Number of jobs created – 90.

Location:
Turkestan Oblast, Ordabasy district, Temirlan village.

Initiator: Pharmaceutical company Beisenfarm LLP.

Commercial products and capacities:
Drug “Notaloron” – 6,160 thousand packages.

Sales markets: Kazakhstan, Uzbekistan, Kyrgyzstan, Tajikistan, Turkmenistan, Mongolia, Turkey, Belarus, Russia.

Manufacturing process:

Key investment indicators

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment amount, US$ thous.</td>
<td>100,550</td>
</tr>
<tr>
<td>Project NPV, US$ thous.</td>
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</tr>
<tr>
<td>IRR, %</td>
<td>27.1%</td>
</tr>
<tr>
<td>EBITDA margin, %</td>
<td>24%</td>
</tr>
<tr>
<td>Payback period, years</td>
<td>7.1</td>
</tr>
<tr>
<td>Discounted payback period, years</td>
<td>9.8</td>
</tr>
</tbody>
</table>

Investment structure

- Construction and assembly work: $70.0 million (70%)
- Machinery and equipment: $11.4 million (11%)
- Initial working capital: $19.2 million (19%)

Project profitability

- Revenue, US$ thous.
- EBITDA margin, %

Market prerequisites:

Absence of similar production. There is no production of injectable hepatoprotectors in Kazakhstan. The market niche is free.

Plans to expand medical uses. In the future, the initiator plans to expand the medical uses of the drug by conducting additional clinical trials (inclusion of children and pregnant women into the list of potential patients; adding NASH treatment potential). Expansion of indications for the use of the drug will increase the Company’s sales market.

Plans to include the drug in state medical procurement. In accordance with the legislation of the Republic of Kazakhstan, domestic suppliers have advantages in conducting state purchases of medicines. If a domestic manufacturer is selected as a supplier, the Uniform Distributor SK-Pharmacy LLP concludes a long-term supply contract with him for a period of up to 10 years.

Financing structure

- Initiator equity: $15.55 million (15%)
- Participation of the Fund (KIDF or KCM): $7.46 million (7.4%)
- Debt financing subject to collateral: $70.39 million (70%)
- Participation of the Investor from 7.4% ($7.46 million)

The proposed financing structure is indicative, the final financing and project participation structures will be determined based on the results of negotiations with the investor.
Project description:
Construction of a full cycle chemical and pharmaceutical production facility in accordance with international GMP standards. Number of jobs created – 170.

Location:
Karaganda Oblast, Bukhar-Zhyrau district, Doskey village, Special Economic Zone "Saryarka".

Initiator:
Pharmaceutical company Bioquintes LLP.

Commercial products and capacities:
Veterinary substances - 215 tons, finished drug forms – 1,800 thous. packages, original drugs - 950 thous. standards, latest generation generics - 652 thous. packages, analog generics – 20,548 thous. packages.

Sales markets: Kazakhstan, Russia, Belarus.

Manufacturing process: The initiator holds patents for catalytic methods and catalysts for the production of substances. All substances will be produced using the same technological units and apparatus.

Key investment indicators

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment amount, US$ thous.</td>
<td>33,541</td>
</tr>
<tr>
<td>Project NPV, US$ thous.</td>
<td>29,807</td>
</tr>
<tr>
<td>IRR, %</td>
<td>27.1%</td>
</tr>
<tr>
<td>EBITDA margin, %</td>
<td>35%</td>
</tr>
<tr>
<td>Payback period, years</td>
<td>5.9</td>
</tr>
<tr>
<td>Discounted payback period, years</td>
<td>8.3</td>
</tr>
</tbody>
</table>

Investment structure

- Construction and assembly work: 30% - $10.1 million
- Machinery and equipment: 70% - $23.5 million

Market prerequisites:

Long-term agreement and inclusion of the Initiator’s drugs in the procurement list of the Uniform Distributor. The construction of a plant in accordance with GMP standards enables the Initiator to conclude a long-term contract for up to 7 years with SK-Pharmacy LLP for the purchase of medicines. It should be noted that The Uniform Distributor (SK-Pharmacy LLP) added 37 of the Initiator’s drugs to the List of Drugs for inclusion in the list of long-term procurement contracts with domestic manufacturers.

No need for costly clinical trials. The original drugs have already passed clinical trials and are currently being marketed. FDFs, generics and substances do not require clinical trials. However, when production starts, trial batches are checked for certification.

Expansion of the product range. After the company reaches its full output capacity, it is possible to expand the range of manufactured drugs to cover a larger target group of consumers.

Project profitability

Financing structure

- Initiator equity: 12% ($4.03 million)
- Participation of the Fund (KIDF or KCM): 9% ($3.02 million)
- Debt financing subject to collateral: 70% ($23.48 million)
- Participation of the Investor from 9% ($3.02 million)

The proposed financing structure is indicative, the final financing and project participation structures will be determined based on the results of negotiations with the Investor.
Chemistry and petrochemistry
Project description:
reconstruction and launch of a synthetic detergents plant in with a capacity of 60 thousand tonnes of laundry detergent per year.

Number of jobs created from 50 to 310.

Location:
Shakhtinsk, Karaganda Oblast.

Initiator:
Shakhtinsk Chemical Plant LLP.

Commercial products and capacities:
Laundry detergent B category - 21,000 tonnes/year; Laundry detergent C category - 9,000 tonnes/year.

Sales markets:
Kazakhstan, Uzbekistan.

Manufacturing process:

Market prerequisites:

Modern equipment. The plant is equipped with a continuous line of the Italian company Ballestra for laundry detergent production by the tower method. The production process of the line complies with Western European standards.

Own laboratory and computer technology. The plant has its own laboratory and provides for the automation of control processes for complex chemical processes, which make it possible to ensure the quality control at every production stage in terms of the chemical composition and purpose of products.

Government support. The production of soap, detergents and cleaning and polishing products is included in the list of priority investment projects of the manufacturing industry.

Key investment indicators

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment amount, US$ thous.</td>
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<tr>
<td>Project NPV, US$ thous.</td>
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<tr>
<td>IRR, %</td>
<td>31.7%</td>
</tr>
<tr>
<td>EBITDA margin, %</td>
<td>9%</td>
</tr>
<tr>
<td>Payback period, years</td>
<td>6.9</td>
</tr>
<tr>
<td>Discounted payback period, years</td>
<td>8.2</td>
</tr>
</tbody>
</table>

Investment structure

- **Buildings and structures**: 51% $1.1 mln
- **Purchase machinery and equipment**: 49% $1.0 mln

The proposed financing structure is indicative, the final financing and Project participation structures will be determined based on the results of negotiations with the Investor.
### Project description:
Organisation in Kazakhstan of a new import-substituting production in the chemical industry and covering domestic demand with local products. The project envisages the construction of a sodium sulphite plant with a capacity of 10 thousand tonnes per year.

### Location:
- Taraz city, Taraz Chemical Park SEZ
- Stepnogorsk (alternative)

### Initiator:
The Project initiator is a group of individuals with 38 years of experience (Abmail Moldagulov and Zhalgas Prnazarov) in the chemical industry and experience in CHEM-plus LLP, the operator of projects Glyphosate Production, Production of Caustic Soda and Chlorine and Production of Phosphorus Trichloride.

### Commercial products and capacities:
sodium sulphite - 10,000 tonnes per year.

### Sales markets:
Domestic market and export to neighbouring countries (EEU countries).

### Key investment indicators

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment amount, US$ thous.</td>
<td>8,233</td>
</tr>
<tr>
<td>Project NPV, US$ thous.</td>
<td>8,348</td>
</tr>
<tr>
<td>IRR, %</td>
<td>21.1%</td>
</tr>
<tr>
<td>EBITDA margin, %</td>
<td>42%</td>
</tr>
<tr>
<td>Payback period, years</td>
<td>6.8</td>
</tr>
<tr>
<td>Discounted payback period, years</td>
<td>8.6</td>
</tr>
</tbody>
</table>

### Market prerequisites:

**Low competition in the local market.** The absence of direct competitors in the market will allow taking on a substantial market share and implementing an import substitution strategy. Due to the lack of domestic production, the bulk of sodium sulphite is imported, which, accordingly, determines its high prices in the country.

**Rich raw material base.** In 2019, Kazakhstan produced 4,036 tonnes of sulphur, 97% of which accounted for Atyrau Oblast. The CAGR of sulphur production in 2015-2019 was 12.6%.

**Favourable production location.** The considered plant location in Taraz Chemical Park SEZ has such benefits as the proximity of raw materials sources to production facilities, favourable price for gas and a developed transport hub with directions to all regions of the country and neighbouring countries (Russia, China, Uzbekistan and Kyrgyzstan).

### Sodium sulphite production

#### Chemistry

**Project profitability**

<table>
<thead>
<tr>
<th>Year</th>
<th>Revenue, USD million</th>
<th>EBITDA margin, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>2023</td>
<td>1.9</td>
<td>47%</td>
</tr>
<tr>
<td>2025</td>
<td>8.4</td>
<td>42%</td>
</tr>
<tr>
<td>2027</td>
<td>9.2</td>
<td>42%</td>
</tr>
<tr>
<td>2029</td>
<td>9.9</td>
<td>42%</td>
</tr>
<tr>
<td>2031</td>
<td>10.4</td>
<td>42%</td>
</tr>
<tr>
<td>2033</td>
<td>10.8</td>
<td>42%</td>
</tr>
</tbody>
</table>

#### Financing structure

- **Initiator equity** 5% ($0.4 million)
- **Participation of the Fund (KIDF or KCM)** 12% ($1.0 million)
- **Debt financing subject to collateral** 70% ($5.8 million)
- **Participation of the Investor from 13% ($1.1 million)**

The proposed financing structure is indicative, the final financing and Project participation structures will be determined based on the results of negotiations with the Investor.
Expansion of an operating paint and varnish factory in Almaty Chemistry

Project description:
The construction of a new unit at the currently operating factory belonging to Concern Bakarassov LLP to produce varnish and paint in Almaty so as to extend its product range. Number of jobs created – 71.

Location:
Spasskaya Street 68, Turksib District, Almaty.

Initiator:
Concern Bakarassov LLP.

Commercial products and capacities:
- putty – 15,000 tonnes,
- filler – 300 tonnes,
- polyurethane adhesive – 258 tonnes and coloured paint – 48.5 tonnes.

Sales markets: Kazakhstan, Russia.


Key investment indicators

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment amount, US$ thous.</td>
<td>4,232</td>
</tr>
<tr>
<td>Project NPV, US$ thous.</td>
<td>4,694</td>
</tr>
<tr>
<td>IRR, %</td>
<td>21.8%</td>
</tr>
<tr>
<td>EBITDA margin, %</td>
<td>22.8%</td>
</tr>
<tr>
<td>Payback period, years</td>
<td>8.5</td>
</tr>
<tr>
<td>Discounted payback period, years</td>
<td>12.1</td>
</tr>
</tbody>
</table>

Investment structure

- Buildings and structures: $2.0 mln (47%)
- Purchase machinery and equipment: $2.2 mln (53%)

Market prerequisites:

Company brand recognition. Brand recognition is a sign of customer awareness of new Company products and their advantages. Potential customers are also more loyal to new Company products if they are aware of a brand.

Existing demand. Potential customers would be such companies as BI Story LLP, Bazis Construction LLP, Construction Company Azimut LLP and other construction companies and commercial centers.

Product innovation. The Initiator is planning to produce ready-to-use putty with a wide area of use as an alternative to dry mixtures that require additional time and costs to use. Kazakhstan producers make ready-to-use putty for interiors and facades.
Market assumptions
Growing demand
According to the report provided by Grand View Research Inc., the world market of base oils is expected to reach US$ 40.47 bln by 2024.

Availability of customers and raw materials
There is a need to supply raw materials to HILL Corporation’s operating plant for compounding lubricating oils. Straight-run fuel oil is the main raw material for the Project, which will be supplied by PetroKazakhstan Oil Products LLP (“PKOP”), an oil refinery in Shymkent located 350 m from the future plant.

Import substitution and export potential
Kazakhstan doesn’t produce base oils, which are used by local enterprises as a basis for creating lubricants and motor oils. The foreign market (China) is attractive for exporting due to the existence of high demand. Preliminary agreements for selling products in Kazakhstan and in China have already been concluded. Volume of oil exports is expected to reach 183 thousand tonnes per year.

Project overview
Construction of Group I, II and III base oil production plant in Turkestan oblast. The raw material on the Project will be straight-run fuel oil from “PetroKazakhstan Oil Products” (PKOP) oil refinery.

Location: Turkestan Oblast, industrial zone of Shymkent.

Commercial products:
High-quality base oils of Group I (1200SN), Group II (60N, 150N, 350N), and Group III (650N) with volume of 255 thousand tonnes of base oils per annum.

Initiator:
HILL Corporation Group, the only major producer of lubricating oils in Kazakhstan. The Company has a large plant for compounding commercial lubricating oils, which was launched in 2010. The base oil production plant will operate not as a separate production unit, but as a link in a consistent production chain.

Consumer markets: Kazakhstan, China

Key investment data

<table>
<thead>
<tr>
<th>Index</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project implementation period, years</td>
<td>24</td>
</tr>
<tr>
<td>Investment, US$ thousands</td>
<td>729,238</td>
</tr>
<tr>
<td>Project NPV, US$ thousands</td>
<td>770,807</td>
</tr>
<tr>
<td>IRR, %</td>
<td>26.3%</td>
</tr>
<tr>
<td>EBITDA returns, %</td>
<td>65%</td>
</tr>
<tr>
<td>Payback period, years</td>
<td>6.5</td>
</tr>
<tr>
<td>Discounted payback period, years</td>
<td>8.5</td>
</tr>
</tbody>
</table>

Project profitability

<table>
<thead>
<tr>
<th>Year</th>
<th>EBITDA margin, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year 4</td>
<td>57%</td>
</tr>
<tr>
<td>Year 5</td>
<td>65%</td>
</tr>
<tr>
<td>Year 15</td>
<td>66%</td>
</tr>
<tr>
<td>Year 20</td>
<td>65%</td>
</tr>
<tr>
<td>Year 24</td>
<td>65%</td>
</tr>
</tbody>
</table>

Financing structure

- Participation of the Initiator 38% ($452.1 million)
- Debt financing subject to collateral 62% ($277.1 million)

The proposed financing structure is indicative, the final financing and Project participation structures will be determined based on the results of negotiations with the Investor.
Construction Materials
Creation of a cluster for the production of materials on the basis of the Baiterek limestone deposit

**Products**

Annual capacity:
- 100 thousand tonnes of quicklime;
- 345.6 thousand silicate bricks;
- 6,912 m² of paving slabs and curbs.

**Project**

This investment project (hereinafter the "Project") plans to create a cluster for the production of building materials on the basis of the Baiterek limestone deposit located in the Shieki district of Kyzylorda Oblast.

The sales market for the products is Kazakhstan. Target groups for product distribution are:
- construction companies;
- mining and metallurgical cluster enterprises;
- population of Kyzylorda and Turkestan oblasts and other regions of Kazakhstan.

The plan is to start production in the 4th quarter 2022 and run the full capacity in 2029.

**Company**

The project initiator is Tabigi Tas Kyzylorda LLP, whose core activities are extraction of limestone, gypsum and chalk. The Project initiator has the right to extract limestone from the deposit until 2035.

**Market**

- In 2020, the global lime market amounted to US$ 41.93 billion and the volume of production reached 420 million tonnes. According to Fortune Business Insights, the global lime market will grow from US$ 42.64 billion in 2021 to US$ 51.04 billion in 2028 with a CAGR of 2.6%.

**What is the project’s attractiveness?**

- **Own raw material base** will allow to reduce the production cost, operating expenses and transportation costs, as well as to ensure the proper quality control of products. The Initiator has a subsoil use right based on a contract for the commercial extraction of limestone at the Baiterek 1, Baiterek 2 and Baiterek 3 sites of the limestone deposit until 2035.
- **High quality of limestone.** The average content of carbonates in limestone from the Baiterek deposit is 96-98%, which makes it possible to use raw materials for the production of lime and building materials without prior expensive refining procedures.
- **Stable demand for products.** The scope of construction in Kyzylorda Oblast shows a positive trend (CAGR of 9.2% over 2016-2020). The average volume of the construction market in the region reached US$ 264 million for the period 2016-2020.

**Investment proposal**

The Project requires investment of US$ 8,314 thousand, of which:
- 70% (US$ 5,820 thousand) – debt financing subject to collateral;
- from 30% (US$ 2,494 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.
XPS tile and polystyrene lagging production

Commercial products
Production of thermal insulation tiles from extruding XPS polystyrene foam is due to start in 2023, and planned capacity will be reached from 2024. Production capacity is 200 thousand m³.

Project description
The Project envisages the construction of a plant to produce 200 thousand m³ of thermal insulation tiles from extruding XPS polystyrene foam per year. The Project is due to be realised in the Astan Techonopolis Special Economic Zone in Nur-Sultan.

Company
Makwool LLP was created to realise a project to produce XPS thermal insulation materials.

Market
• In 2020, global revenue from thermal insulation material sales increased 0.7% year-on-year to 27.8 billion USD. According to Mordor Intelligence, the CAGR for the thermal insulation material market in 2020-2025 will be 4.45%.
• Average annual domestic consumption of thermal insulation materials was 74.8 thousand tonnes in 2016-2020. Domestic production for the same period averaged 70.5 thousand tonnes. Production and consumption growth was due to the development of the real estate market in Kazakhstan. In 2020, the volume of exports and imports of thermal insulation materials in the country amounted to 14 tonnes and 2.4 thousand tonnes, respectively.

Investment attractiveness of the project:
Investment – US$ 18,025 thousand
Project NPV – US$ 5,443 thousand
IRR – 22.1%
Payback period – 7.64 years

What is the attractiveness of the project?
• High product quality. XPS is known for being chemically durable, durable under high compression, water and vapour tight, as well as resistant to mould and fungus. Thus, XPS not only guarantees thermal insulation, but also acts as an effective barrier to a number of other destructive and negative factors.
• Geographical location. The Project is economically viable from a production capability perspective. The Nur-Sultan municipal agglomeration has a well-developed road and transportation and logistics infrastructure, including national and regional roads leading to Russia (Chelyabinsk and Yekaterinburg) and Kazakhstan cities, such as Petropavlovsk, Karaganda, Pavlodar and Aktobe.

Investment proposal
The Project requires investment of US$ 18,025 thousand, of which:
• 70 % (US$ 12,617.5 thousand) – debt financing subject to collateral;
• 30 % (US$ 5,407.5 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.
Construction of a cement plant in Aktobe region

Commercial products
Cement - daily capacity of 3,600 tonnes
Cement clinker - daily capacity of 3,000 tonnes

Project description
The present investment project plans to build a cement plant with a daily capacity of 3,600 tonnes and a cement clinker with a daily capacity of 3,000 tonnes in the Bayganinsky District of Aktobe Oblast. The Baiganinsky District Akimat has issued a decree whereby the initiator received, until 30 September 2029, land plots of 199.16 hectares, 98.54 hectares and 0.8742 hectares where it plans to extract chalk, clay and marl. The availability of raw materials in the immediate vicinity of the cement plant allows savings on transportation costs and overhead costs which contributes to higher production efficiency.

Company
The project initiator is Aktobe Cement LLP established in 2018.

Market
- The global cement market, estimated at 5 billion tonnes in 2020, is projected to reach 5.8 billion tonnes by 2027, with a CAGR of 2.2% over the 2020-2027 period.
- According to the Kazakhstan Statistics Committee, 10,809 thousand tonnes of Portland cement were produced in 2020. Average annual production growth rate for the period 2016-2020 reached 5.3%.

Investment attractiveness of the project:
- Investment – US$ 119,415 thousand
- Project NPV – US$ 67,362 thousand
- IRR – 23.0%
- Payback period – 8.7 years

What is the attractiveness of the project?
- Own raw material base will allow reducing production costs and transportation costs.
- Favorable production location. The location of the plant makes it possible to take a foothold on the most attractive regional markets of western Kazakhstan and neighbouring cities of Russia.
- Demand for building materials. In 2020, the growth in the construction industry amounted to 11.2%, the area of commissioned housing increased by 16.8% compared to 2019.
- Price differential. In 2020, the difference between the average price of cement in the western regions of Kazakhstan and the southern regions of Russia is about KZT 200 per 50 kg. The difference with the average price for cement in Uzbekistan is about KZT 160 per 50 kg.

Investment proposal
The Project requires investment of US$ 119,415 thousand, of which:
- 70% (US$ 83,590.5 thousand) – debt financing subject to collateral;
- from 30% (US$ 35,824.5 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.
Construction of a brick factory in North Kazakhstan Region

Commercial products
Annual production: 45 million units of ceramic brick of grade M-125

Project description
This investment project envisions the construction of a ceramic brick factory with a capacity of 50 million units/year in Petropavlovsk, North Kazakhstan region. The factory will be built on a 27-hectare site in the city’s industrial zone. It is expected that for the Project implementation the Mayor’s Office of North Kazakhstan Region will allocate a clay deposit free of charge.

Company
KyzylZharTas LLP is a project company for the implementation of the brick factory construction project. The company is part of the Zaman Group. The group is represented by enterprises of the mining, metallurgical and machine-building industries, manufacturing enterprises, financial sector organizations and large breeding farms.

Market
- According to Fitch Solutions forecasts, the market size of the global construction industry is expected to reach US$ 5,460 billion in 2022, of which 53.4% or US$ 2,914 billion will go to emerging economies.
- According to MarketLine forecasts, the market size of the construction industry will amount to US$ 21,623 million in 2024, increasing at CAGR of 6% for the period of 2021-2024.

Investment attractiveness of the project:
- Investment – US$ 14,425 thousand
- Project NPV – US$ 3,976 thousand
- IRR – 21.6%
- Payback period – 6.5 years

What is the attractiveness of the project?
- Availability of own raw material base and railway infrastructure will reduce manufacturing costs, operating expenses and transportation costs, as well as ensure the proper quality of products. The Group has subsoil use rights to grade B3 brown coal at Sarykol deposit. The plant has a railway line from Ushkulun station to Sarykol station in Bayanaul district of Pavlodar region.
- Stable demand for products. There is a growing demand for products on the market driven by the development of the real estate market due to an increase in the supply of primary and secondary housing, implemented state programmes and an increase in the population welfare.

Investment proposal
The Project requires investment of US$ 14,425 thousand, of which:
- 70% (US$ 10,097 thousand) – debt financing subject to collateral;
- from 30% (US$ 4,328 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.
Manufacturing of SPC floor covering

Annual capacity:
- Floor covering thickness 3.5 mm – 1,275 thousand sq. m
- Floor covering thickness 4.0 mm – 1,275 thousand sq. m
- Floor covering thickness 5.0 mm – 850 thousand sq. m
- Floor covering thickness 6.0 mm – 850 thousand sq. m

Domestic demand:
- Floor covering from PVC – over 22 million sq. m.

Project
This investment project envisages the construction of a SPC floor covering factory with a capacity of a 5 million sq. m/year. The factory will be built on a 4-hectare site.

The SPC (Stone Plastic Composite) flooring is an interlock high-density, calcium-polymer flooring that, with the development of technology, replaces other composite products of previous generations: HDF laminate and vinyl PVC tiles.

Company
Makwool LLP was created to implement the first SPC manufacturing project in Kazakhstan. The main activity of the company is wholesale of products made from concrete, cement, gypsum and similar materials.

Market
- According to Allied Market Global Industry Reports, the PVC flooring market was valued at US$ 12 billion in 2019 and is projected to grow to US$ 15 billion in 2027 with CAGR of 5.1%.
- The main demand for floor coverings made from PVC is covered by imported products sold through distributors. In 2020, Kazakhstan imported 15 million sq. m. CAGR of imports in 2016-2020 was 7%.

Project investment attractiveness:
Investment – 10,689 thousand USD
Project NPV – 42,502 thousand USD
IRR – 39.4%
Payback period – 4.5 years

What is the project’s attractiveness?
- High quality products. SPC floor coverings, in contrast to floor tiles, are more convenient for installation and cleaning. SPC coverings have increased water resistance and improved sound and thermal insulation properties.
- Geographic location. The project also has an advantageous economic location in terms of production capabilities and accessibility to the raw materials base: there are several large deposits of limestone (calcium carbonate) in Karaganda region.

Investment proposal
The Project requires investment of US$ 10,689 thousand of which:
- 70% (US$ 7,482.3 thousand) – debt financing subject to collateral;
- from 30% (US$ 3,206.7 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.
Modernisation and expansion of the existing brick factory in Zhambyl Oblast

Building materials

Project description:
Modernisation and expansion of the existing brick factory by building a new facility and installing a new production line and special equipment. Number of jobs created – 30.

Location:
Zhaksylyk village, Ryskulov district, Zhambyl Oblast, Republic of Kazakhstan.

Initiator:
AiKo LLP is one of the main brick manufacturing enterprises in Zhambyl Oblast.

Commercial products and capacities:
Single bricks – 7,766,995 units.

Sales markets:
Kazakhstan.


Market prerequisites:

Own raw materials base. The Initiator has subsoil use rights for loam mining (raw material for brick production) at Zhaksylyk deposit. Having own raw materials base allows reducing the production cost and transportation costs for raw materials, as well as ensuring sustained product quality.

Stable demand from construction companies and the private sector. The volume of construction work in Zhambyl Oblast has been growing steadily since 2016. The average volume of the construction work market reached US$ 360 million with CAGR at 6.6%. The Initiator has developed a client base of regular consumers of its products.

Competitive price. Comparative analysis of product prices in the region showed that the Initiator’s price is one of the lowest, which is a competitive advantage in the market economy conditions.

Key investment indicators

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment amount, US$ thous.</td>
<td>1,685</td>
</tr>
<tr>
<td>Project NPV, US$ thous.</td>
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<tr>
<td>IRR, %</td>
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<td>EBITDA margin, %</td>
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<tr>
<td>Payback period, years</td>
<td>6.6</td>
</tr>
<tr>
<td>Discounted payback period, years</td>
<td>10.3</td>
</tr>
</tbody>
</table>

Investment structure

- Construction and assembly work: $58 thous. (3%)
- Machinery and equipment: $1,627 thous. (97%)

Project profitability

![Project profitability chart]

Financing structure

- Initiator equity: 15% ($253 thous.)
- Debt financing subject to collateral: 70% ($1,180 thous.)
- Participation of the Investor from 15% ($253 thous.)

The proposed financing structure is indicative, the final financing and Project participation structures will be determined based on the results of negotiations with the Investor.
Transport and logistics
Construction of a modern class A warehouse in the Almaty industrial zone

Commercial products
The planned capacity is 36,000 pallet storage spaces with an average capacity of 15,000 m³ of goods per day.

Project description
This investment project envisages the construction of a modern class A warehouse in the Almaty industrial zone, providing a full range of commercial storage and transportation services. Almaty Mayor’s Office provided the initiator with a government land grant - a land plot of 5 hectares for a period of 49 years. The site is located on the first line from the highway.

Company
The project initiator is ETT Delivery LLP, representing the interests of Aramex International Franchise. Aramex is specialized in providing logistics services and has presence in more than 70 countries. The company owns about 600,000 sq. m of warehouse space and serves the largest transnational companies in the world. In Kazakhstan, the company has 40 employees, the branch and agency network are located in 16 cities.

Market
- The warehouse segment of the market was estimated at US$ 215.73 billion in 2019. It is projected to reach US$ 302.91 billion by 2027 with CAGR of 5.3%.
- In 2020, the cost of commissioned facilities in Kazakhstan was the lowest amount for the period in question (2017-2020) – KZT 9,769,959 thousand. The main factor behind the low indicator in 2020 was the spread of the COVID-19 pandemic, which led to the postponement of a number of projects to 2021.

Investment attractiveness of the project:
Investment – US$ 9,685 thousand
Project NPV – US$ 7,380 thousand
IRR – 28.2%
Payback period – 5.5 years

What is the attractiveness of the project?
- **Quality of services provided.** Warehouses meet modern logistics requirements, providing proper conditions for storing any type of goods.
- **Convenient location.** The location of the warehouse is as convenient as possible for the entry and exit of heavy vehicles
- **Availability of guaranteed contracts.** At the moment the company has a guaranteed contract for 15,000 sq. m. mezzanine storage for clients from the fashion industry and equipment manufacturers.
- **Experienced professionals.** According to the terms of the franchise agreement with Aramex, the licensor company provides its own specialists to train staff.

Investment proposal
The Project requires investment of US$ 9,685 thousand, of which:
- 70% (US$ 6,780 thousand) – debt financing subject to collateral;
- from 30% (US$ 2,905 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 description:**
This investment project (hereinafter referred to as the “Project”) envisages the construction of a modern cargo terminal at the base of Aktobe International Airport, promising to become an aviation hub and a transport and logistics center connecting China, Russia and Europe.

**Location:**
The Project will be implemented in Aktobe on the basis of the existing airport Aktobe.

**Field of concern:**
Service of passenger air flows (through the placement of the existing airport under discretionary management):
- Aircraft;
- Passengers.

Air cargo services:
- Cargo planes;
- Transit cargo planes.

**Key investment indicators:**

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment amount, US$ thous.</td>
<td>25,599</td>
</tr>
<tr>
<td>Project NPV, US$ thous.</td>
<td>15,091</td>
</tr>
<tr>
<td>IRR, %</td>
<td>14.5</td>
</tr>
<tr>
<td>EBITDA margin, %</td>
<td>32.9%</td>
</tr>
<tr>
<td>Payback period, years</td>
<td>10.3</td>
</tr>
<tr>
<td>Discounted payback period, years</td>
<td>16</td>
</tr>
</tbody>
</table>

**Market prerequisites:**

**Strategic location** –
Aktobe Airport has the potential to become an international aviation bridge specializing in transit cargo and passenger traffic between China, the Russian Federation and the EU. The transport corridor Western Europe - Western China, which recreates the Silk Road, passes through the territory of Kazakhstan and through the city of Aktobe, in particular. The route is 8445 km of automobile and 11 500 km of railway, of which 2787 km and over 2000 km, respectively, run through Kazakhstan. The convenient location of the airport and proximity to key highways contribute to the development of multimodal transportation, which is an important factor for the success of the Project.

**Growth of freight traffic from China** -
The analysis of Lufthansa Consulting showed that in 2017 the international air traffic from China, geographically relevant for transit traffic through the Republic of Kazakhstan, was approximately 5 million tons. This requires the development of an appropriate infrastructure for the full service of a substantial share of the specified freight traffic. It is expected that the average annual growth rate of cargo traffic from China will be 4.5% -6.7% until 2030.

**Current international agreements** -
It should be noted that today there is an agreement between Kazakhstan and Beijing China-Russia united international logistics Co. Ltd on the development of air cargo from / to Kazakhstan and in transit through Kazakhstan. For the purposes of this agreement, cargo flows will be generated (35-90 tonnes per flight) from the territory of the PRC to the territory of the RK, as well as in transit through Kazakhstan, by aircraft.

**Project location: Aktobe oblast, Aktobe city**

![Map of Kazakhstan with Aktobe highlighted]
Construction of a hotel and water park in Pavlodar Oblast

Product
The number of rooms of the hotel - 70 rooms; namely, standard rooms - 50; luxury rooms - 20.

Project
The Project envisages the construction of the hotel, water park and infrastructure improvements on the basis of a children’s health camp in a pine forest of Shaldai village in Pavlodar Oblast (130 km from the city of Pavlodar). The facilities will be built on a 17 ha site. The site is two hours from Pavlodar airport, and 7-10 hours from major Russian and other Kazakhstan resorts. The tourist complex will feature hotel rooms and cottages, a restaurant, swimming pool, sauna, water park, games room and sports' areas. Seasonal ethno-tours, horse riding and skiing trips, and snowmobile rides have also been planned. The plan is to engage international hotel operators to realise the Project.

Company
The Project Initiator is AST-LogiStic.PVL LLP, which was created in 2016. The company is mainly involved in road haulage.

Market
- In 2016-2019, average annual growth was 12.7%, while in 2020 the number of incoming tourists was over double the number of outbound tourists. In 2016-2019, the growth in the number of incoming tourists has been stable at an average of 9.4% per year. In addition, the number of countries whose nationals can enter Kazakhstan visa-free has also grown.
- In 2020, Kazakhstan nationals spent approximately 397 billion tenge (73%) of that amount was spent in Kazakhstan.

Investment attractiveness of the project:
- Unique offerings. In addition to the hotel business, the Shaldai hotel will take into account modern food trends, “adventure” and recreational tourism.
- Year-round offerings and a lack of major competitors in the region. The attractive location for year-round offerings, including hotel accommodation, therapeutic leisure, surfing and so on. Pavlodar Oblast has no premium-class hotel complexes.
- New trend of unique and authentic travel. The millennium generation, which accounts for roughly 29% of international tourists prefers to visit authentic locations for new experiences.

Unique country location. Kazakhstan is in close geographic proximity to countries with higher international tourism levels, which opens the possibility of increasing incoming tourism. The location is a 7-10-hour car journey from major Kazakhstan and Russian cities.

Investment proposal
The Project requires investment of US$ 7,147 thousand, of which:
- 70% (5,003 thousand USD) – debt financing subject to collateral;
- from 30 % (2,144 thousand USD) – 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. The investment allocation is as follows:
- 0.3% (18 thousand USD) – machinery and equipment purchase;
- 99.7% (7,129 thousand USD) – construction and assembly work.
Construction of a multifunctional health and tourist eco-complex "Zhantobe" in Almaty region

**Product**
The number of rooms of the complex: hotel - 100 rooms; apartments – 240 units; cottages - 150 units.
Other services: summerhouses, aquapark, rope park, horse trips, pelotherapy, hydrotherapy.

**Project**
This investment project ("Project") is planned to build a multifunctional health and tourist eco-complex "Zhantobe" in the Talgar district of Almaty region.
The land plot on which the complex will be located occupies 27.9 hectares. This eco-complex includes a hotel with a total area of 3,600 square meters; apartments for rent – 13,390 sq. m; cottages – 7,12.5 sq. m; apartments for sale – 42,900 sq. m; outdoor and indoor water park with a total area of 18,500 sq. m; as well as an amusement natural park with equipped tracks for sports and recreation, athletics and cycling events.

**Company**
The Project Initiator is LLP PKF "Zhulduz". The main activity of the company is the rental and management of its own real estate, and additional - comprehensive maintenance of facilities and the provision of services of hotels with restaurants.

**Market**
- In 2016-2019, average annual growth was 12.7%, while in 2020 the number of incoming tourists was over double the number of outbound tourists. In 2016-2019, the growth in the number of incoming tourists has been stable at an average of 9.4% per year. In addition, the number of countries whose nationals can enter Kazakhstan visa-free has also grown.
- In 2020, Kazakhstan nationals spent approximately 397 billion tenge on domestic and overseas tourism. Approximately 291 billion tenge (73%) of that amount was spent in Kazakhstan.

**Investment attractiveness of the Project:**
Investment – US$ 28,425.4 thousand
NPV – US$ 13,650 thousand
IRR – 21.5 %
Payback – 7.5 years

What is the attractiveness of the project?
- **Unique offerings.** In addition to the hotel business, the hotel "Zhantobe" takes into account modern food trends of "adventure" and recreational tourism, provides a wide range of entertainment and activities for various segments of visitors.
- **New trend of unique and authentic travel.** The millennial generation, who make up about 29% of international tourists according to Euromonitor, prefer to visit authentic places where they can get new experiences. They also want to learn how to cook local food, try new sports, learn new languages and so on.
- **Unique climate.** According to agroclimatic conditions, the Zhantobe OTC will be located in a mountainous and foothill zone with a mild climate. Mountain breezes carry streams of humidified and cool air in the summer, and in winter, increased solar activity favorably affects the comfort of rest and recovery conditions.

**Investment proposal**
The Project requires investment of US$ 28,425.4 thousand, of which:
- 60% (17,055 thousand USD) – debt financing subject to collateral;
- from 40% (11,370 thousand USD) – 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 description:**
Construction of a health-improving and tourist complex Verkh-Katun in the Katon-Karagai region of the East Kazakhstan oblast. Project will create 16 additional workplaces.

**Location:**
East Kazakhstan oblast, Katon-Karagai region, Aksharbak village

**Initiator:**
Verkh-Katun LLP - has its own farm for breeding marals, based on a small hotel complex provides pantotherapy services.

**Provided services and potential clients:**
The room fund includes 50 standard rooms; 4 junior suites and 4 suites. The target market of the resort is lovers of recreational tourism and nature living in the country and abroad.

**Advantages:**
• An ecologically favorable area with unique nature, high mountain climate and clean air;
• A wide range of entertainment to cover the interests of all segments of visitors;
• The presence of a large land plot will allow expanding the area of the LOK and the range of services.

**Types of services provided on the territory of the complex**
• Hotel complex for 58 rooms
• Medical block. Providing pantotherapy services
• Other services. Services for the organization of hunting and fishing.

**Project Profitability**

<table>
<thead>
<tr>
<th>Year</th>
<th>Revenue, US$ thous.</th>
<th>EBITDA margin, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year 2</td>
<td>819</td>
<td>-70%</td>
</tr>
<tr>
<td>Year 4</td>
<td>2,178</td>
<td>70%</td>
</tr>
<tr>
<td>Year 6</td>
<td>2,376</td>
<td>62%</td>
</tr>
<tr>
<td>Year 8</td>
<td>2,625</td>
<td>61%</td>
</tr>
<tr>
<td>Year 11</td>
<td>2,897</td>
<td>61%</td>
</tr>
</tbody>
</table>

**Investment attractiveness of the Project**

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment amount, US$ thous.</td>
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<tr>
<td>Project NPV, US$ thous.</td>
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<tr>
<td>IRR, %</td>
<td>19.3%</td>
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<td>EBITDA yield, %</td>
<td>61%</td>
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<tr>
<td>Payback period, years</td>
<td>6.96</td>
</tr>
<tr>
<td>Discounted payback period, years</td>
<td>11.85</td>
</tr>
</tbody>
</table>

**Financing structure**

- **Debt financing subject to collateral**
  - 70% ($3.8 mln)
- **Participation of the Investor from 30% ($1.6 mln)**

The proposed financing structure is indicative, the final financing and Project participation structures will be determined based on the results of negotiations with the Investor.

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**Prerequisites for implementation of the Project**

**Growing demand for tourism services.** Since 2015, the number of domestic tourists has risen more than 200 times from 30 thousand people up to 8,587 thousand people, while the number of outbound tourists has hardly changed over the past five years.

**Growth of attendance at resort areas of the RK.** In 2019, 1,239 thousand people stayed in tourist accommodation places. The average annual growth rate of this indicator for 2015-2019 amounted to 24%. Moreover, the closure of borders connected with the COVID-19 pandemic could contribute to the development of domestic tourism in the country.

**Year-round offer and attractive location.** An attractive location for a year-round offering, including hotel accommodation, recreational activities (antler therapy, aquatherapy), hunting, fishing and hiking. Katon-Karagai State National Natural Park is an ecologically clean area with picturesque landscapes with trails, waterfalls and rich flora and fauna.
CONSTRUCTION OF THE RESORT AREA «AQBURA»

TYPES OF SERVICES PROVIDED ON THE TERRITORY OF THE COMPLEX

- Land plot area: 233 hectares
- Guest stay facilities:
  - Family hotel;
  - Hotel for adults;
  - Hotel for sports events and meetings;
  - Guest cottage houses and villas.
- Total capacity of the guest stay facilities: 800 rooms (1900 beds).
- Hotel categories: 3-4 stars

THE PROJECT

Development of a multifunctional resort complex ("Complex") in Burabay resort area, on the shores of Boishoye Chebachye and Tekekol lakes, with a year-round operational schedule.

PROJECT INITIATOR:

Burabay Damu LLP: subordinate organization of the Office of the President’s Affairs ("OPA"). OPA provides a land plot and the government finances construction of engineering infrastructure

THE MARKET

Burabay resort area is one of the most popular resorts in Kazakhstan. In 2019, 200,000 people have stayed at its guest stay facilities. While an estimated total attendance of the resort area came at around 680,000 people over the same period. According to expert forecasts, the average annual growth of the total resort attendance until the 2030 will be equal to 15%.

To date, in Burabay resort area there are no tourist facilities providing a similar array of accommodation and leisure services, and with similar quality standards. The only complex with a similar scale and versatility of the provided services is the "8 lakes" Park resort complex, located near Almaty.

REASONS FOR ENGAGEMENT

- Capacity of the guest stay facilities: accommodating 380 thousand tourists per year;
- Residential area population: 2000 people;
- One-off visits to the leisure and entertainment facilities of the Complex: 3.3 million per year.
Leisure and entertainment facilities: Aqua-park and Marina Club, The ski arena, center for learning and entertainment, Health recreational center, City center with commercial areas, sports complex.
Residential area: 340 cottage houses, 84 villas, Construction of all of the facilities of the Complex is divided into 3 phases, with the planned completion of all construction works in 2030.

INVESTMENT OPPORTUNITY

The amount of investment and the size of the share are subject to the negotiations.
**ALL-SEASON MOUNTAIN RESORT «TURGEN» IN THE ALMATY REGION**

**TYPES OF SERVICES PROVIDED ON THE TERRITORY OF THE COMPLEX**
- Total area of commercial real estate: 145,000 sq. m.
- 3000 beds in 5 and 4 star hotels, as well as in apartments, chalets and townhouses;
- High-end restaurants and retail boutiques;
- Club house;
- Ice rink;
- Water Park and Spa centers;
- The ski school.

**THE PROJECT**
Year-round resort with favorable climatic conditions including winter (piste/off-piste skiing, heliski, Snowmobiling, etc.), summer (Hiking, mountain Biking, etc.) and recreational activities (Spa, hot springs, Aqua therapy, etc.)

**PROJECT INITIATOR:**
Ministry of culture and Sports of the Republic of Kazakhstan, NC “Kazakh Tourism JSC”

**THE MARKET**
Turgen is only 70 km to the East from Almaty airport; A natural Park located in the Zailisky Alatau, in the Eastern part of the Tien Shan; The gorge is rich in coniferous and mixed forests, Alpine and subalpine meadows, waterfalls and springs, medicinal plants and berries; The highest quality of mountain slopes. Ski tourism - Ski resort 60-100 km of ski trails;

The difference in altitude, length, quality and variety of slopes are the key features of the resort that attract tourists. Unique skiing opportunities The implementation of the main project provides access to off-piste skiing and heliski in extension zones 1 and 2 without the need to build additional mountain infrastructure. The expected capacity of the resort will be 1.25-1.65 million visitors per year (of which 650-800 thousand will be visitors during the summer season) from key markets such as Central Asia, Russia, Altitude: 1990 m-3680 m, 85 km of ski slopes.

**REASONS FOR ENGAGEMENT**
- Infrastructure is provided by Government;
- Available air, railway and auto services;
- Competitive and affordable leisure;
- Potential tourists from China, South Korea, India, Russia, Arab countries and Eastern Europe.

**INVESTMENT OPPORTUNITY**
The amount of investment and the size of the share are subject to the negotiations.

**VALUATION METRICS**

<table>
<thead>
<tr>
<th>INVESTMENT AMOUNT, US$ MLN</th>
<th>1070</th>
<th>PAYBACK PERIOD, YEARS</th>
<th>12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Including Mountain infrastructure, US$ MLN</td>
<td>487</td>
<td>IRR, %</td>
<td>15%</td>
</tr>
</tbody>
</table>

**LOCATION**

![Map of Almaty Region]
CONSTRUCTION OF A COTTAGE TOWN AND WELLNESS CENTER ON THE COAST OF LAKE ALAKOL

VALUATION METRICS

<table>
<thead>
<tr>
<th>INVESTMENT AMOUNT, US$ MLN</th>
<th>23.5</th>
</tr>
</thead>
<tbody>
<tr>
<td>PAYBACK PERIOD, YEARS</td>
<td>7</td>
</tr>
<tr>
<td>IRR, %</td>
<td>20.1%</td>
</tr>
</tbody>
</table>

THE PROJECT
Construction of more than 450 apartments, an indoor swimming pool of 5,000 sq. m, an amphitheater for 900 seats. The residential complex consists of three types of blocks, VIP cottages and one-room summer houses with terraces. There is a land plot of 20 hectares.

PROJECT INITIATOR:
Private company “KazGlobalBusiness” LLP

THE MARKET
Medical and preventive center that specializes in water and contamination. Alakol water on the sea floor and includes all Mendeleev’s tablets (from Yoda), which contributes to the treatment of many diseases. The Alakol depression belongs to the zone of insufficient moisture and is an excellent climatological place for the treatment of lung diseases. Contact with animals, horseback riding, stunning scenery-all this combined provides a bright and memorable holiday Cinema as a modern means of information, education and upbringing will also become a source of dissemination of modern life.

REASONS FOR ENGAGEMENT
- Infrastructure has been brought up;
- SMR started;
- Available air, railway and auto services;
- Competitive and affordable leisure;
- Potential tourists from China, South Korea, India, Russia, Arab countries and Eastern Europe.

INVESTMENT OPPORTUNITY
The amount of investment and the size of the share are subject to the negotiations.
MULTIFUNCTIONAL MOUNTAIN RESORT «ESIK» ON THE SILK ROAD

THE PROJECT
Provides for the construction of ski slopes with an artificial snow system, cable cars and towing roads, tourist accommodation facilities in the lower zone, tourist accommodation facilities in the upper zone, a sports and entertainment center, catering facilities in the accommodation and ski area, Rodelban and Zipline trails, congress complex, water park, swimming pool, dolphinarium.

The investment site for the construction of the facility is located in the city of Esik and occupies 364 ha (1st stage for investments - 157 ha).

THE MARKET
The distance from the airport of Almaty is 40 km. The close location of significant tourist sites, such as Esik Lake (Ile Alatau), Talgar Pik, Turgen Gorge (Ile-Alatau National Park), the State Historical and Cultural Reserve - Esik Museum, Talkhiz settlement, Rakhat settlement. The design and construction of a multifunctional mountain resort will harmoniously complement the existing tourist infrastructure of the region and will complete the formation of a tourist cluster.

REASONS FOR ENGAGEMENT
- Ready infrastructure;
- Available air, railway and auto services;
- Competitive and affordable leisure;
- Potential tourists from China, South Korea, India, Russia, Arab countries and Eastern Europe.

INVESTMENT OPPORTUNITY
The amount of investment and the size of the share are subject to the negotiations.

TYPES OF SERVICES PROVIDED ON THE TERRITORY OF THE COMPLEX
- ski slopes
- chairlifts and towing roads
- tourist accommodation facilities
- sports and entertainment complex
- Rodelban and Zipline trails
- congress complex
- aquapark
- dolphinarium

LOCATION

VALUATION METRICS
INVESTMENT AMOUNT, US$ MLN 67 (1st stage)
IRR, % 13%
PAYBACK PERIOD, YEARS 11,9

PROJECT INITIATOR:
Extreme Sport-Tourism LLP

INVESTMENT OPPORTUNITY
The amount of investment and the size of the share are subject to the negotiations.
Energy sector
Construction of a hybrid biogas and solar power station

Project
The Project envisages the construction of a biogas power station, and an organic fertilizer production plant, located in Almaty Oblast’s Ili District.

Company
ZOR-Biogas LLP is a project Initiator, whose core operations are non-hazardous waste processing and removal.

Market
• According to the IFA, global fertiliser consumption (nitrogen + phosphorous + potassium) in 2020 was 198.2 million tonnes or 7 million tonnes (5.2%) higher than in 2019
• In 2020, renewable energy (including biofuel) consumption grew 9.7%, slower than the average for the last 10 years (13.4% per year).
• In the last decade, electricity consumption in the southern zone of Kazakhstan grew by 43% to 23 billion kWh in 2020. At the same time, electricity production in the region amounted to 12 billion kWh, with annual average growth of 3.4%.

What is the project’s attractiveness?
• Eco-friendliness. Electricity production at a biogas unit significantly reduces harmful emissions into the atmosphere.
• Product demand. According to the Law On the Support of the Use of Renewable Energy Sources, clean energy producers are able to sell electricity generated from renewable sources to general grids at special tariffs through the RE FSC, which guarantees the procurement of electricity from renewable sources.
• Availability of a raw materials base. Almaty Oblast has registered 2,122 organisations operating in the agricultural industry, including three major poultry farms, two beer breweries, two pig farms within a 30 km radius from power station

Investment proposal
The Project requires investment of 13,813 thousand USD, of which:
• 70% (9,669 thousand USD) – debt financing subject to collateral;
• from 30% (4,144 thousand USD) – 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.
Construction of a hydroelectric power plant

Project description

The project plan is to build a hydroelectric power plant on the Koksu river in the Almaty oblast. The design capacity is 82 MW. The area of the plant on the Koksu riverfront amounts to 100 hectares that meets the requirements for the sufficient power generation. The government has already approved the blueprints for the construction of the power plant. The initiator of the project has a Power Purchasing Agreement with Financial settlement centre of renewable energy for 15 years.

Project location

Market analysis

Currently 35% of electricity consumed in the oblast is purchased outside of the oblast. Oblast’s economy is forecasted to grow at a CAGR of 6% till 2022 which will drive the demand for energy.

*Electrical energy balance in Almaty region, 2017, bn kWh*

<table>
<thead>
<tr>
<th></th>
<th>Purchase</th>
<th>Production</th>
<th>Consumption</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>1.1</td>
<td>2.0</td>
<td>3.1</td>
</tr>
</tbody>
</table>

The initiator is also negotiating with Chinese offtakers.

*China’s imports of electrical energy, mln MWh*

| 2015   | 6.21     | 6.19       | 6.42        |
| 2016   |          |            |             |
| 2017   |          |            |             |

*Prices of electrical energy by exporting country, USD/MWh*

- Korea: 34
- Hong Kong, China: 94
- Myanmar: 25
- Russia: 43

Investment highlights

- Upfront investment: $38 MM
- NPV: $12 MM
- IRR: 21%
- Payback period: 7 years

Competitive advantage

I. There is a 15-year offtake contract for 100% of energy generation.
II. The law *On support of the usage of RES* set fixed tariffs for renewable energy adjusted yearly for inflation and foreign currency exchange rate. The tariff is 70% indexed by CPI and 30% by exchange rate.

*RES energy tariff change from 2015 to 2017*

<table>
<thead>
<tr>
<th>Year</th>
<th>CPI</th>
<th>Tariff, tenge/kWh</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td></td>
<td>106</td>
</tr>
<tr>
<td>2016</td>
<td></td>
<td>117</td>
</tr>
<tr>
<td>2017</td>
<td></td>
<td>107</td>
</tr>
</tbody>
</table>

Value proposition

This project allows to take advantage of electrical energy supply shortage in Almaty region.

Target Investor Mandate

- Long-term financing
- Supply of technologies

Sources: Statistics Committee of the Ministry for national economy of the RK, UN Comtrade, Official internet-resource of Almaty city
Project description:
Expansion of the existing gas turbine power station (GTES-200 Uralsk) by modifying it into a combined-cycle system (operated through gas and steam).

Power capacity: 300 MW

Location: Kazakhstan, West-Kazakhstan Oblast, Zelenovsky District, Beles village

Project initiator: Batys Power LLP

Existing debt obligations of the Initiator: about US$ 100 million (the possibility of refinancing a foreign currency loan into KZT (tenge) denominated loan is being considered)

Key investment indicators

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project implementation period, years</td>
<td>24</td>
</tr>
<tr>
<td>incl. investment stage, years</td>
<td>6</td>
</tr>
<tr>
<td>operating stage, years</td>
<td>18</td>
</tr>
<tr>
<td>Investment amount, US$ thous.</td>
<td>340,000</td>
</tr>
<tr>
<td>Project NPV, US$ thous.</td>
<td>217,018</td>
</tr>
<tr>
<td>IRR, %</td>
<td>17.5%</td>
</tr>
<tr>
<td>EBITDA margin, %</td>
<td>47-60%</td>
</tr>
<tr>
<td>Payback period, years</td>
<td>11.4</td>
</tr>
<tr>
<td>Discounted payback period, years</td>
<td>15.5</td>
</tr>
</tbody>
</table>

Project scheme

Existing power station (100 MW)
- GE MS 9001E gas turbine

Expansion (300 MW)
- 2 GE MS 9001E gas turbines
- Expansion of an operational cycle of gas turbines by modifying it into a combined-cycle system, through addition of:
  - Waste heat recovery units
  - K-60-7,4 type steam turbine

All of the infrastructure required for the expansion of the power plant has already been built

Market prerequisites:

High electricity prices in the region
The Western energy zone is isolated from the country’s energy system and does not have an access to cheap electricity from the Northern Energy Zone. Electricity prices for industrial enterprises (main consumers) in Atyrau Oblast are the highest in the country, while in West Kazakhstan Oblast - they rank among the highest across the country.

Increase in energy consumption
Almost the entire oil and gas industry is concentrated in Atyrau Oblast and West Kazakhstan Oblast. These regions house enterprises that are carrying out or have already completed major modernization projects (e.g. enterprises such as Atyrau Refinery, Karachaganak Petroleum Operating, Tengiz, CPC), which leads to an increase in electricity consumption.

Proximity to raw material resources
GTES-200 Uralsk has an underwater pipeline connected to the major pipeline "Soyuz", which ensures provision of an uninterrupted supply of natural gas. In addition, West-Kazakhstan Oblast is one of the leading oblasts in the Republic of Kazakhstan in terms of gas reserves and gas production. This ensures stability and diversification potential for supplying gas for the operation of the power plant.

Establishing electricity exports
The creation of a unified electricity market within the framework of the Eurasian Economic Union will enable the Project to set up exports of electricity to Russia and Belarus, where electricity prices will be set by market conditions. GTES-200 Uralsk is connected to the power system of Russia through the Stepnaya electrical substation and has sufficient transmission capacities for large-scale export deliveries.

Project profitability

<table>
<thead>
<tr>
<th>Year</th>
<th>Revenue, US$ thousands</th>
<th>EBITDA margin, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>2021</td>
<td>68,914</td>
<td>44%</td>
</tr>
<tr>
<td>2024</td>
<td>114,803</td>
<td>47%</td>
</tr>
<tr>
<td>2025</td>
<td>157,542</td>
<td>59%</td>
</tr>
<tr>
<td>2035</td>
<td>167,837</td>
<td>59%</td>
</tr>
<tr>
<td>2040</td>
<td>201,543</td>
<td>59%</td>
</tr>
</tbody>
</table>

August 2018

KAZAKH INVEST:
Investment proposal
Construction of a refuse recycling complex

Product
Annual capacity:
• 3,500 tonnes of technical carbon;
• 30,000 m³ of foam glass granulate;
• 4,400 tonnes of greenhouse tomatoes and cucumbers.

Project
The aim of this investment project (the "Project") is to build a refuse recycling production complex ("RRPC") 15 km to the south-east of Nur-Sultan. Production is due to be commissioned in 2023 Q4, while planned production capacity should be reached in 2025.

Company
Project initiator is SIO Consulting LLP, whose core activities are processing non-metallic waste.

Market
• Between 2016 and 2020, Kazakhstan saw stable technical carbon import growth and, consequently, consumption, which practically doubled from 372 tonnes in 2016 to 690 tonnes in 2020, with CAGR at 16.7%. Import substitution potential is valued at 598 thousand USD.
• In 2020, the Kazakhstan construction sector was worth 11,914 million USD with CAGR for 2016-2020 of 6%. The import of foam glass granules and other foam glass materials into Kazakhstan grew nearly nine-fold from 47 tonnes in 2016 to 410 tonnes in 2020.

Project investment attractiveness:
Investment – US$ 34,000 thousand
NPV – US$ 10,808 thousand
IRR – 19.4%
Payback period – 7.4 years

What is the project’s attractiveness?
• State support. Under the Concept for Kazakhstan to transition to a “green” economy, waste recycling should reach 50% by 2050. For this reason, the government is providing all-round support to implement waste processing projects.
• Stable raw materials base. Nur-Sultan is a fast-growing city whose population produces over 350,000 tonnes of solid domestic waste per year, which is sufficient to ensure full RRPC capacity. The Nur-Sultan solid waste handling system lacks an advanced waste treatment process, meaning that 90% of combined solid domestic waste residue is buried at the city’s open waste disposal site. As at March 2020, Nur-Sultan has the only sorting station where waste accumulates at the only open waste landfill site.

Investment proposal
The Project requires investment of 34,000 thousand USD, of which:
• 70% (23,800 thousand USD) - debt financing subject to collateral;
• from 30% (10,200 thousand USD) – Initiator 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.
Modernization of MSW management system in the Karaganda Oblast

Project description:
Construction and equipment of 300 waste collection points. As well as the acquisition and commissioning of equipment using composting technology, to reduce the volume of municipal solid waste disposal by production of biogas and generation of green energy.

Capacity: 5 MW of electricity;
Service of 265 thousand people per year for Municipal Solid Waste (“MSW”) disposal services.

Products: Service of MSW disposal and electric power.

Initiator: GorKomTrans goroda Karagandy LLP

Location: Karaganda and Karaganda Oblast.

Main consumers:
1) The main consumers of electrical energy are the Financial Settlement Center of RE (state) and enterprises operating on electric power.
2) The main consumers of sorted MSW are companies engaged in recycling of secondary raw materials.

Key investment indicators

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment amount, US$ thous.</td>
<td>16,713</td>
</tr>
<tr>
<td>Project NPV, US$ thous.</td>
<td>28,418</td>
</tr>
<tr>
<td>IRR, %</td>
<td>25.7%</td>
</tr>
<tr>
<td>EBITDA margin, %</td>
<td>61%</td>
</tr>
<tr>
<td>Payback period, years</td>
<td>6.1</td>
</tr>
<tr>
<td>Discounted payback period, years</td>
<td>7.6</td>
</tr>
</tbody>
</table>

Market prerequisites

High level of MSW generation. The Republic of Kazakhstan has a high level MSW generation at the level of 3 million tonnes annually. Moreover, due to the dynamic growth of the economy and the growth of the well-being of population, the waste generation indicator is anticipated to grow to 8.3 million tonnes per year.

Lack of competition in the region. The Karaganda Oblast does not have the enterprises engaged with the recycling of MSW by production of biogas, while the total volume of wastes continues to increase annually. Thus, by the end of 2017, more than 350 thousand tonnes of MSW was generated in the Karaganda Oblast, which is the third highest indicator across the country after the largest cities Almaty and Nur-Sultan.

The development of new sources of electricity production. Currently, the state allocates large amount of the investments in the sphere of electricity production by Renewable Energy Sources (“RES”), therefore, production volumes are growing at an average of 3% annually. At the same time, the volume of production using biogas in 2017 amounted to only 200 thous. kWh, while the total volume of produced electricity by RES being equal to 11,643 mln kWh.

Project profitability

<table>
<thead>
<tr>
<th>Year</th>
<th>Revenue, US$ thous.</th>
<th>EBITDA margin, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year 3</td>
<td>7,761</td>
<td>66%</td>
</tr>
<tr>
<td>Year 5</td>
<td>8,645</td>
<td>65%</td>
</tr>
<tr>
<td>Year 10</td>
<td>10,951</td>
<td>63%</td>
</tr>
<tr>
<td>Year 15</td>
<td>13,062</td>
<td>61%</td>
</tr>
<tr>
<td>Year 20</td>
<td>15,249</td>
<td>59%</td>
</tr>
<tr>
<td>Year 24</td>
<td>17,710</td>
<td>57%</td>
</tr>
</tbody>
</table>

Project sales provision

MSW disposal services
The main income will be generated through the payments made by the population and legal entities for waste disposal services. 300 waste collection points will serve 265,000 people in the city of Karaganda.

Electrical power
According to the Law of the Republic of Kazakhstan “On support for the use of renewable energy sources”, KOREM JSC conducts auction bidding for the purchase of "green energy" produced. The winner receives a contract for a guaranteed purchase of electricity for a period of 15 years. GorKomTrans goroda Karagandy LLP is currently registered as a participant in an auction for RES bidding.