INVESTMENT OPPORTUNITIES
OF KAZAKHSTAN
Niche projects
Agriculture-industrial complex
Construction of a greenhouse complex

Commercial products
The annual production capacity when reaching full capacity in 2025 will be:
• Tomatoes – 1,642 tonnes;
• Cucumbers – 2,309 tonnes.

Project description
The project envisages the construction of a greenhouse-type agro-industrial complex for the production of tomatoes and cucumbers in Aktobe. The complex will be built on its own land plot with an area of 5.6 hectares. Aktobe agglomeration is a densely populated region, where about 0.9 million people live, and have an extensive road transport and logistics infrastructure. Thus, the location of the greenhouse complex in Aktobe region will allow covering the neighbour regions of Kazakhstan (Uralsk, Atyrau and Nur-Sultan), as well as border regions of Russia (Orsk, Samara, Orenburg, etc.).

Company
Eco product Company LLP owns a land plot with a total area of 14 ha.

Market
• Imports of tomatoes and cucumbers into Kazakhstan in 2020 amounted to 60 thousand tonnes and 8 thousand tonnes, respectively. The construction of the greenhouse complex will reduce the volume of imports and provide the domestic market with high-quality domestic products.
• In 2020, the gross harvest of greenhouse tomatoes and cucumbers in Kazakhstan amounted 145 and 101 thousand tonnes, with an increase of 18.0% and 14.8% compared to the previous year, respectively. In 2020, the area of greenhouses for growing tomatoes and cucumbers in the country amounted to 744.4 ha and 623.9 ha respectively.

Investment attractiveness of the project:
Investment – US$ 15,550 thousand
Project NPV – US$ 17,813 thousand
IRR – 25.4%
Payback period – 6.1 years

What is the attractiveness of the project?
• Environmentally friendly products and year-round harvest. Compliance with standards of environmentally friendly growing of tomatoes and cucumbers, without the use of genetically modified material is an advantage in comparison with imported tomatoes and will allow occupying a certain niche in the consumer basket. Heating and artificial lighting systems ensure year-round harvesting.
• State support. The project is included in the list of priority sectors for state support. The state programmes provide for a number of benefits, preferences and grants. The availability of resources and state support instruments and the use of innovative production technology allow increasing production capacity, taking into account export opportunities, and diversifying the range of products.

Investment proposal
The Project requires investment of US$ 15,550 thousand, of which:
• 70 % (US$ 10,885 thousand) – mezzanine financing;
• 30 % (US$ 4,665 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.
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") envisions 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.

Investment 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 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.
Agro-industrial complex

Project profitability

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 vertically integrated pig-breeding complex for meat processing

Annual capacity:
- Frozen pork meat – 95,017 tonnes,
- Raw casings of categories 1 – 4,353 tonnes,
- Raw casings of categories 2 – 14,227 tonnes,
- Replacement gilts – 24,660 units.

Project profitability:

<table>
<thead>
<tr>
<th>Year</th>
<th>US$ thousand</th>
<th>EBITDA margin, %</th>
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</table>

Project investment attractiveness:
- Investment – 136,396 thousand USD
- Project NPV – 150,480 thousand USD
- IRR – 21.9%
- Payback period – 8.8 years

What is the project’s attractiveness?
- Favorable location. The chosen location of the complex is convenient in terms of the accessible distance from large settlements, which corresponds to the Company's strategy to ensure maximum biosecurity of facilities, but at the same time, it allows for significant reduction of logistics costs when delivering products to end consumers in Russia and China. The site has access to overhead utilities (railway, high voltage power line), underground utilities - cable line (telephone and Internet), sewerage and water supply.
- Independence from feed supplies: Availability of high-quality and inexpensive feed base is one of the key conditions for a competitive advantage in pig breeding. The project provides for the construction of a feed mill with a capacity of 100 tonnes per hour and an elevator for storing grain with a capacity of 90,000 tonnes, which meets world quality and biosafety standards. This will reduce feed costs and logistics costs and eliminate supplier risks.

Investment proposal
The project requires investment of US$ 136,396 thousand, of which:
- 70% (US$ 95,477 thousand) – debt financing subject to collateral;
- 30% (US$ 40,919 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 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?
- **Advantageous 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 Irtysh 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 – 21,525 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 investment attractiveness:
- Investment – 51,013 thousand USD
- Project NPV – 24,668 thousand USD
- IRR – 30.1%
- Payback period – 4.2 years

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.

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.
**Poultry farm construction**

**Annual capacity:**
- Broiler meat - 19,500 tonnes;
- By-products - 7 million;
- Compound feed - 3,000 tonnes.

**Project description**
This project envisions the construction of a poultry farm for broiler meat and chicken egg production in Atyrau region. The production capacity will be 19,500 tons of poultry meat and 7 million eggs. The Project launch will provide the region with high-quality products and create additional 200 jobs.

**Company**
The project initiators are Atyrau region Mayor’s Office represented by Atyrau Social and Entrepreneurial Corporation JSC (49%) and Meken Farm, established in 2009. Atyrau SEC and Meken Farm signed a memorandum on joint implementation of the project, as a result of which the project company Meken Chicken LLP was created.

**Market**
- According to the OECD and FAO UN forecast, 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 tons, 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. 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:
- Competitive advantage factors. There is one poultry farm that produces broiler meat in Atyrau region.
- State support. The project is included in the list of priority sectors for state support. The state programs provide for a number of benefits and preferences.
- Modern equipment. The use of the advanced technology in combination with professional vertical integration process management allows the optimal use of equipment and compliance with biological safety.

**Investment proposal**
The Project requires investment of US$ 64,006 thousand, of which: 70% (US$ 44,804 thousand) – debt financing subject to collateral; from 30% (US$ 19,202 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 poultry farm for meat and egg production

Commercial products
Annual project capacity:
• poultry meat - 260 tonnes;
• commercial egg - 122 min 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:
Investment— US$ 11,212 thousand
Project NPV – US$ 10,728 thousand
IRR – 26.5%
Payback period – 6.05 years

What is the 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:
Investment – US$ 9,365 thousand
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 location

Project profitability

Investment proposal

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; thigh – 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:
Capital expenditures: US$ 100,257 thousand
NPV – US$ 81,211 thousand
IRR – 18.2%
Payback – 7.0 years

What is the 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.
Expansion of poultry production

Annual capacity:
- commercial egg – 4,803 thousand 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 a melon processing plant

**Product**
Annual capacity: fresh melons - 10,000 tons, fresh-frozen melons - 6,000 tons, dried melons - 1,000 tons, melon juice - 2,678 tons, watermelon juice - 2,678 tons.

**Project**
The aim of the investment Project (“Project”) is to build a melon processing plant in Turkestan Oblast’s Arys. The area of the plant will be 10,000 m². A 3.7 ha site has been registered and may be used for 7 years with the option to extend.

**Company**
The Project initiator is Tansari Trading A LLP. The company was registered in 2018 to operate in the wholesale trading of a wide range of goods without specific categorisation (CCEA 46909). The Project Initiator receives production advice from the VitAl GmbH to launch production in good time and establish a production process.

**Market**
- The world has seen organic product consumption growth. The global organic fruit and vegetable market was worth 30.8 billion USD in 2019 and, according to forecasts, will reach 55.9 billion USD by 2027 (CAGR 7.9%).
- Fruit consumption in Kazakhstan increased in 2020 to 78.8 kg per capita per year (CAGR for 2015-2020 – 4.34%).
- In Kazakhstan in 2020, the total harvest of melons amounted to 1,165 thousand tons and watermelons - 1,260 thousand tons. The main crop of melons and gourds falls on the Turkestan region - 59% of the total harvest.

**Investment attractiveness of the project:**
Capital expenditures: US$ 4,802 thousand
NPV – US$ 6,477 thousand
IRR – 35.7%
Payback period – 4 years

**Investment proposal**
The Project requires investment of US$ 4,802 thousand, of which:
- 70% (3,362 thousand USD) – debt financing subject to collateral;
- 30% (1,441 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 dairy farm in East Kazakhstan region

Product
Annual capacity:
- meat production – 47,858 tons / year;
- milk sales - 10,957,193 liters / year.

Project
The Project involves the construction of a commercial dairy farm capacity of 1,400 forage-fed cows in East Kazakhstan region per year.
Raw milk will be sold to local long-life milk producers and dairy product processors.
To provide the dairy farm with fodder base (hay, straw, haylage and silage), the Initiator will grow fodder on 3.7 thousand ha plots allocated for sowing work.

Company
Beskaragay-Agro LLP. The company was established in 2016 with the aim of covering domestic demand for raw milk in East Kazakhstan region.

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 Fitch Solutions, the growth in milk consumption in Kazakhstan will average 3%, which is in line with global trends.

Investment attractiveness of the project:
- Geographic location. The Project will be realised in the East Kazakhstan region agglomeration (population of 1.4 million) with an extensive road and logistics infrastructure. The region is home to 25 milk processors (Emil LLP, Vostok-Milk LLP, Kamyshinskoe LLP), the capacities of which are currently underutilised (about 80%). 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 and Chinese markets. The location of dairy farms near the Irysh River also contributes to a stable crop of forage crops.
- Available fodder base. The Company has major crop areas (3.7 thousand ha) under long-term lease to ensure the dairy farm with its own fodder base. It should be noted that fodder accounts for a large part of material costs, which is why own fodder base will help reduce milk production costs.

Investment proposal
The Project requires investment of US$ 14,097 thousand, of which:
- 70% (9,868 thousand USD) – debt financing subject to collateral;
- from 30% (4,229 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 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 Initiator 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%.

What is the 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 attractiveness of the project:
Investment— US$ 5,116 thousand
Project NPV— US$ 10,827 thousand
IRR— 41.3%
Payback period – 3.6 years

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 an advanced wool processing plant in East-Kazakhstan Oblast

**Product**
Processing capacity: 10,000 tons of unwashed wool.
Production volumes: tops – 2,453 tons; cashmere – 2,180 tons.

**Project**
The plan for the investment project ("Project") is to construct a wool primary treatment ("WPT") plant with advanced wool processing and fibre (cashmere) removal, as well as wool washing and tops production.

In the second stage, the Company is planning to build its own agricultural firm to source raw materials for the WPT plant.

**Company**
Belsan I K LLP was registered in 2009 to treat wool. After reaching planned capacity, the Company is planning to apply to join the International Wool Textile Organisation (IWTO), which will help establish close links with leading companies (processors and/or sellers).

**Market**
- In the last 5 years, annual wool production in Kazakhstan averaged 39 thousand tonnes. Average wool production growth was 0.9%, while production reached 40.2 thousand tonnes in 2020.
- Sheep wool makes up the greatest share of wool production (97.7%). It is due to the large sheep herds in Kazakhstan. The majority of animals are bred in private businesses, with the share of agricultural enterprises insignificant.

**Investment attractiveness of the project:**
Investment – 20,000 thousand USD
NPV – 27,692 thousand USD
IRR – 25.3%
Payback – 6.5 years

**What is the attractiveness of the project?**
- **Advantageous location.** East-Kazakhstan Oblast with its favourable climate is traditionally Kazakhstan’s meat and wool sheep breeding region. The region also has a well-developed road and logistics network, which helps minimise both the time and costs needed to deliver finished products to practically any region of the country.
- **Creation of purchasing centres.** The plant will be in close proximity to raw material suppliers, which will ensure an uninterrupted supply of crude wool.
- **Advanced processing.** Modern production equipment makes it possible to produce quality fibre to create cashmere from crude wool. Cashmere is in demand in the EU, China, Turkey and the CIS.

**Investment proposal**
The Project requires investment of US$ 20,000 thousand, of which:
- 70% (14,000 thousand USD) – debt financing subject to collateral;
- from 30% (6,000 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 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>

**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.

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**Construction of a plant for the production of pectin in the “Taldykorgan” industrial zone**

**Agro-industrial complex**

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**Project profitability**

![Graph showing project profitability with key indicators and results for different years.](graph)

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**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% ($3.29 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.
Expansion of a modern pig farm to a capacity of 500,000 heads
Agro-Industrial complex

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>EBITDA margin, %</td>
<td>26.4%</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>

$67.52 million
$33 million
$10.27 million
$6.86 million
$9.21 million

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.

Investment proposal

Revenue, USD million

Zeroing and assembly work

Machinery and equipment

Initial working capital

Primal biological assets

Others

Initiator equity
Participation of the Fund (KIDF or KCM)
Debt financing subject to collateral
Participation of the Investor

$126.9 million
$12% ($15 million)
7% ($9 million)
61% ($76.9 million)
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.
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 Pesteriev I.A.

Investment attractiveness of the Project

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Results</th>
</tr>
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<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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<tr>
<td>IRR, %</td>
<td>27.8</td>
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<tr>
<td>EBITDA margin, %</td>
<td>11</td>
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<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>

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.

Project profitability

<table>
<thead>
<tr>
<th>Year</th>
<th>Sales, US$ thousand</th>
<th>EBITDA margin, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year 1</td>
<td>337,978</td>
<td>1%</td>
</tr>
<tr>
<td>Year 3</td>
<td>339,704</td>
<td>13%</td>
</tr>
<tr>
<td>Year 5</td>
<td>352,001</td>
<td>12%</td>
</tr>
<tr>
<td>Year 7</td>
<td>364,771</td>
<td>11%</td>
</tr>
<tr>
<td>Year 9</td>
<td>369,795</td>
<td>11%</td>
</tr>
<tr>
<td>PPP</td>
<td>200,000</td>
<td>16%</td>
</tr>
</tbody>
</table>

Financing structure

- Initiator equity 51% ($18 million)
- Debt financing subject to collateral 35% ($12.2 million)
- Participation of the Fund (KIDF or KCM) 7% ($2.6 million)
- Participation of the Investor from 8% ($2.7 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.
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>Results</th>
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<tbody>
<tr>
<td>Growth method</td>
<td>Coconut</td>
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<tr>
<td>Growth system</td>
<td>Hanging trays</td>
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Investment attractiveness of the Project

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<thead>
<tr>
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<tbody>
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<td>Investment amount, US$ thousand</td>
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<tr>
<td>Project NPV, US$ thousand</td>
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<tr>
<td>IRR, %</td>
<td>20.1%</td>
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<tr>
<td>EBITDA margin, %</td>
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<tr>
<td>Payback period, years</td>
<td>6.0</td>
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<td>Discounted payback period, years</td>
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</table>

Project’s profitability

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

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.

Investment structure

- Construction and assembly work: 42% ($3.5 million)
- Machinery and equipment: 45% ($3.8 million)
- Other: 13% ($1.0 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.
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 - 522.5 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>

Investment structure

| Construction and assembly work   | 41%      |
| Machinery and equipment         | 51%      |
| Other expenses                  | 8%       |

Project profitability

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 thou. 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 profitabiility

Investment structure

- Construction and assembly work: 41% of $73.6 million
- Machinery and equipment: 51% of $91.4 million
- Other expenses: 8% of $14.1 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.
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:
1. Smoked fish – 3 tonnes
2. Fresh-frozen fish – 6.7 tonnes
3. Black caviar - 10 tonnes.

Sales market:
1. Domestic market: 2 tonnes of caviar and 3 tonnes of smoked fish;
2. 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

<table>
<thead>
<tr>
<th>Year</th>
<th>Revenue</th>
<th>EBITDA margin, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>2022</td>
<td>1,404</td>
<td>47%</td>
</tr>
<tr>
<td>2024</td>
<td>3,227</td>
<td>68%</td>
</tr>
<tr>
<td>2026</td>
<td>5,704</td>
<td>76%</td>
</tr>
<tr>
<td>2028</td>
<td>7,946</td>
<td>79%</td>
</tr>
<tr>
<td>PPP</td>
<td>10,278</td>
<td>80%</td>
</tr>
</tbody>
</table>

Financing structure

- Initiator equity 18% ($1.5 million)
- Debt financing subject to collateral 70% ($5.9 million)
- Participation of the Investor from 12% ($1.0 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.
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>

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>15,312</td>
<td>19%</td>
</tr>
<tr>
<td>3</td>
<td>40,312</td>
<td>21%</td>
</tr>
<tr>
<td>5</td>
<td>50,891</td>
<td>22%</td>
</tr>
<tr>
<td>7</td>
<td>54,059</td>
<td>23%</td>
</tr>
<tr>
<td>9</td>
<td>56,281</td>
<td>23%</td>
</tr>
<tr>
<td>11</td>
<td>58,842</td>
<td>23%</td>
</tr>
<tr>
<td>13</td>
<td>60,163</td>
<td>23%</td>
</tr>
<tr>
<td>15</td>
<td>62,183</td>
<td>23%</td>
</tr>
</tbody>
</table>

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.

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)

Financial structure

- Initiator equity: 15% ($2.4 million)
- Debt financing subject to collateral: 70% ($11 million)

Participation of the Investor from 15% ($2.3 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.
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>10,334</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>21%</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.

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>

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).

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

Prerequisites for Project implementation

- Reduction of the level of environmental pollution.
- Growing demand for organic fertilizers.
- Import substitution.

Project profitabillity

## Project profitability

<table>
<thead>
<tr>
<th>Year</th>
<th>Revenue US$ thousands</th>
<th>EBITDA margin, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>2022</td>
<td>5,805</td>
<td>20%</td>
</tr>
<tr>
<td>2024</td>
<td>8,099</td>
<td>22%</td>
</tr>
<tr>
<td>2026</td>
<td>8,925</td>
<td>22%</td>
</tr>
<tr>
<td>2028</td>
<td>9,674</td>
<td>22%</td>
</tr>
<tr>
<td>2030</td>
<td>10,294</td>
<td>22%</td>
</tr>
</tbody>
</table>

Financing structure

- Initiator equity 0% ($0 million)
- Debt financing subject to collateral 70% ($3.0 million)
- Participation of the Investor from 30% ($1.3 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.
Cultivation of fodder crops for export using irrigation
Agro-industrial complex

Project description
The principal focus of this project is cultivation of cattle and bovine feeds based on lucerne and barley. The Project suggests creation of 20 additional work places.

Production will be carried out in two land plots:
One with a total area of 3,468 ha in Bayterek village (West Kazakhstan, Yanaikinsky district) and the other with a total area of 14,933 ha near the town of Stepnogorsk (Akmola region).

The projects aims fulfilling following goals:
• To increase the export potential of forage crops in the cattle and bovine feed sub-industry agro-industrial complex, which will increase the production capacity of value-added products.
• Development of new land plots, construction of infrastructure for irrigation of land and the use of modern technologies for irrigation of crops;

Initiator:
SC Food LLP. The Company sells cattle meat, produces and sells feed, has over 10 years of experience in agriculture and feed production.

Commodity production and capacity:
Upon reaching the full capacity in the 3rd year of the Project operation, it is planned to sell up to 62,593 tonnes of product annually. Produced goods:
• Barley;
• Lucerne hay.

Sales markets: domestic market and export (to China).

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>9,744</td>
</tr>
<tr>
<td>Project NPV, US$ thousand</td>
<td>16,140</td>
</tr>
<tr>
<td>IRR, %</td>
<td>27.3%</td>
</tr>
<tr>
<td>EBITDA margin, %</td>
<td>30.0%</td>
</tr>
<tr>
<td>Payback period, years</td>
<td>6.0</td>
</tr>
<tr>
<td>Discounted payback period, years</td>
<td>8.0</td>
</tr>
</tbody>
</table>

Investment structure

- Construction and assembly work: 40% $3.91 million
- Machinery and equipment: 60% $5.83 million

Prerequisites for Project implementation

Project location.
The Initiator holds the right of land use for two land plots for up to 49 years. The selected land plots are located near reservoirs, where the cost of water does not exceed 1 tg / cubic m, which is much cheaper than water from canals (17-25 tg / 1 cubic m).

Strong demand for hay in Kazakhstan.
The consumption of dry fodder by cattle in 2019 has increased 1.5 times compared to 2015. Average annual growth rate of cattle dry fodder consumption (CAGR) for the period of 2015-2019 was 8%, indicating a strong demand for the product. The average annual growth rate of total dry fodder consumption in the country (CAGR) for the period 2015-2019 amounted to 11%.

Guaranteed sales.
The company signed a memorandum for the supply of lucerne from July 30, 2020 to China in the amount of 180,000 tons with a Chinese company Kaz-Food (Alashankou) Import & Export Co. Ltd.

Governmental support.
The project belongs to investment priority projects, for which various types of state preferences are provided

Project profitability

- 2022: -39% $483
- 2024: 32% $12,720
- 2026: 31% $13,714
- 2028: 29% $14,906
- 2030: 30% $15,874
- PPP: 30% $16,239

Financing structure

- Participation of the Investor 35% ($3.41 million)
- Debt financing subject to collateral 65% ($6.33 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
Organisation of forage production based on soybeans and corn for poultry.
The production is planned on a leased land plot with an area of 6,700 ha in Akmol village, Tselinograd district, Akmola Oblast. The production process will include a resource-saving technology for crop irrigation.

Initiator:
Akmola-Fenix Plus LLP is a part of Shanyrak group of companies engaged in food production: chicken eggs, meat products, sausages and delicacies.

Commodity production and capacity:
Upon reaching the design capacity in the third year of the Project, it is planned to produce 23,450 tonnes of feed annually.
Produced goods:
• Corn;
• Soybeans.

Sales markets: domestic market.
The company will provide full feed to the poultry farm of the sister company Capital Project LLP, where it is planned to supply 23,450 tons of products annually.

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>11,968</td>
</tr>
<tr>
<td>Project NPV, US$ thousand</td>
<td>14,060</td>
</tr>
<tr>
<td>IRR, %</td>
<td>25.0%</td>
</tr>
<tr>
<td>EBITDA margin, %</td>
<td>53.0%</td>
</tr>
<tr>
<td>Payback period, years</td>
<td>6.0</td>
</tr>
<tr>
<td>Discounted payback period, years</td>
<td>7.9</td>
</tr>
</tbody>
</table>

Investment structure

- Construction and assembly work: 67% $8.0 mln
- Machinery and equipment: 27% $3.2 mln
- Other capital expenses: 6% $0.8 mln

Prerequisites for Project implementation

Guaranteed domestic sales.
The products will be sold under contracts with the sister company Capital Project LLP (100%), which provides a guaranteed sales for the products manufactured.

Demand for grain fodder and grain legume fodder in Kazakhstan. The grain feed consumption by poultry in 2019 increased 3 times compared to 2015. CAGR of grain feed consumption for 2015-2019 was 32%, indicating a strong demand for the product. The grain legumes consumption in 2019 amounted to 1.8 thousand tonnes, with an increase of 23% compared to last year.

Favourable location. The moderately cold climate of the selected region is favourable for the selected crops. The growing season is 150-160 days per year. The absolute maximum temperature is observed in July, with an average monthly temperature of 19.8 °C and the absolute minimum temperature is in February, with an average temperature of -15.8 °C. The precipitation is about 280-350 mm per year. It is planned to use surface water from the Nura River for irrigation of land plot.

Project profitability

<table>
<thead>
<tr>
<th>Year</th>
<th>Sales, US$ thousand</th>
<th>EBITDA margin, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>2023</td>
<td>5,736</td>
<td>53.0%</td>
</tr>
<tr>
<td>2025</td>
<td>6,256</td>
<td>53.0%</td>
</tr>
<tr>
<td>2027</td>
<td>6,744</td>
<td>53.0%</td>
</tr>
<tr>
<td>2029</td>
<td>7,778</td>
<td>53.0%</td>
</tr>
<tr>
<td>2031</td>
<td>8,119</td>
<td>53.0%</td>
</tr>
<tr>
<td>2033</td>
<td>8,676</td>
<td>53.0%</td>
</tr>
<tr>
<td>2035</td>
<td>9,147</td>
<td>53.0%</td>
</tr>
</tbody>
</table>

Financing structure

- Initiator equity: 10% ($1.2 million)
- Debt financing subject to collateral: 70% ($8.4 million)
- Participation of the Investor: 10% ($1.2 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**

**Guaranteed domestic sales.** The most products will be sold under contracts with the parent company Otan Green food LLP, which provides a guaranteed domestic sales for the products manufactured.

**Demand for grain fodder and grain legume fodder in Kazakhstan.** The grain feed consumption by poultry in 2019 increased 3 times compared to 2015. CAGR of grain feed consumption for 2015-2019 was 32%, indicating a strong demand for the product. The grain legumes consumption in 2019 amounted to 1.8 thousand tonnes, with an increase of 23% compared to last year.

**Favourable location.** The moderately cold climate of the selected region is favourable for the selected crops. The growing season is 165-170 days per year. The absolute maximum temperature is observed in July, with an average monthly temperature of 22.0 °C and the absolute minimum temperature is in January, with an average temperature of -8 °C. The precipitation is about 400 mm per year.

**Project description**

Organisation of forage production based on soybeans and corn for poultry. The production is planned in two locations in Almaty Oblast:
- in Turgen rural district of Enbekshikazakh district on a leased land plot of 800 ha; and
- in Tigermen rural district of Uygur district on own land plot with an area of 1,200 ha. The production process will include a resource-saving technology for crop irrigation.

The production process will include a resource-saving technology for crop irrigation. The Project will create 75 jobs.

**Initiator:** Adal Agro Group LLP, which is a member of Otan Green Food LLP group of companies engaged in the food products industry. It produces chicken eggs, meat products, sausages and delicacies. In the corporate strategy of the Initiator as a holding structure, this project is considered as a vertical integration project, which will allow achieving self-sufficiency, reducing the cost of final products and bringing under cultivation new agricultural products.

**Commodity production and capacity:**

Upon reaching the design capacity in Year 3 of the Project, it is planned to produce 14,742 tonnes of feed annually. Produced goods:
- Corn;
- Soybeans.

**Sales markets:** domestic market and export.

**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>6,968</td>
</tr>
<tr>
<td>Project NPV, US$ thousand</td>
<td>5,520</td>
</tr>
<tr>
<td>IRR, %</td>
<td>22.9%</td>
</tr>
<tr>
<td>EBITDA margin, %</td>
<td>53.0%</td>
</tr>
<tr>
<td>Payback period, years</td>
<td>6.6</td>
</tr>
<tr>
<td>Discounted payback period, years</td>
<td>9.5</td>
</tr>
</tbody>
</table>

**Investment structure**

- Construction and assembly work 10% $0.7 million
- Machinery and equipment 28% $2.0 million
- Other capital expenses 62% $4.3 million

**Project profitability**

<table>
<thead>
<tr>
<th>Year</th>
<th>Sales, US$ thousand</th>
<th>EBITDA margin, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020</td>
<td>2,406</td>
<td>55%</td>
</tr>
<tr>
<td>2022</td>
<td>2,579</td>
<td>53%</td>
</tr>
<tr>
<td>2024</td>
<td>3,009</td>
<td>56%</td>
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<tr>
<td>2026</td>
<td>3,301</td>
<td>56%</td>
</tr>
<tr>
<td>2028</td>
<td>3,558</td>
<td>57%</td>
</tr>
<tr>
<td>2030</td>
<td>3,672</td>
<td>57%</td>
</tr>
</tbody>
</table>

**Financing structure**

- Initiator equity 20% ($1.4 million)
- Debt financing subject to collateral 70% ($4.9 million)
- Participation of the Investor 10% ($0.7 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.
Full-cycle enterprise for fattening cattle, processing and sale of beef

Agricultural sector

Project summary
The project provides for the organization of a cattle breeding farm with subsequent processing and sale of beef meat in Semey, East Kazakhstan region. The initiator owns the necessary infrastructure for the implementation of the project: the building of the former meat processing plant (now defunct) with an adjacent land plot of 29 ha. The necessary engineering and technical communications have been brought to the place of the Project implementation. Within the Project 103 jobs are expected to be created.

Project Initiator: Sembell LLP
The company owns two feedlots: Sembell LLP, launched in 2016 in Zharma region of East Kazakhstan region with a one-time keeping of 3,000 bull calves and located in Pavlodar region with a one-time keeping of 3,000 bull calves (My Feedlot LLP). To date, on the territory of My Feedlot LLP work is underway on the implementation of a 4.5 ha land plot irrigation project, which will allow the Company to provide its own feed for the existing livestock.

Project location:
Semey, East Kazakhstan region.

Marketed products and Project capacity:
22,251 tons of products and 162,000 units. skins and offal (heads) annually since 2023. Within the Project is planned to produce: chilled beef carcasses; offal.

Consumer markets: domestic market and export to China.

Investment attractiveness of the Project

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment, US$ thousand</td>
<td>38,974</td>
</tr>
<tr>
<td>Project NPV, US$ thousand</td>
<td>55,145</td>
</tr>
<tr>
<td>IRR, %</td>
<td>18.3%</td>
</tr>
<tr>
<td>EBITDA margin, %</td>
<td>15%</td>
</tr>
<tr>
<td>Payback period, years</td>
<td>6.9</td>
</tr>
<tr>
<td>Discounted payback period, years</td>
<td>9.9</td>
</tr>
</tbody>
</table>

Investment structure

- Construction and assembly work: 29% of $11.3 million
- Machinery and equipment: 70% of $27.4 million
- Other expenses: 1% of $0.3 million

Prerequisites for Project implementation

Demand for beef meat.
In 2015-2019, there was a decrease in beef consumption in the country. In general, in 2015-2016, the average per capita consumption of beef reached 27 kg. In 2018, this indicator returned to normal at 28 kg. According to the OECD, the forecast for beef consumption in the country will stabilise by 2028 at 29.3 kg.

Favourable location.
The moderately cold climate of the Zharma region of the East Kazakhstan region is favourable for breeding gobies for further fattening of cattle. There is moderate rainfall throughout the year, even during the driest month. The temperature averages 4.3° C. Average annual precipitation is 200-300 mm.

Proximity to potential clients.
The location of the meat processing plant in Semey gives an advantage in proximity to the sales markets in the East Kazakhstan region with a population of 1.8 million people. Also, the strategically convenient location of the region for cross-border trade with the regions of the PRC and the Russian Federation will reduce transport costs when exporting products.

Project profitability

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.
Launch of a compound feed production plant

Agricultural sector

Project idea:
The Project envisages the launch of a plant to produce 120,000 tonnes of compound feed per year on a 3.3 ha site in Almaty.
The plant owned by the Initiator is fully operational. It is connected to all infrastructure and utilities, including railway sidings. The production site covers an area of 4,000 m².
The potential partner will have the required sector experience to improve its business by expanding its product range, upgrading the production process, and including Initiator product in its supply chain. The Project creates 25 new jobs.

Project location:
Almaty

Project Initiator:
Baharat LLP

Production capacity:
It is planned to reach full capacity in the third year from the date of launch, after which production volumes will reach a plateau at the level of 118.8 thousand tons per year.
At initial stages, product will include compound feed for various bird types, according to age, including:
- Start – 13.1 thou. tonnes;
- Grower – 40.4 thou. tonnes;
- Finish – 65.3 thou. tonnes.

Sales market:
The plan is to sell product created by the Project in neighbouring countries (Uzbekistan and China) through direct targeted sales with subsequent delivery to the buyer’s warehouse.

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>3,633</td>
</tr>
<tr>
<td>Project NPV, US$ thousand</td>
<td>26,417</td>
</tr>
<tr>
<td>MIRR, %</td>
<td>24.5%</td>
</tr>
<tr>
<td>EBITDA margin, %</td>
<td>13%</td>
</tr>
<tr>
<td>Payback period, years</td>
<td>2.0</td>
</tr>
<tr>
<td>Discounted payback period, years</td>
<td>2.1</td>
</tr>
</tbody>
</table>

Financing structure

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.

Advantageous location.
Almaty is a city of national significance and one of the leading industrial and economic centres of Kazakhstan. It is recognised as the southern capital of Kazakhstan. The main rail lines and “Western Europe – Western China” transportation corridor pass through Almaty. It is also home to an international airport, which helps reduce transportation and logistics costs when exporting goods.

Sources of raw materials.
The main Project raw material, which is grain – wheat, will be purchased from local growers. Kazakhstan is one of the top 10 wheat exporting countries, with production reaching 11.5 million tonnes in 2019.

High-tech equipment.
Equipment used to prepare feed meets current technical standards. The manufacturer is the Swiss company Bühler AG, which is one of the global producers of feed and food products.
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).

As it is the major milk producer in the region, the buyers of the company’s products are large consumers such as FoodMaster, Danone, Raimbek Agro.

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>

Financing structure

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initiator equity</td>
<td>$3.7 million</td>
</tr>
<tr>
<td>Debt financing subject to collateral</td>
<td>$17.3 million</td>
</tr>
<tr>
<td>Funds participation (KIDF, KCM, SKI)</td>
<td>$1.7 million</td>
</tr>
<tr>
<td>Participation of the Investor from 8%</td>
<td>$0.6 million</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.

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, seeding 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

Sales, US$ thousand

<table>
<thead>
<tr>
<th>Year</th>
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<th>2025</th>
<th>2027</th>
<th>2029</th>
<th>2031</th>
<th>2033</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>14,355</td>
<td>15,392</td>
<td>16,858</td>
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<td>20,212</td>
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EBITDA margin, %

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<tr>
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KAZAKH INVEST
Investment proposal
November 2020

Cheese plant construction in Almaty

Agro-industrial complex

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Project profitability

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<table>
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EBITDA margin, %

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<tr>
<td></td>
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<td>26%</td>
<td>27%</td>
<td>27%</td>
<td>27%</td>
<td>26%</td>
<td>26%</td>
</tr>
</tbody>
</table>
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

<table>
<thead>
<tr>
<th>Construction and assembly work</th>
<th>29%</th>
<th>$11.7 million</th>
</tr>
</thead>
<tbody>
<tr>
<td>Machinery and equipment</td>
<td>66%</td>
<td>$27.3 million</td>
</tr>
<tr>
<td>Other capital expenses</td>
<td>5%</td>
<td>$2.2 million</td>
</tr>
<tr>
<td>Initial working capital</td>
<td>7%</td>
<td>$3.0 million</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Year</th>
<th>Sales, US$ thousand</th>
<th>EBITDA margin, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020</td>
<td>-196%</td>
<td>-250%</td>
</tr>
<tr>
<td>2022</td>
<td>25,672</td>
<td>49%</td>
</tr>
<tr>
<td>2024</td>
<td>27,486</td>
<td>48%</td>
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<td>2026</td>
<td>29,341</td>
<td>47%</td>
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<tr>
<td>2028</td>
<td>31,149</td>
<td>47%</td>
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<td>2030</td>
<td>32,863</td>
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<td>2032</td>
<td>34,659</td>
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<tr>
<td>2034</td>
<td>35,593</td>
<td>47%</td>
</tr>
<tr>
<td>PPP</td>
<td>36,553</td>
<td>47%</td>
</tr>
</tbody>
</table>

Financing structure

- Initiator equity 17% ($7.5 million)
- Debt financing subject to collateral 65% ($28.7 million)
- Funds participation (KIDF, KCM, SKI) 9% ($4.0 million)
- 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.
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

<table>
<thead>
<tr>
<th>Category</th>
<th>Amount</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Buildings and structures</td>
<td>$2.9 million</td>
<td>50.2%</td>
</tr>
<tr>
<td>Machinery and equipment</td>
<td>$1.6 million</td>
<td>28.5%</td>
</tr>
<tr>
<td>Biological assets</td>
<td>$1.0 million</td>
<td>17.5%</td>
</tr>
<tr>
<td>Vehicles</td>
<td>$0.06 million</td>
<td>1.1%</td>
</tr>
<tr>
<td>Others</td>
<td>$0.15 million</td>
<td>2.7%</td>
</tr>
</tbody>
</table>

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.

Investment structure

<table>
<thead>
<tr>
<th>Category</th>
<th>Amount</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Buildings and structures</td>
<td>$2.9 million</td>
<td>50.2%</td>
</tr>
<tr>
<td>Machinery and equipment</td>
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<td>Biological assets</td>
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<td>17.5%</td>
</tr>
<tr>
<td>Vehicles</td>
<td>$0.06 million</td>
<td>1.1%</td>
</tr>
<tr>
<td>Others</td>
<td>$0.15 million</td>
<td>2.7%</td>
</tr>
</tbody>
</table>

Financing structure

- Initiator equity: 20% ($1.1 million)
- Debt financing subject to collateral: 70% ($4.0 million)
- Participation of the Investor: 10% ($0.6 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.
Poultry farm construction in Kostanay Oblast
Agro-industrial complex

Project description:
Construction of a poultry farm with a capacity of 10 million chickens in Kostanay Oblast. A full production cycle will be organised on the production site: feed production, incubation process, growing broilers, slaughterhouse, workshop for products processing. Number of jobs created – 507.

Location: Karabalyk village, Kostanay Oblast, Kazakhstan.
Initiator: Zhas-Kanat 2006 LLP. The main business areas are mixed production and meat and egg production with annual capacity of 250 million eggs and 500 tonnes of chicken meat.

Commercial products and capacities:
production capacity – 64,392 tons, namely: broiler chicken – 38,120 tons, breast – 5,151 tons, thigh – 4,829 tons, ends of cuts – 4,765 tons, fillet – 3,348 tons, drumstick – 2,511 tons, etc.

Sales markets:
neighboring countries.

Key investment indicators

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment amount, US$ thous.</td>
<td>232,558</td>
</tr>
<tr>
<td>Project NPV, US$ thous.</td>
<td>211,003</td>
</tr>
<tr>
<td>IRR, %</td>
<td>20.1%</td>
</tr>
<tr>
<td>EBITDA margin, %</td>
<td>33.7%</td>
</tr>
<tr>
<td>Payback period, years</td>
<td>7.2</td>
</tr>
<tr>
<td>Discounted payback period, years</td>
<td>9.9</td>
</tr>
</tbody>
</table>

Investment structure

- **Buildings and constructions**: 58% ($133,757 thou$)
- **Machinery and equipment**: 40% ($94,166 thou$)
- **Transport**: 27% ($4,635 thou$)

Market prerequisites:
The Initiator's Experience, The initiator has extensive experience (over 18 years) in the implementation of such projects, management of the existing poultry farm for the production of chicken and chicken eggs. Also, at present, the Initiator is modernizing the poultry farm of Poultry-Agro LLP for the production of broiler chicken meat.

Capacity increase. The availability of resources and the use of new technology allow increasing production capacity and, accordingly, revenue from sales of products.

Growing demand and entering new markets.
According to the OECD and UN FAO forecasts, the total poultry consumption will increase worldwide, which provides opportunities for further expansion of sales markets.

Project profitability

<table>
<thead>
<tr>
<th>Year</th>
<th>Revenue, US$ thous.</th>
<th>EBITDA margin, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>2023</td>
<td>120,913</td>
<td>38%</td>
</tr>
<tr>
<td>2028</td>
<td>169,977</td>
<td>33%</td>
</tr>
<tr>
<td>2033</td>
<td>191,583</td>
<td>34%</td>
</tr>
<tr>
<td>2038</td>
<td>215,449</td>
<td>34%</td>
</tr>
<tr>
<td>2042</td>
<td>236,956</td>
<td>34%</td>
</tr>
</tbody>
</table>

Financing structure

- Participation of the Fund (KIDF or KCM): 7.5% ($34,186 thou$)
- Debt financing subject to collateral: 70% ($162,791 thou$)
- Participation of the Investor from 7.5% ($35,581 thou$)

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:
The project provides for the construction of flax shive fuel pellets and briquettes plant with a capacity of 40 thousand tonnes per year. The production is planned on a land plot with an area of 5.92 hectares with necessary infrastructure and engineering lines.
Number of jobs created - 30.

Location:
Konsybay rural district, Zerendy district of Akmola Oblast.

Initiator:
Armandas Star LLP

Commercial products and capacities:
Product – fuel pellets from flax straw. After reaching the targeted capacity in the 7th year of the Project’s operation, it is planned to produce up to 36 thousand tons of fuel pellets annually.

Sales markets: European Union countries.

Manufacturing process:
Primary crushing - crushing - conditioning - mixing - granulating - cooling - sieving - bagging.

Key investment indicators

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment amount, US$ thous.</td>
<td>4,488</td>
</tr>
<tr>
<td>Project NPV, US$ thous.</td>
<td>7,712</td>
</tr>
<tr>
<td>IRR, %</td>
<td>28%</td>
</tr>
<tr>
<td>EBITDA margin, %</td>
<td>43%</td>
</tr>
<tr>
<td>Payback period, years</td>
<td>6.3</td>
</tr>
<tr>
<td>Discounted payback period, years</td>
<td>7.9</td>
</tr>
</tbody>
</table>

Investment structure

- Buildings and structures: 39% $1,7 mln
- Purchase machinery and equipment: 60.9% $2,7 mln
- Other capital expenditures: 0.1% $0.03 mln

Market prerequisites:

Certified product. Different countries have adopted different standards for the fuel pellets production. The company has the ENplus certificate, which is required for the sale of products in the EU countries, and the products fully comply with GOST 34092—2017 (ISO16993: 2015) standard.

Rich and affordable raw material base. More than 5 million tonnes of agricultural waste are available in Kazakhstan annually, most of which is incinerated. To date, the Company has entered into a memorandum of cooperation with the Akmola Oblast Department of Agriculture to ensure an uninterrupted supply of raw materials.

Reducing the level of environmental pollution. The use of fuel pellets reduces carbon dioxide emissions into the atmosphere, since the pellets do not produce CO2 and sulphur compounds when burned. In addition, ash can be used as fertiliser.

Sales market. Renewable and environmentally friendly sources and energies are in high demand in industrial enterprises in Europe and East Asia.

Project profitability

![Project profitability chart]

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.
Creation of an enterprise for fattening livestock, processing and selling cattle meat

Agricultural sector

Project idea:
Creation of an enterprise for fattening livestock, processing and selling cattle meat.
Successful implementation of the Project will create a feedlot of 5,000 livestock units with its own feed base, provide the domestic market with high-quality competitive products, as well as create about 50 new job places in North Kazakhstan oblast.

Project location: Imantau village, Aiyrtau district, North Kazakhstan oblast

Project Initiator: Hairun-Agro LLP was established on October 14, 2014. Its main activity is the cultivation and sale of grain crops (wheat and barley).

Production capacity:
It is planned to reach full capacity in the 3rd year from the moment of launch, after which production volumes will reach a plateau at the level of 1,557 tonnes per year. The list of manufactured products is 100% cattle meat.

Sales market:
• Domestic market (70% of finished products);
• Exports to neighboring countries, including Russia and China (30%).

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>10,444</td>
</tr>
<tr>
<td>Project NPV, US$ thousand</td>
<td>9,180</td>
</tr>
<tr>
<td>IRR, %</td>
<td>16.97%</td>
</tr>
<tr>
<td>EBITDA margin, %</td>
<td>49%</td>
</tr>
<tr>
<td>Payback period, years</td>
<td>6.8</td>
</tr>
<tr>
<td>Discounted payback period, years</td>
<td>9.8</td>
</tr>
</tbody>
</table>

Investment structure

- Buildings and structures 78% $9.4 mln
- Biological assets 7% $0.8 mln
- Other expenses 1% $0.2 mln
- Initial working capital 13% $1.6 mln

Prerequisites for implementation of the Project

Favourable location. The climate of the selected region is favourable for breeding gobies and sowing crops for further fattening of cattle. There is significant rainfall throughout the year, with an average of 350 mm per year. The average air temperature of the warmest month (July) is almost everywhere 18°С, and the coldest month (January) is -16°С. The duration of a warm period with an air temperature above zero is 200 days on average.

The presence of an extensive feed base. The Initiator has large land plots for arable land and pastures, sowing equipment and a granary, which greatly simplifies the implementation of the Project. At the moment the enterprise grows: barley and wheat (3, 4, 5 classes).

Growing demand. According to forecasts, there will be an increase in the overall level of beef consumption in the world and in Kazakhstan, which will provide an opportunity to further expand the sales area.

Project’s profitability

<table>
<thead>
<tr>
<th>Year</th>
<th>Sales, US$ mln</th>
<th>EBITDA margin, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>2022</td>
<td>2.8</td>
<td>48%</td>
</tr>
<tr>
<td>2023</td>
<td>5.56</td>
<td>48%</td>
</tr>
<tr>
<td>2025</td>
<td>6.23</td>
<td>49%</td>
</tr>
<tr>
<td>2027</td>
<td>6.87</td>
<td>49%</td>
</tr>
<tr>
<td>2029</td>
<td>7.40</td>
<td>49%</td>
</tr>
<tr>
<td>2031</td>
<td>7.73</td>
<td>49%</td>
</tr>
<tr>
<td>2033</td>
<td>8.08</td>
<td>49%</td>
</tr>
<tr>
<td>2034</td>
<td>8.26</td>
<td>49%</td>
</tr>
</tbody>
</table>

Financing structure

- Initiator equity 2.2% ($230 thous.)
- Participation of funds (KIDF, KCM, SKI) 13.6% ($1.42 mln)
- Debt financing subject to collateral 70% ($7.31 mln)
- Participation of the Investor from 14.2% ($1.48 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 description:
Construction of a 16,507 capacity sheep farm in Almaty Oblast. It is planned to breed Edilbay, Gissar and Romanov sheep. It is planned to organize the cultivation of forage crops, construction of feed yards, a sheepfold and a slaughterhouse on the farm territory. Number of jobs created – 46.

Location:
Almaty Oblast.

Initiator:
Amal Agro Line LLP. Since early 2020, Amal Agro Line LLP has been running a farm with an area of 7.5 hectares on the territory of Enbekshikazakh district of Almaty Oblast, where raspberries, currants, blackberries and plums are grown. The farm has been operating since 2016. All cultivated products are exported to Dubai, UAE.

Commercial products and capacities:
mutton – 289 tons per year

Sales markets:
United Arab Emirates.

Key investment indicators

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment amount, US$ thous.</td>
<td>3,107</td>
</tr>
<tr>
<td>Project NPV, US$ thous.</td>
<td>3,221</td>
</tr>
<tr>
<td>IRR, %</td>
<td>18.5%</td>
</tr>
<tr>
<td>EBITDA margin, %</td>
<td>50.3%</td>
</tr>
<tr>
<td>Payback period, years</td>
<td>8.3</td>
</tr>
<tr>
<td>Discounted payback period, years</td>
<td>12.7</td>
</tr>
</tbody>
</table>

Investment structure

- Buildings and constructions: 51% - $1,591 thous.
- Machinery and equipment: 22% - $681 thous.
- Biological assets: 27% - $835 thous.

Market prerequisites:
Demand for products.
Over the last five years, there has been a growth in mutton imports in the targeted countries of the Middle East, which indicates a high demand for products and the possibility of increasing the meat exports from Kazakhstan. The quality and the ecological cleanliness of the domestic mutton, make it competitive, despite very high transportation costs. The average import price of mutton in the Middle East is 54% higher than the average price in the domestic market.

Favourable location.
Almaty Oblast with favourable climatic conditions is traditionally a sheep breeding zone in Kazakhstan.

Sale agreements.
The Company has a positive experience of supplying berries and fruits to Dubai, UAE. Expansion of the range of exported products and preliminary agreements for the supply of meat products will strengthen the company’s position in the market of Dubai, UAE.

Project profitability

Revenue, US$ thous.: 431, 2,349, 2,655, 2,827, 3,027
EBITDA margin, %: 70% (2,175 thous.), 70% (2,175 thous.), 50% (2,655 thous.), 50% (2,655 thous.), 51% (2,827 thous.), 52% (3,027 thous.)

Debt financing subject to collateral 70% ($2,175 thous.)
Participation of the Investor from 30% ($932 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.
Project description:
Construction of an integrated agro-industrial complex consisting of a potato starch production plant and a cattle fattening site for slaughter.

Planned production capacity:
• Main: potato starch - up to 14 tonnes a year;
• Secondary: beef; potato juice, potato squash, cow subproducts.

Location:
Pavlodar oblast, Pavlodar region, Kenesskiy rural district, Novoyamishevo village.

Project initiator:
«Kereku Agro» LLP

Key investment indicators

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment amount, US$ thous.</td>
<td>44,948</td>
</tr>
<tr>
<td>Project NPV, US$ thous.</td>
<td>30,760</td>
</tr>
<tr>
<td>IRR, %</td>
<td>28.7</td>
</tr>
<tr>
<td>EBITDA margin, %</td>
<td>30-38%</td>
</tr>
<tr>
<td>Payback period, years</td>
<td>5.1</td>
</tr>
<tr>
<td>Discounted payback period, years</td>
<td>7.1</td>
</tr>
</tbody>
</table>

Project profitability:

Market prerequisites

Export potential
Growing imports of potato starch by neighboring countries offers an opportunity to occupy a niche in the China, Russia and Uzbekistan markets. The total potato starch imported by these countries in 2018 amounted to about 74 thousand tonnes and has a tendency to increase. For example, the average annual growth rate of imports of potato starch by China over the past 5 years was 12.7% in physical terms.

No local production and high level of import dependency
There is no production of potato starch in the country, despite the fact that in the food, textile, paper industries potato starch is superior to corn starch in terms of quality. The average annual volume of imports of potato starch in Kazakhstan is relatively stable and in recent years has amounted to about 4.2 thousand tons for an amount of about US$ 2.5–3 million.

Key facilities of the Complex:

Irrigation system
Creating an irrigation array with an area of 6000 hectares for growing additional raw materials and fodder crops (cultivation and processing - through the Initiator)

Cattle fattening site
The one-time capacity of the site is designed for 5000 heads. The number of cycles per year is two. Mainly breeding of Kazakh white-headed and Hereford breeds.
Market prerequisites

**Dependence of the country on imports** - Due to the climatic features of most regions of RK during the off-season there is a shortage of tomatoes and cucumbers. The deficit is covered by imports, which amounted to 65 thousand tons of tomatoes and 14.5 thousand tons of cucumbers in 2018.

**Price differential with Russia** - The average price for tomatoes and cucumbers in the regions of the Russia bordering the country is higher than average price in Kazakhstan by 33% and 24%.

**Development of export supplies to foreign countries** - Exports of vegetables from RK are growing at a dynamic pace: in 2018 exports of tomatoes amounted to 20.7 thous. tons (2.9 thous. in 2016), of cucumbers – 6.1 tons (2.5 thous. in 2016).

**Proximity to the Russia**, a major importer of tomatoes and cucumbers, provides easy access to the target market. In 2018 Russia imported 578 thous. tons of tomatoes and 123 thous. tons of cucumbers.

Project description:
Construction of a greenhouse complex for year-round tomato and cucumber production and product sales on the domestic and foreign markets for the purpose of import substitution and development of the export potential of country’s vegetable production.

**Initiator:** Rim-KazAgro LLP

**Products:** Tomatoes and cucumbers

**Production volume:** 1,200 tons of tomatoes and 1,300 tons of cucumbers per year

**Seeding:**
Greenhouse area – 3 ha; planting area – 2 ha with following expansion up to 10 ha

**Target markets:** Petropavlovsk and border regions of Russia.

**Location:** North Kazakhstan oblast, Petropavlovsk city, Yaroslav Gashek st., 3

**Key investment indicators**

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment amount, $US thousands</td>
<td>17,764</td>
</tr>
<tr>
<td>Project NPV, $US thousands</td>
<td>9,738</td>
</tr>
<tr>
<td>IRR, %</td>
<td>15.4%</td>
</tr>
<tr>
<td>EBITDA margin, %</td>
<td>70%</td>
</tr>
<tr>
<td>Payback period, years</td>
<td>9.5</td>
</tr>
<tr>
<td>Discounted payback period, years</td>
<td>14.7</td>
</tr>
</tbody>
</table>

**Location of project implementation:** Petropavlovsk city

**Technical process**

- **Photo culture (electric illumination)**
  - compensates lack of sunlight
  - improves yielding capacity and product quality
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</td>
<td>5.87</td>
</tr>
<tr>
<td>Discounted payback period</td>
<td>8.04</td>
</tr>
</tbody>
</table>

Project location: Almaty Oblast

Project profitability:

Revenue, US$ thousands: 8,700, 10,227, 12,171, 13,912, 15,634, 17,364
EBITDA margin, %: 65%, 62%, 61%, 61%, 61%, 61%

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 greenhouse complex for the cultivation of tomatoes and cucumbers, domestic and export sales of products for the purpose of import substitution and development of the export potential of country’s vegetable production.

Initiator:
JSC "Social and Entrepreneurial Corporation" Pavlodar "

Production volume:
3.7 thous. tons of tomatoes and 3.9 thous. tons of cucumbers for one year

Project parameters:
The total area of greenhouse – 8.4 ha; planting area – 7.9 ha

Products:
tomatoes and cucumbers

Location:
Pavlodar oblast, city of Ekibastuz

Target markets: Pavlodar oblast, northern regions of Kazakhstan, neighboring regions of Russia

Key investment indicators

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment amount, $US thousands</td>
<td>21,891</td>
</tr>
<tr>
<td>Project NPV, $US thousands</td>
<td>12,769</td>
</tr>
<tr>
<td>IRR, %</td>
<td>15.7%</td>
</tr>
<tr>
<td>EBITDA margin, %</td>
<td>43%</td>
</tr>
<tr>
<td>Payback period, years</td>
<td>8.0</td>
</tr>
<tr>
<td>Discounted payback period, years</td>
<td>14.5</td>
</tr>
</tbody>
</table>

Location of project implementation: Pavlodar oblast

Market prerequisites

Dependence of the country on imports of tomatoes and cucumbers - Due to the climatic features of most regions of Kazakhstan during the off-season, there is a shortage of tomatoes and cucumbers. The deficit is covered by imports, which amounted to 65 thousand tons of tomatoes and 14.5 thousand tons of cucumbers in 2018.

Price differential with Russian Federation - The average price for tomatoes and cucumbers in the regions of the Russia bordering the country is higher than average price in Kazakhstan by 33% and 24%.

Development of export supplies to foreign countries - Exports of tomatoes and cucumbers from Kazakhstan are growing at a dynamic pace: in 2018 exports of tomatoes amounted to 20.7 thousand tons, cucumbers 6.1 tons.

Proximity to the Russia, a major importer of tomatoes and cucumbers, provides easy access to the target market. In 2018 Russia imported 578 thousand tons of tomatoes and 123 thousand tons of cucumbers.

Project profitability

<table>
<thead>
<tr>
<th>Year</th>
<th>Revenue, US$ thous.</th>
<th>EBITDA margin, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>3,625</td>
<td>33%</td>
</tr>
<tr>
<td>5</td>
<td>7,289</td>
<td>32%</td>
</tr>
<tr>
<td>15</td>
<td>10,113</td>
<td>34%</td>
</tr>
<tr>
<td>20</td>
<td>16,680</td>
<td>54%</td>
</tr>
<tr>
<td>24</td>
<td>18,641</td>
<td>55%</td>
</tr>
</tbody>
</table>

Technical process

Photo culture (electric illumination)
• compensates lack of sunlight
• improves yielding capacity and product quality
**Project description:**
An increase in production capacity by expanding the area of the greenhouse complex to 40 ha with an annual production volume of 55.5 thousand tons of tomatoes and cucumbers, domestic and export sales of products for the purpose of import substitution and development of the export potential of country’s vegetable production.

**Initiator:**
Green Land Alatau LLP, an operating enterprise with a 10 ha greenhouse

**Production volume:**
55.5 thousand tons of product

**Project parameters:**
The total area of greenhouse – 40 ha

**Products:**
tomatoes and cucumbers

**Location:**
Almaty oblast, Kapshagay city, 65 km of Almaty – Ust-Kamenogorsk route

**Target markets:**
Almaty city, Almaty oblast, export to Russia

**Key investment indicators**

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment amount, $US thousands</td>
<td>118,442</td>
</tr>
<tr>
<td>Project NPV, $US thousands</td>
<td>123,422</td>
</tr>
<tr>
<td>IRR, %</td>
<td>25.7%</td>
</tr>
<tr>
<td>EBITDA margin, %</td>
<td>49.2%</td>
</tr>
<tr>
<td>Payback period, years</td>
<td>5.3</td>
</tr>
<tr>
<td>Discounted payback period, years</td>
<td>7.2</td>
</tr>
</tbody>
</table>

**Location of project implementation:**
Almaty oblast, Kapshagay city

**Market prerequisites**

**Dependence of the country on imports of tomatoes and cucumbers** - Due to the climatic features of most regions of Kazakhstan during the off-season, there is a shortage of tomatoes and cucumbers. The deficit is covered by imports, which amounted to 65 thousand tons of tomatoes and 14.5 thousand tons of cucumbers in 2018.

**Price differential with Russian Federation** - The average price for tomatoes and cucumbers in the regions of the Russia bordering the country is higher than average price in Kazakhstan by 33% and 24%.

**Development of export supplies to foreign countries** - Exports of tomatoes and cucumbers from Kazakhstan are growing at a dynamic pace: in 2018 exports of tomatoes amounted to 20.7 thousand tons, cucumbers 6.1 tons.

**Proximity to the Russia,** a major importer of tomatoes and cucumbers, provides easy access to the target market. In 2018 Russia imported 578 thousand tons of tomatoes and 123 thousand tons of cucumbers.

**Project profitability**

![Graph showing project profitability](image)

**Technical process**

**Photo culture (electric illumination)**
- compensates lack of sunlight
- improves yielding capacity and product quality

**Green Land Alatau LLP**

![Map showing project location](image)
**About the Project**

Expansion of intensive apple orchards of the operating company Fresh Land LLP to 105 hectares in Enbekshikazakh district of Almaty region.

**Initiator:**
Fresh Land LLP

**Project location:**
Almaty region, Enbekshikazakh district

**Principal products:**
Fresh apples varieties:
- “Golden Delicious”;
- “Red Delicious”;
- “Fuji”.

**Project’s peak capacity:**
6,819 tons of apples per year

**Fruit season:**
September – October

**Sales markets:**
The domestic market of the Republic of Kazakhstan and the Russian Federation

**Seedling Suppliers:**
Vivai Nischler D. Nischler Georg & Co. (Italy)

**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>6,814</td>
</tr>
<tr>
<td>Project NPV, US$ thous.</td>
<td>7,291</td>
</tr>
<tr>
<td>IRR, %</td>
<td>22.99%</td>
</tr>
<tr>
<td>EBITDA yield, %</td>
<td>58%</td>
</tr>
<tr>
<td>Payback period, years</td>
<td>7.2</td>
</tr>
<tr>
<td>Discounted payback period, years</td>
<td>9.5</td>
</tr>
</tbody>
</table>

**Project Location: Almaty oblast**

---

**Prerequisites for implementation of the Project**

**Stable demand for apples in the domestic market**

Among stone fruits, apples are the most common and significant food product. The beneficial properties of apples and ease of consumption create a constant demand for the product. Overall, consumption of apples per capita increased by 8.1% since 2016 and amounted to 17.4 kg in 2018.

**Export potential**

The neighborhood with the largest apple importer, Russia, provides convenient access to a large target and large-scale sales market. In 2018, Russia imported 843.5 thousand tons of apples or 10% of the world import. Due to the political situation in the country, Russia broke off trade relations with Ukraine and Poland, major suppliers of apples to the Russian Federation, which also allows Kazakhstan to take a certain share in the market of neighboring countries.

**Price differential with neighboring countries**

In the regions of the Russian Federation adjacent to Kazakhstan, a kilogram of apples on average during the year can be purchased for 1.3 - 2.0 US$, which is higher than the average Kazakhstan prices by 4% - 65%.

**Import dependence of Kazakhstan on apples during the off-season**

Since the fruit is seasonal, and the shelf life of the product is short-lived, Kazakhstan experiences import dependence in the periods from January to July. Due to the lack of fruit storages, after the end of its stocks, apple imports increase hundreds of times.

---

**Project Profitability**

![Graph showing revenue and EBITDA margin over years](image)
Project overview:
Organization of a comprehensive cattle breeding farm (fattening and slaughter) in order to expand the existing production of canned meat.

Project goals:
• Increased workload of the meat processing complex Kublei LLP;
• Creation of a full-cycle production of meat products: from fattening and slaughter of cattle to the production of freshly frozen and chilled meat, canned food and products derived from offal.

Project Initiator: Kublei LLP is one of the largest processing enterprises in Kazakhstan, engaged in the production of freshly chilled meat: horse meat, beef, lamb, as well as the production of canned products.

Commercial products: Beef and offal sent for further processing to the meat processing complex of Kublei LLP.

Key investment indicators

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment, USD thousands</td>
<td>7,474</td>
</tr>
<tr>
<td>Project NPV, USD thousands</td>
<td>15,731</td>
</tr>
<tr>
<td>IRR, %</td>
<td>35.6%</td>
</tr>
<tr>
<td>EBITDA returns, %</td>
<td>40%</td>
</tr>
<tr>
<td>Payback period</td>
<td>4.9</td>
</tr>
<tr>
<td>Discounted payback period</td>
<td>5.7</td>
</tr>
</tbody>
</table>

Project location:
Uralsk, West Kazakhstan Oblast, Kazakhstan

Project market assumptions:

Growing demand for canned meat in Kazakhstan. According to the statistics committee of the Republic of Kazakhstan, the consumption of finished and canned meat products in 2018 amounted to 112.3 thousand tonnes in Kazakhstan.

Growth of demand for beef. According to forecasts by the OECD and UN FAO, there will be an increase in the overall level of beef consumption in the world.

Import substitution. The volume of imports of canned meat from lamb and horse meat in 2018 amounted to 636 tonnes, which is higher by 148% compared to the previous year, which may indicate an increasing import dependence of the country.

Export development. The volume of canned meat export from lamb and horse meat in 2018 amounted to 212 tonnes, which is 135.5% higher than the previous year.

Own raw material base. According to the statistics committee of the Republic of Kazakhstan, in 2017, the share of livestock in the West Kazakhstan Oblast of the republican indicator was equal to 6.35%.

Project profitability

Cattle slaughtering process

Kublei LLP

October 2019

KAZAKH INVEST: Investment proposal
**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 districk, 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 indicators over years]

**Biological product manufacturing technology**

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

Project description

The project plan is construction of a greenhouse complex of 8ha, which will grow up to 5 000 tonnes of tomatoes. At the moment the company already has a complex of 12 ha with capacity of production up to 7 200 tonnes of vegetables located in Almaty city. The greenhouse complex will be built according to the Dutch technologies of the company “Dalsem”. The company also has established offtakes and cooperates with companies such as “Magnum”, “Lime Group” and others.

Project location

![Map of Russia, Kazakhstan, China, and Almaty](image)

Market analysis

I. Main exporters of tomatoes to Kazakhstan are Uzbekistan and China, with aggregate volume ~90% of total import in 2017.

<table>
<thead>
<tr>
<th>Tomatoes import to Kazakhstan by country, thd tonnes</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uzbekistan</td>
<td>66</td>
<td>54</td>
<td>80</td>
</tr>
<tr>
<td>China</td>
<td>51</td>
<td>65</td>
<td>49</td>
</tr>
<tr>
<td>Others</td>
<td>42%</td>
<td>18%</td>
<td>10%</td>
</tr>
</tbody>
</table>

Average import prices of tomatoes, USD/tonne

- China: 633
- Uzbekistan: 772

II. Kazakhstan had ~1% of market share of Russian import of tomatoes in 2017.

![Graph of tomatoes import to Russia by country, thd tonnes](image)

Average import prices of tomatoes, USD/tonne

- China: 633
- Uzbekistan: 772

During 2015-2017, Kazakhstan’s export of tomatoes to Russia increased more than 30 times

<table>
<thead>
<tr>
<th>Year</th>
<th>Uzbekistan</th>
<th>Others</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>64%</td>
<td>13%</td>
</tr>
<tr>
<td>2016</td>
<td>64%</td>
<td>13%</td>
</tr>
<tr>
<td>2017</td>
<td>64%</td>
<td>13%</td>
</tr>
</tbody>
</table>

Competitive advantage

Company has long-term offtake contracts for the whole amount of produced vegetables, 50% of which exports to Russia and 50% goes to internal market of Kazakhstan. Company possesses greenhouse complex of 5th generation with most developed technologies.

Imported tomatoes price in Russia vs prices of producer in Kazakhstan, USD/tonne

- Azerbaijan: 9 888
- Kazakhstan: 1 004
- Morocco: 1 232
- China: 1 244

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

Investment highlights

<table>
<thead>
<tr>
<th>Investment highlight</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upfront investment</td>
<td>$26 MM</td>
</tr>
<tr>
<td>NPV</td>
<td>$12 MM</td>
</tr>
<tr>
<td>IRR</td>
<td>18%</td>
</tr>
<tr>
<td>Payback period</td>
<td>8 years</td>
</tr>
</tbody>
</table>

Value proposition

This project allows to capitalize on implementation of modern greenhouse complex. Also, it allows to provide import substitution and export vegetables through having competitive export prices.

Target Investor Mandate

Long cheap financial resources

Sources: Statistics Committee of the Ministry for national economy of the RK, International Trade Centre
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%.

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

Target Investor Mandate
Long cheap financial resources

Investment highlights
<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Upfront investment</td>
<td>$16 MM</td>
</tr>
<tr>
<td>NPV</td>
<td>$37 MM</td>
</tr>
<tr>
<td>IRR</td>
<td>41%</td>
</tr>
<tr>
<td>Payback period</td>
<td>5 years</td>
</tr>
</tbody>
</table>

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
Expansion of the duck production farm

Project description

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.

Project location

[Map showing project location]

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.

Import and export of duck meat in Kazakhstan, tonnes

During 2014-2017, main importers in Kazakhstan were the following countries: Hungary (58%), Russiaia (28%) and USA (14%). At the same time, Kazakhstan exported duck meat to: Russia (28.24 tonnes) and UAE (0.01 tonnes).

Target Investor Mandate

Competency to transfer technologies

Investment highlights

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Upfront investment</td>
<td>$26 MM</td>
</tr>
<tr>
<td>NPV</td>
<td>$13 MM</td>
</tr>
<tr>
<td>IRR</td>
<td>17%</td>
</tr>
<tr>
<td>Payback period</td>
<td>9 years</td>
</tr>
</tbody>
</table>

Competitive advantage

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

Sale price of duck meat, thd USD/tonne

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

Sources: Statistics Committee of the Ministry for national economy of the RK, Union of Poultry Farmers of Kazakhstan
Expansion of a poultry meat production complex

Project description

Alel Agro is the largest poultry producer in Kazakhstan with a production capacity of 51 thd tonnes of poultry meat p.a. (26% of the market share in Kazakhstan). It is planned to expand the capacity to 165 thd tonnes and export the output. There is a substantial export potential in China, UAE and CIS countries with the total capacity of the market of imported poultry more than 1 million tonnes p.a. At the same time, the number of exports of poultry meat to Uzbekistan increased from 57 tonnes in 2016 to 172 tonnes in 2017.

Market analysis

I. 50% of poultry meat consumed in Kazakhstan is imported. Also, a forecasted growth in consumption presents a case for safe-haven hinter market. 

Poultry meat, 2018E and 2022F (000 tonnes)

<table>
<thead>
<tr>
<th>Year</th>
<th>Net import</th>
<th>Production</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018E</td>
<td>178</td>
<td>220</td>
</tr>
<tr>
<td>2022F</td>
<td>98</td>
<td>499</td>
</tr>
</tbody>
</table>

II. The potential realization markets - China and UAE - are currently on a growth trend. Also, bulk of the imports are from the countries with significantly higher import costs relative to Kazakhstan.

Poultry import in thd tonnes of China and UAE, respectively.

<table>
<thead>
<tr>
<th>Year</th>
<th>Others</th>
<th>USA</th>
<th>Brazil</th>
<th>Argentina</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>394</td>
<td>295</td>
<td>15</td>
<td>38</td>
</tr>
<tr>
<td>2016</td>
<td>450</td>
<td>382</td>
<td>53</td>
<td>38</td>
</tr>
<tr>
<td>2013</td>
<td>390</td>
<td>259</td>
<td>57</td>
<td>362</td>
</tr>
</tbody>
</table>

Target Investor Mandate

An investor should have:
- access to external markets
- supply of broiler technologies

Investment highlights

<table>
<thead>
<tr>
<th>Metric</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upfront investment</td>
<td>$329 MM</td>
</tr>
<tr>
<td>NPV</td>
<td>$107 MM</td>
</tr>
<tr>
<td>IRR</td>
<td>20%</td>
</tr>
<tr>
<td>Payback period</td>
<td>8 years</td>
</tr>
</tbody>
</table>

Competitive advantage

I. Now the business accounts for 26% of the entire inner market. The management of this enterprise already designed a comprehensive plan and arranged offtake contracts to increase the market share to 50%.

Actual and expected market share and production volumes, %

<table>
<thead>
<tr>
<th>Plan (165thd.tonnes)</th>
<th>Fact (46 thd.tonnes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>40%</td>
<td>26%</td>
</tr>
</tbody>
</table>

II. Proximity to potential sales markets of Uzbekistan and Kyrgyzstan.

III. Availability of own agro brands: Alel, ameral fresh, tasty chick and own parent flock, feed mill and equipment of leading technology suppliers.

Value proposition

This project will allow taking advantage of import substitution in the market with the further possibility of exporting products.

Important notice

Candidates interested in considering this investment opportunity must confirm this directly with Kazakh Invest. 
Contact FirstName LastName, Project Manager
+7 7172 917070 lastname@kazakhinvest.kz

The content of this document is property of Kazakh Invest and is only intended for information purposes.
No assurance or guarantees is presented with regard to accuracy and completeness of the information contained in this document.
Development of the Aksoran deposit

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.

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.

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

KAZAKH INVEST. Investment proposal
December 2021

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

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.

Investment attractiveness of the project:
Investment – US$ 205,177 thousand
Project NPV – US$ 79,102 thousand
IRR – 19.7%
Payback period – 9.08 years
Construction of a plant to produce aluminum foil in Pavlodar Special Economic Zone

**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 Ekbastuz 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**

![Graph showing Project profitabiltiy over years with EBITDA margin % and Revenue, US$ thous.]

**Financing structure**

- **Initiator 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.
Hydrometallurgical plant for the production of copper from dumps of deposits
Mining and metallurgical complex

Description of the project:
Processing of copper-containing dumps of Sayak group deposits by acid leaching “in situ” method and subsequent processing at a liquid extraction and electrolysis machine (SX-EW) to obtain commercial cathode copper. The project feature is the low level of geological risk as the mineral resources have already been removed from the subsoil, assessed and put on the state reserves balance by the Kazakhstan State Reserves Committee of the Republic of Kazakhstan. The production will employ 277 people.

Location:
Karaganda region, Aktogay district, Sayak field.

Initiator:
Advance Mining Technology LLP (AMT), with the ultimate beneficiary the Commonwealth American Partners L.P. (CAP) through First Eurasian Mining Pet. Ltd. (FEM). CAP is a company with 20 years of experience in the oil and mining industries around the globe, including CIS countries.

Output, capacity and customers:
Products - cathode copper grades M00k or M0k according to GOST 859-2001 (LME class “A”). The maximum capacity of the plant is 10,000 tons per year. The company is considering selling its product through brokers such as Glencore, Noble Group, Traxys and Trafigura.

Production process:
1. Sulfuric acid supply to dump, subsequent ore leaching in dumps, electrolysate solution production;
2. Electrolysis of the solution, copper cathode production.

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>58,401</td>
</tr>
<tr>
<td>Project NPV, US$ thous.</td>
<td>32,229</td>
</tr>
<tr>
<td>IRR, %</td>
<td>32.6%</td>
</tr>
<tr>
<td>EBITDA yield, %</td>
<td>34%</td>
</tr>
<tr>
<td>Payback period, years</td>
<td>4.16</td>
</tr>
<tr>
<td>Discounted payback period, years</td>
<td>4.75</td>
</tr>
</tbody>
</table>

Investment structure

- Required investments: $58.4 mln USD
- Construction and assembly work: 42% $24.6 mln
- Machinery and equipment: 55% $32.0 mln
- Other: 3% $1.9 mln

Prerequisites for implementation of the Project

Stable demand. Copper cathodes are in high demand in the world market. Kazakhstan borders China, which is the largest importer of copper in the world. This provides short overland transport routes.

Production technology advantages. The tested low-cost technology helps retain a positive return when copper prices are low.

Sufficient raw material base. According to the State Reserves Committee of the Republic of Kazakhstan (protocol No. 1688-16-U dated July 14, 2016, No. 1788 -17-U dated February 24, 2017), the total reserves of resources to be extracted from the subsoil in C1 + C2 categories amount to 397,400 tons, with an average weight of copper at 0.125%. In 2019, Wardell Armstrong International confirmed reserves 394,200 tons of copper with an average weight of copper at 0.123%.

Experienced team. FEM’s management team has a proven track record of similar successful SX-EW leaching projects in Kounrad (Kazakhstan) and Erdenet (Mongolia).

Project Profitability

<table>
<thead>
<tr>
<th>Year</th>
<th>Revenue, USD thousands</th>
<th>EBITDA margin, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019</td>
<td>62,195</td>
<td>64%</td>
</tr>
<tr>
<td>2020</td>
<td>65,987</td>
<td>52%</td>
</tr>
<tr>
<td>2021</td>
<td>68,993</td>
<td>60%</td>
</tr>
<tr>
<td>2022</td>
<td>72,783</td>
<td>47%</td>
</tr>
<tr>
<td>2023</td>
<td>77,290</td>
<td>36%</td>
</tr>
<tr>
<td>2024</td>
<td>80,177</td>
<td>30%</td>
</tr>
<tr>
<td>2025</td>
<td>84,089</td>
<td>18%</td>
</tr>
<tr>
<td>2026</td>
<td>88,250</td>
<td>10%</td>
</tr>
<tr>
<td>2027</td>
<td>90,789</td>
<td>11%</td>
</tr>
</tbody>
</table>

Financing structure

- Initiator equity: 20.2% ($11.8 mln)
- Participation of the Fund (KIDF or KCM): 4.8% ($2.8 mln)
- Debt financing subject to collateral: 70% ($40.9 mln)
- Participation of the Investor: From 5% ($2.9 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:
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

<table>
<thead>
<tr>
<th>Year</th>
<th>Revenue, US$ thous.</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>51%</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.
Development of Kulan-Ketpes fluorite ore deposits

Project description:
The Project involves development of fluorite ore deposits and ore enrichment plant construction at Kulan-Ketpes ore field

Product:
- fluorspar (acid and ceramic grades containing 75%, 90%, 95%, 97% CaF2);
- manganese concentrate (37% content).

Initiator:
Muyunkum-Mineral LLP

Location:
Muyunkum district, Jambyl Region

Potential markets:
large-scale manufacturers in chemical, steel, nuclear, and aluminium industries of CIS countries

Key financial measures

<table>
<thead>
<tr>
<th>Measure</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project’s life, years</td>
<td>24</td>
</tr>
<tr>
<td>incl. development period, years</td>
<td>3</td>
</tr>
<tr>
<td>operational period, years</td>
<td>21</td>
</tr>
<tr>
<td>Investment amount, USD thousands</td>
<td>68,157</td>
</tr>
<tr>
<td>Project’s NPV, USD thousands</td>
<td>16,499</td>
</tr>
<tr>
<td>IRR, %</td>
<td>21.0%</td>
</tr>
<tr>
<td>EBITDA margin, %</td>
<td>26%</td>
</tr>
<tr>
<td>Payback period, years</td>
<td>8.5</td>
</tr>
<tr>
<td>Discounted payback period, years</td>
<td>11.5</td>
</tr>
</tbody>
</table>

Market conditions:

Rich resource base
The Kulanketpes ore field with a balance of fluorite reserves of 2,931 thousand tons is one of the largest deposits in Kazakhstan.

Pricing advantage
The favorable location of production plant near to its main consumers and tariffs imposed by the Eurasian Economic Union on fluor spar imports (9-10%) provide substantial geographical pricing advantage on the Russian fluor spar market.

Growing demand and production volume contraction
Due to increasing operational and transport costs, a principal Russian fluor spar manufacturer halted fluor spar production.

Low production cost
High processability of the Kulan-Ketpes ore and homogeneity of its mineral content allow to configure an economical technological process with minimal manufacturing and operational costs while adhering to the highest international products quality standards.

Project Profitability

<table>
<thead>
<tr>
<th>Year</th>
<th>Revenue, USD thousands</th>
<th>EBITDA margin, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>2023</td>
<td>45,387</td>
<td>39%</td>
</tr>
<tr>
<td>2024</td>
<td>54,784</td>
<td>36%</td>
</tr>
<tr>
<td>2028</td>
<td>55,940</td>
<td>30%</td>
</tr>
<tr>
<td>2029</td>
<td>59,729</td>
<td>29%</td>
</tr>
<tr>
<td>2030</td>
<td>60,580</td>
<td>28%</td>
</tr>
<tr>
<td>2031</td>
<td>70,390</td>
<td>25%</td>
</tr>
<tr>
<td>2032</td>
<td>49,050</td>
<td>17%</td>
</tr>
</tbody>
</table>

Deposit reserves, category C1+C2

<table>
<thead>
<tr>
<th>Measure</th>
<th>Ore, thous. tons</th>
<th>Fluospar, thous. tons</th>
<th>Content, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vein deposits</td>
<td>5,764</td>
<td>1,667</td>
<td>28.92%</td>
</tr>
<tr>
<td>Stratified deposits</td>
<td>5,946</td>
<td>1,264</td>
<td>21.26%</td>
</tr>
<tr>
<td>Total</td>
<td>11,710</td>
<td>2,931</td>
<td>25.02%</td>
</tr>
</tbody>
</table>
**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 project profitability with years and US$ thousand values]
**Mining and metallurgical complex**

**Construction of a complex for the production of barite concentrate in Mangystau Oblast**

**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 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**

<table>
<thead>
<tr>
<th>Year</th>
<th>US$ thousands</th>
<th>EBITDA margin, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020</td>
<td>4,325</td>
<td></td>
</tr>
<tr>
<td>2022</td>
<td>13,009</td>
<td>34%</td>
</tr>
<tr>
<td>2024</td>
<td>16,845</td>
<td>41%</td>
</tr>
<tr>
<td>2030</td>
<td>17,883</td>
<td>40%</td>
</tr>
<tr>
<td>2034</td>
<td>19,994</td>
<td>37%</td>
</tr>
<tr>
<td>2038</td>
<td>21,066</td>
<td>36%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>37%</td>
</tr>
</tbody>
</table>

**KAZAKH INVEST:**
Investment proposal

July 2019
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,</td>
<td>11.4</td>
</tr>
</tbody>
</table>

Project location: Shu district, Zhambyl Oblast

Deposit reserves

<table>
<thead>
<tr>
<th>Index</th>
<th>Unit</th>
<th>Reserves</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zhaissan</td>
<td>On-balance reserves</td>
<td></td>
</tr>
<tr>
<td>Copper (C1)</td>
<td>thousands of tons</td>
<td>205.6</td>
</tr>
<tr>
<td>Copper (C2)</td>
<td>thousands of tons</td>
<td>96.1</td>
</tr>
<tr>
<td>Molybdenum (C1)</td>
<td>tons</td>
<td>908</td>
</tr>
<tr>
<td>Silver (C2)</td>
<td>tons</td>
<td>35.2</td>
</tr>
</tbody>
</table>

Project profitability

---

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.
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 Nikolayevskiy 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.

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-Altyn 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.

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

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>Gold, kg</td>
<td>-</td>
</tr>
<tr>
<td>Silver, tons</td>
<td>-</td>
</tr>
</tbody>
</table>

Project profitability

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

April 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 (stage1) – 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. **Annual production capacity:** Processing of 1.3 mln tonnes of ores (stage 1), 20 mln tonnes (stage 2), 50 mln tonnes (stage 3). **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>

**Project location:** Ayagoz district, East-Kazakhstan 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.


**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".

**Deposit reserves, thousand tonnes**

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

**Project profitability**

<table>
<thead>
<tr>
<th>Year</th>
<th>US$ thousands</th>
</tr>
</thead>
<tbody>
<tr>
<td>16</td>
<td>509,712</td>
</tr>
<tr>
<td>26</td>
<td>2,015,037</td>
</tr>
<tr>
<td>36</td>
<td>1,503,175</td>
</tr>
<tr>
<td>37</td>
<td>2,062,816</td>
</tr>
<tr>
<td>47</td>
<td>1,833,020</td>
</tr>
<tr>
<td>48</td>
<td>2,607,567</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year</th>
<th>Revenue, US$ thousands</th>
<th>EBITDA margin, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>16</td>
<td>509,712</td>
<td>22%</td>
</tr>
<tr>
<td>26</td>
<td>1,503,175</td>
<td>25%</td>
</tr>
<tr>
<td>36</td>
<td>2,015,037</td>
<td>29%</td>
</tr>
<tr>
<td>37</td>
<td>2,062,816</td>
<td>29%</td>
</tr>
<tr>
<td>47</td>
<td>1,833,020</td>
<td>33%</td>
</tr>
<tr>
<td>48</td>
<td>2,607,567</td>
<td>33%</td>
</tr>
</tbody>
</table>
**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>
**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.

**Key Investment 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>

**Project location:**

Aytekebi district, Aktobe region

---

**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 Profitability**

<table>
<thead>
<tr>
<th>Year</th>
<th>US$ thousand</th>
<th>EBITDA margin, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>2026</td>
<td>145,419</td>
<td>52%</td>
</tr>
<tr>
<td>2027</td>
<td>154,648</td>
<td>57%</td>
</tr>
<tr>
<td>2028</td>
<td>164,883</td>
<td>52%</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>Inside Tenement</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>Outside Tenement</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>Total</td>
<td>37.12</td>
<td>0.68</td>
<td>0.037</td>
<td>251,221</td>
<td>13,675</td>
</tr>
<tr>
<td>Inferred</td>
<td>2.15</td>
<td>0.66</td>
<td>0.040</td>
<td>14,126</td>
<td>855</td>
</tr>
</tbody>
</table>
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$</td>
<td>10,114</td>
</tr>
<tr>
<td>Project NPV, US$</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 profitability

<table>
<thead>
<tr>
<th>Year</th>
<th>Revenue, US$ thous.</th>
<th>EBITDA margin, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>2,659</td>
<td>68%</td>
</tr>
<tr>
<td>5</td>
<td>4,266</td>
<td>73%</td>
</tr>
<tr>
<td>6</td>
<td>6,919</td>
<td>77%</td>
</tr>
<tr>
<td>7</td>
<td>7,104</td>
<td>77%</td>
</tr>
<tr>
<td>8</td>
<td>7,242</td>
<td>76%</td>
</tr>
<tr>
<td>9</td>
<td>7,380</td>
<td>77%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

October 2019.
KAZAKH INVEST:
Investment proposal
**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>

**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>

**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.
Mining and metallurgical complex

Production and processing of rare-metal ore at the Drozhilov field

**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**

<table>
<thead>
<tr>
<th>Year</th>
<th>Revenue US$ thousands</th>
<th>EBITDA margin, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>11,630</td>
<td>13%</td>
</tr>
<tr>
<td>5</td>
<td>76,662</td>
<td>24%</td>
</tr>
<tr>
<td>7</td>
<td>302,916</td>
<td>26%</td>
</tr>
<tr>
<td>20</td>
<td>450,777</td>
<td>36%</td>
</tr>
<tr>
<td>26</td>
<td>550,063</td>
<td>41%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Drozhilov field reserves</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metals, thousand tonnes</td>
</tr>
<tr>
<td>Proven</td>
</tr>
<tr>
<td>Calculated</td>
</tr>
<tr>
<td>Estimated</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Content, %</th>
<th>Mo</th>
<th>W</th>
<th>Li</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proven</td>
<td>0.19</td>
<td>0.05</td>
<td></td>
</tr>
<tr>
<td>Calculated</td>
<td>0.06</td>
<td>0.03</td>
<td></td>
</tr>
<tr>
<td>Estimated</td>
<td>0.05</td>
<td>0.05</td>
<td></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>P1</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><strong>396</strong></td>
<td><strong>104</strong></td>
</tr>
<tr>
<td><strong>Total C1+C2+P1+P2</strong></td>
<td><strong>876</strong></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 implementation location: Karaganda Oblast

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.

---

**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. tonnes</td>
<td>85,050.20</td>
</tr>
<tr>
<td>Content</td>
<td>%</td>
<td>0.24</td>
</tr>
</tbody>
</table>

---

**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.

---

**Project profitability**

---

**August 2018.**

KAZAKH INVEST:
Investment proposal
**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 location:**
East-Kazakhstan Oblast

---

**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 profitability**

- **US$ thousands**
  - Year 2: 16,386
  - Year 4: 34,438
  - Year 6: 35,287
  - Year 9: 40,665
  - Year 10: 42,130
  - Year 11: 43,480

- **EBITDA margin, %**
  - Year 2: 54%
  - Year 4: 49%
  - Year 6: 36%
  - Year 9: 38%
  - Year 10: 31%
  - Year 11: 33%

---

**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- scheelite flotation, including grinding in one stage, sulphide flotation and scheelite 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

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>

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.

Project Profitability

<table>
<thead>
<tr>
<th>Year</th>
<th>Revenue, US$ millions</th>
<th>EBITDA margin, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>395</td>
<td>37%</td>
</tr>
<tr>
<td>5</td>
<td>471</td>
<td>37%</td>
</tr>
<tr>
<td>6</td>
<td>596</td>
<td>38%</td>
</tr>
<tr>
<td>7</td>
<td>625</td>
<td>38%</td>
</tr>
<tr>
<td>8</td>
<td>622</td>
<td>38%</td>
</tr>
<tr>
<td>14</td>
<td>611</td>
<td>37%</td>
</tr>
<tr>
<td>23</td>
<td>821</td>
<td>39%</td>
</tr>
</tbody>
</table>

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

September 2018
KAZAKH INVEST: Investment proposal
1
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

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

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.

Project economics

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>Dolnapinskoye</td>
<td>C2+P1</td>
<td>1.8</td>
<td>0.6</td>
<td>10.8</td>
</tr>
<tr>
<td>Sarshasaiskoye</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

EBITDA margin, %
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 Profitability

<table>
<thead>
<tr>
<th>Year</th>
<th>Revenue</th>
<th>EBITDA margin, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>25,064</td>
<td>35%</td>
</tr>
<tr>
<td>2</td>
<td>25,847</td>
<td>41%</td>
</tr>
<tr>
<td>3</td>
<td>27,508</td>
<td>43%</td>
</tr>
<tr>
<td>4</td>
<td>29,513</td>
<td>45%</td>
</tr>
<tr>
<td>5</td>
<td>35,000</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>$C_1-C_2$</td>
<td>thousand</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 location:
Kostanay Oblast, 50 kms to the South-West from the town of Zhetikara

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.

Explore 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.
**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**
  - Year 0: 307
  - Year 1: 312
  - Year 5: 319
  - Year 6: 327
  - Year 7: 335
  - Year 8: 342
  - Year 17: 360
  - Year 26: 448

- **EBITDA margin, %**
  - Year 0: 52%
  - Year 1: 2%
  - Year 5: 2%
  - Year 6: 2%
  - Year 7: 3%
  - Year 8: 2%
  - Year 17: 1%
  - Year 26: 2%
Project overview:
Construction of a hydrometallurgical enterprise to process 100 thousand tonnes of ash per year.

Products and capacity:
- Amorphous silica (silicon dioxide): 56 thousand tonnes per year
- Alumina: 23 thousand tonnes per year
- Iron concentrate: 10 thousand tonnes per year

Raw material:
Ash and slag waste from Ekibastuz Thermal Power Plant, Ekibastuz Hydroelectric Power Plant-1, Ekibastuz Hydroelectric Power Plant-2

Project applicant:
Dmitriev Leonid Nikolaevich
Location: Pavlodar Oblast
Sales market: Kazakhstan, EEU countries

Market assumptions:
Potential for import substitution and export of silicon dioxide. As far as amorphous silica is not produced in Kazakhstan and produced only in small amounts in the EEU, there are perspectives of selling these goods in the domestic market and abroad.

Further growth of demand for silicon dioxide. As forecasted by Technavio, the world market of precipitated silicon dioxide will grow up to US$ 3,313.2 mln by 2021. The growth rate of the world market of precipitated silicon dioxide is expected to accelerate in 2018-2021, and the compound annual growth rate will be 6.64%.

Cheap raw materials. Use of the ash and slag waste (ASW) as a relatively cheap raw material for the production of goods; reduction of the cost of finished products, which gives an undeniable advantage to an industry participant.

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>including investment period, years</td>
<td>2</td>
</tr>
<tr>
<td>operation period, years</td>
<td>22</td>
</tr>
<tr>
<td>Investment, US$ thousands</td>
<td>57,088</td>
</tr>
<tr>
<td>Project NPV, US$ thousands</td>
<td>106,259</td>
</tr>
<tr>
<td>IRR, %</td>
<td>29.9%</td>
</tr>
<tr>
<td>EBITDA return, %</td>
<td>52%</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 profitability

Innovative ASW processing technology

More than 300 technologies are known to process and use ASW, but they are mainly focused on ash application in the construction industry and the production of construction materials and don’t imply extraction of useful and valuable components from ash.

The patented hydrometallurgical technology “Aluminosilicate Raw Material Processing Method” (patent No. 28163 registered with the State Register of Inventions of the Republic of Kazakhstan on January 21, 2014; patent No. 2574252 registered with the State Register of Inventions of the Russian Federation on December 30, 2015) help efficiently extract amorphous silica, alumina and iron concentrate from ASW, which is industrially and economically viable.
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

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>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 EBITDA margin over years]

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

**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%).

**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

**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)

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 profitability

[Graph showing EBITDA margin (%)]

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></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>On-balance reserves</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>C1</td>
<td>C2</td>
</tr>
<tr>
<td><strong>Tokhtar</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gold</td>
<td>kg</td>
<td>1,662</td>
</tr>
<tr>
<td>Content</td>
<td>g/tonne</td>
<td>8.2</td>
</tr>
<tr>
<td><strong>South Tokhtar</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gold</td>
<td>kg</td>
<td>3,509</td>
</tr>
<tr>
<td>Content</td>
<td>g/tonne</td>
<td>4.9</td>
</tr>
<tr>
<td><strong>STB</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gold</td>
<td>kg</td>
<td>-</td>
</tr>
<tr>
<td>Content</td>
<td>g/tonne</td>
<td>-</td>
</tr>
</tbody>
</table>
Mining and metallurgical complex

Production and processing of gold and silver ores at Kumysti deposits area

**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

**Project profitability**

**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 (alluvial)</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>Terbakyty (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>Zholbarysty (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>

August 2018

KAZAKH INVEST:
Investment Proposal
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;
- from 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.
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: 78.3%
- Construction and assembly work: 5.9%
- Initial working capital: 15.7%
- Others: 0.1%
- Total: $25.9 million

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

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 aluminum 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 multisectional industrial complex whose industrial potential has been defined by major export-focused production entities has been created in Pavlodar Oblast.

Project profitability

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.
Project description:
Construction of a modern foundry in the West Kazakhstan Oblast. The production will first of all satisfy the need for good casting of the region’s subsoil users. The geography of consumers covers West Kazakhstan Region, Atyrau and Aktobe regions of the Republic of Kazakhstan, as well as border regions of the Russian Federation (Samara and Orenburg regions).

Location:
West Kazakhstan Oblast.

Initiator: KazArmaprom LLP

Commercial products and capacities:
The production program plans mass casting in the amount of up to 7,000 tons per year (35% of the production capacity), small-batch up to 7,400 tons per year (37%), single orders up to 5,600 tons (28%). It is planned to reach its full designed capacity in 2025.

Sales markets:
The Company’s products are planned to be sold to the market of Eurasian Economic Union, CIS and non-CIS countries (India, Indonesia and other countries that are geographically significantly remote from Europe).

Key investment indicators

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment amount, US$ thous.</td>
<td>65,662</td>
</tr>
<tr>
<td>Project NPV, US$ thous.</td>
<td>20,569</td>
</tr>
<tr>
<td>IRR, %</td>
<td>18.6%</td>
</tr>
<tr>
<td>EBITDA margin, %</td>
<td>53.3%</td>
</tr>
<tr>
<td>Payback period, years</td>
<td>7.7</td>
</tr>
<tr>
<td>Discounted payback period, years</td>
<td></td>
</tr>
</tbody>
</table>

Investment structure

- **Machinery and equipment**: 81%
- **Construction and assembly work**: 14%
- **Working capital**: 3%
- **Marketing program**: 2%

$53.0 million

$9.1 million

$2.4 million

$1.2 million

Market prerequisites:

**Constant demand for products.**
Isolation valve is one of the most common types of pipeline valves that are in demand in the mining, energy, and cement industries.

**Favorable geographical location.**
The foundry is planned to be built in the West Kazakhstan Oblast. There is a railway connection between Uralsk and the cities of Saratov and Orenburg. In addition, the Western Europe – Western China international highway and the Samara-Shymkent highway also pass through the Oblast.

**Industry experience.**
The strength of the project is the experience of KazArmaprom LLP in the foundry and assembly of valves.

The Company’s current location area, including production and engineering areas, is 13 ha. The number of current employees is 430 (375 - production, 55 - administrative).

Project profitability

![Graph showing project profitability]

- **Revenue, USD million**
- **EBITDA margin, %**

**Financing structure**

- **Initiator equity**: 15% ($9.9 million)
- **Participation of the Fund (KIDF, KCM, SKI)**: 7.35% ($4.8 million)
- **Debt financing subject to collateral**: 70% ($46.0 million)
- **Participation of the Investor from 7.65% ($5.0 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.
Description of the Project
This investment Project provides for the construction of a ferroalloy plant in Kyzylorda

Production and annual capacity
- Shop 1 - 42,000 tonnes of ferrosilicon per year;
- Shop 2 - 120,000 tonnes of ferrosilicon per year.

Project goals
- Low aluminum ferrosilicon production;
- Obtaining high-quality, export-oriented, competitive products using advanced proven production technologies;
- Meeting local and global demand for ferrosilicon through the production and subsequent sale of products in the markets of Kazakhstan, Europe, Southeast Asia, North and South America.

Initiator:
National Center on Complex Processing of Mineral Raw Materials of the Republic of Kazakhstan, «RSE NCCPMRM»

Key investment indicators

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment, USD thousands</td>
<td>242,264</td>
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<tr>
<td>Project NPV, USD thousands</td>
<td>277,539</td>
</tr>
<tr>
<td>IRR, %</td>
<td>29.2%</td>
</tr>
<tr>
<td>EBITDA returns, %</td>
<td>52%</td>
</tr>
<tr>
<td>Payback period, number of years from the start of production</td>
<td>6.1</td>
</tr>
<tr>
<td>Discounted payback period, number of years from the start of production</td>
<td>7.6</td>
</tr>
</tbody>
</table>

Location of the Project:
Site of the Industrial Zone, Kyzylorda, Kyzylorda Oblast, Republic of Kazakhstan

Market assumptions:
**Growth in demand for ferrosilicon.** According to the AlloyConsult analytical agency, global demand for (CAGR 2.7% from 2014 to 2028) ferrosilicon will reach 9.5 million tonnes by 2026.

**Persistent steel demand.** High rates of historical production growth and the strategic importance of the further development of industries, which use 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, steel demand is projected to grow. Compound annual growth rate (CAGR) will be 1.6% in the period from 2019 to 2024, and revenue will be about 68.4 billion US dollars, which will also contribute to the rise of ferrosilicon demand.

**Provision of raw materials.** The company concluded long-term contracts for the main raw material base for the production of ferrosilicon, fixing prices for a long-term period, which, in turn, helps to maintain low production costs.

Project profitability

![Graph showing project profitability](image)

Technological process:

1. **1st stage – Dosing of raw materials**
2. **2nd stage – Loading charging material into furnace bins**
3. **3rd stage – Alloy smelting**
4. **4th stage – Alloy release**
5. **5th stage – Casting**
6. **6th stage – Crushing and fractionation of the alloy**
Description of the Project:
This investment project provides for the construction of a plant for the production of refractory products in the Karagandy city.

Production and annual capacity:
• 15,000 tons of refractory products per year

Project objectives:
• creation of an effective integrated business for the production of refractory products and their implementation in the domestic market;
• obtaining high-quality, export-oriented products using advanced, domestic, patented production technology;
• application of domestic technology for the production of competitive products that facilitate import substitution.

Initiator:
Republican State Enterprise "National Center for the Integrated Processing of Mineral Raw Materials of the Republic of Kazakhstan" ("RSE National Center IPMRM")

Key Investment Indicators

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment, USD thousands</td>
<td>7,763</td>
</tr>
<tr>
<td>Project NPV, USD thousands</td>
<td>5,405</td>
</tr>
<tr>
<td>IRR, %</td>
<td>25.0%</td>
</tr>
<tr>
<td>EBITDA returns, %</td>
<td>17-32%</td>
</tr>
<tr>
<td>Payback period, number of years from the start of production</td>
<td>5.0</td>
</tr>
<tr>
<td>Discounted payback period, number of years from the start of production</td>
<td>6.9</td>
</tr>
</tbody>
</table>

Location of the Project
Karagandy city, Karagandy oblast, Republic of Kazakhstan

Marketable Indicators

Import dependence of the country. Demand for refractory products in the country doubles their production. Domestic consumption is met through imports mainly from Russia and China. The share of imports in domestic consumption in 2018 was 51%. The demand for refractory products increases due to their use in ferrous and non-ferrous metallurgy, energy and the chemical industry.

Unique technology. The technology of RSE NC IPMRM using chemically active mixtures allows the use of chemical energy in the system itself, which in turn accelerates the processes of solid-phase sintering, improves quality and reduces cost.

Stable growth in steel demand. High rates of growth in the world of steel production and related industries create a steady demand for products. Lucintel forecasts that global demand for steel and steel products will increase in 2019-2024 with a CAGR of 1.6%.

Technical process

I stage – Mixing raw materials

Clay (Grinding and drying up to 100 microns and 1% moisture)

II stage – 2 stage pressing (I - 10-15 MPA, II – 150-160 MPA)

Slag of metallurgical production (Grinding up to 100 microns)

III stage – drying and firing in a tunnel oven (1300-1350°C)

Fireclay bricks fight (Grinding up to 100 microns)
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

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

Launch of long products manufacturing at Aktau Foundry in Aktau city
Project overview:
Construction of a copper pipes production plant

Investment amount: US$ 59,345 thousand

Products: copper pipes with external diameter of 6-46 mm as per ASTM standard

Location:
Special Economic Zone Saryarka, Karaganda city

Project implementation period:
24 years, including 1 year of construction

Target markets: Kazakhstan, Russia, China, Belarus, Ukraine and Austria

Suppliers: local suppliers of raw materials, foreign equipment suppliers

Consumers: companies operating in the fields of gas supply, heat supply and automotive industry

Market prerequisites:
- **Import substitution** – Kazakhstan does not have copper pipes production plant. Demand in the domestic market is fully covered by imported goods.
- **Export potential**. Kazakhstan’s geographical location and the high demand for copper pipes in China, Russia, Ukraine and Belarus demonstrates opportunity to boost sales.
- **Stable growth of raw materials production**. In 2016, Kazakhstan produced 408,435 tonnes of refined, unprocessed and unalloyed copper (+ 3.5% compared to 2015).

Key investment indicators

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment amount, US$ thousands</td>
<td>59,345</td>
</tr>
<tr>
<td>Project NPV, US$ thousands</td>
<td>22,587</td>
</tr>
<tr>
<td>IRR, %</td>
<td>21.4%</td>
</tr>
<tr>
<td>EBITDA margin, %</td>
<td>19%</td>
</tr>
<tr>
<td>Payback period, %</td>
<td>6.4</td>
</tr>
<tr>
<td>Discounted payback period, years</td>
<td>9.6</td>
</tr>
</tbody>
</table>

Special economic zone provides a special legal regime and preferences to its residents, such as, provision of land plots for the secondary land use (sublease) and infrastructure facilities for lease (sublease) to the persons engaged in ancillary services. Additionally, businesses in the special economy zone receive the exemption from taxes and custom payments until 2036.

Kazakhstan’s geographical location provides convenient access to markets in neighboring countries, which expands export potential for the produced products. The high demand for copper pipes in China, Russia, Ukraine, Belarus and Austria demonstrates opportunity to boost sales.
Project overview:
Construction of a plant for the production of longitudinally welded steel pipes 

Investment amount: US$ 24,215 thousand 

Products:
Steel longitudinally welded steel pipes with diameters from 273 to 630 mm.

Location:
Special Economic Zone Saryarka, Karaganda city

Project implementation period:
24 years, including 1-2 years of construction

Target markets:
Kazakhstan

Suppliers:
local and Russian suppliers of raw materials

Consumers:
own dealer network of metal traders and a network of metal warehouses

Market prerequisites:
• Local demand – niche market for steel pipes with diameters from 273 to 630 mm does exist.
• Competition. Steel pipes categorized as commodity product and its main competitive advantage is price. Given the low production costs peculiar to longitudinally welded pipes production, the price of the produced steel pipes will be significantly lower than that of its substitutes.
• Import substitution. The project is being created to replace imported products with domestic pipes.

Key investment indicators

<table>
<thead>
<tr>
<th>Index</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment amount, US$ thousands</td>
<td>24,215</td>
</tr>
<tr>
<td>Project NPV, US$ thousands</td>
<td>20,292</td>
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<tr>
<td>IRR, %</td>
<td>25.9%</td>
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<tr>
<td>EBITDA margin, %</td>
<td>16%</td>
</tr>
<tr>
<td>Payback period, years</td>
<td>7.1</td>
</tr>
<tr>
<td>Discounted payback period, years</td>
<td>9.5</td>
</tr>
</tbody>
</table>

The total potential steel pipe market* was ~ 94 billion tenge in 2016

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Housing and public utilities</td>
<td>Heating mains</td>
<td>6.7</td>
<td>~87</td>
</tr>
<tr>
<td></td>
<td>Water pipelines</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Gas pipelines</td>
<td>16.2</td>
<td>~7</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>36.9</td>
<td>~111</td>
</tr>
</tbody>
</table>

*Gas and oil trunk lines are not considered, since their diameter exceeds the diameter of the produced pipes.
Project overview:
Setting up a metal powder production with the use of water atomization method on JSC Excavator base

Investment amount: US$ 23,308 thousand

Products:
PZhR Iron powder

Location:
South Kazakhstan Oblast

Project implementation period:
24 years, including 1 year of construction

Target markets: Kazakhstan, Russia and China

Suppliers: local metallurgical enterprises and scrap buyers

Consumers: production sites

Market prerequisites:
• Lack of competition - the plant of the present project will be the first plant in its field in Kazakhstan.
• Export potential. Currently, the largest consumer of metal powders is China, which imported about 116 thousand tons in 2016.
• Low production cost. Kazakhstan produces industrial steel scrap in excess amounts, therefore, it can be used as the main raw material in the production of metal powders, which will significantly reduce the cost of production.

Key investment indicators

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment amount, US$ thousands</td>
<td>23,308</td>
</tr>
<tr>
<td>Project NPV, US$ thousands</td>
<td>6,795</td>
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<tr>
<td>IRR, %</td>
<td>23.3%</td>
</tr>
<tr>
<td>EBITDA margin, %</td>
<td>27%</td>
</tr>
<tr>
<td>Payback period, years</td>
<td>5.1</td>
</tr>
<tr>
<td>Discounted payback period, years</td>
<td>7.7</td>
</tr>
</tbody>
</table>

Initiator of the project
The initiator and executor of the project, Excavator JSC, was founded in 1958. The Company provides a plot (divisible) with existing factory buildings for plant construction

*New LLP will be established to implement this project and to obtain investment preferences.
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.
• In the period 2016-2020, the average annual production of electric lead-acid batteries in Kazakhstan amounted to 2,323 thousand units. Compound annual growth rate of production for the analyzed period was 6.6%. Today, the only large manufacturer of lead-acid batteries, Kainar-AKB LLP (more than 95% of the total production), operates in the Republic of Kazakhstan. In this regard, the dynamics of changes in domestic production is due to the volume of production in Kainar-AKB LLP.

What is the 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.
• Geographical location. The project has an advantageous location in terms of proximity to the targeted client base and receiving a number of benefits and preferences in the status of a SEZ resident.
• State support. The project is included in the list of priority sectors for the provision of state support, within the framework of the programs of which it is possible to receive a number of benefits and preferences.

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:
Investment – US$ 3,236 thousand
Project NPV – US$ 3,072 thousand
IRR – 20.8%
Payback period – 6.48 years

What is the 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.
Construction of a plant for household appliances

Commercial products
- Hob – 185 thous. units
- Oven – 185 thous. units
- Kitchen stove Ottima 50 G – 85 thous. units
- Kitchen stove Apetito F90G – 42 thous. units.

Project description
The project envisages the construction of a factory for the production of cookers in partnership with Artel (Uzbekistan) with a capacity of 500,000 units of finished products per year. The project is to be implemented in the Special Economic Zone in Turkestan on a land plot of 22 ha.

Company
“Orbis Kazakhstan” Group is a diversified company, bringing together dozens of enterprises and organizations in various sectors of the economy. Production of the cookers is planned in partnership with Artel, a leader in the production of household appliances and electronics in Central Asia. The company currently manufactures over twenty categories of home appliances, including air conditioners, microwave ovens, mini ovens, gas and electric cookers, etc.

Market
- As of 2020, the kitchen appliances market was valued at USD 250.6 billion, an increase of 5.6% from 2019. The kitchen appliances market is projected to reach a value of USD 378 billion by 2027, at a compound annual growth rate of 6% over the period 2020-2027.
- In 2020, the volume of manufactured household appliances in value terms reached 800 million tenge, a decrease of 15% compared to 2019. Compound annual growth rate was 3.6% over in period from 2016 to 2020. The main driver of the household appliances market in the Republic of Kazakhstan is the growth in the commissioning of residential buildings. The total area of residential buildings commissioned has reached 15 million sq. m, an increase of 17% compared to 2019.

Investment attractiveness of the project:
- **Project location.** Turkestan region has an extensive road transport and logistics infrastructure: the region has highways of republican and regional significance with access to the regions of Uzbekistan (Tashkent), Kyrgyzstan (Bishkek) and the cities of Kazakhstan (Shymkent, Taraz, Almaty, Kyzylorda, Zhezkazgan). The engineering infrastructure (electricity, gas supply and water supply) has been connected to the land plot.
- **Flexible pricing policy.** 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.

Investment proposal
The Project requires investment of US$ 65,424 thousand, of which:
- 78.76% (US$ 51,528 thousand) – debt financing subject to collateral;
- 21.24% (US$ 13,896 thousand) – own funds.

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.;
APSM (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>
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<tr>
<td>Project NPV, US$ thousand</td>
<td>33,287</td>
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<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>

Investment structure

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

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.

Project’s profitability

<table>
<thead>
<tr>
<th>Year</th>
<th>Revenue</th>
<th>EBITDA margin</th>
</tr>
</thead>
<tbody>
<tr>
<td>2022</td>
<td>22,571</td>
<td>38.8%</td>
</tr>
<tr>
<td>2024</td>
<td>36,363</td>
<td>38.9%</td>
</tr>
<tr>
<td>2026</td>
<td>40,848</td>
<td>39.0%</td>
</tr>
<tr>
<td>2028</td>
<td>45,907</td>
<td>39.1%</td>
</tr>
<tr>
<td>2030</td>
<td>49,928</td>
<td>39.0%</td>
</tr>
</tbody>
</table>

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.
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>
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<tr>
<td>Project NPV, US$ thousand</td>
<td>6,400</td>
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<tr>
<td>IRR, %</td>
<td>34.4%</td>
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<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 | 16.2% |
| Machinery and equipment  | 50.7% |
| Initial working capital  | 33.1% |

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>Revenue, USD million</th>
<th>EBITDA margin, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>2022</td>
<td>19.3</td>
<td>15.2%</td>
</tr>
<tr>
<td>2024</td>
<td>21.1</td>
<td>14.6%</td>
</tr>
<tr>
<td>2026</td>
<td>23.1</td>
<td>14.1%</td>
</tr>
<tr>
<td>2028</td>
<td>25.3</td>
<td>13.7%</td>
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<tr>
<td>2030</td>
<td>26.9</td>
<td>13.3%</td>
</tr>
<tr>
<td>2032</td>
<td>28.0</td>
<td>13.0%</td>
</tr>
<tr>
<td>2034</td>
<td>29.3</td>
<td>12.2%</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.
New plant to develop and produce aids for the blind and vision-impaired

Machine manufacturing

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 iad, 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>
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<tr>
<td>Project NPV, US$ thousand</td>
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<td>IRR, %</td>
<td>28.5%</td>
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<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>

Financing structure

Debt financing subject to collateral
70% ($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.

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

- Buildings, 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

KAZAKH INVEST
Investment proposal
November 2020
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

<table>
<thead>
<tr>
<th>Year</th>
<th>Sales, US$ mln</th>
<th>EBITDA margin, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020</td>
<td>49</td>
<td>1.7%</td>
</tr>
<tr>
<td>2022</td>
<td>57</td>
<td>2.7%</td>
</tr>
<tr>
<td>2024</td>
<td>67</td>
<td>3.8%</td>
</tr>
<tr>
<td>2026</td>
<td>76</td>
<td>4.7%</td>
</tr>
<tr>
<td>2028</td>
<td>82</td>
<td>5.3%</td>
</tr>
<tr>
<td>2030</td>
<td>85</td>
<td>5.3%</td>
</tr>
<tr>
<td>2032</td>
<td>88</td>
<td>5.3%</td>
</tr>
<tr>
<td>2034</td>
<td>91</td>
<td>4.7%</td>
</tr>
<tr>
<td>2035</td>
<td>93</td>
<td>4.7%</td>
</tr>
</tbody>
</table>

Financing structure

- Debt financing subject to collateral 70% ($3.5 mln)
- Participation of the Investor from 30% ($1.5 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.
Project idea:
Creation of a manufacturing line with a capacity of 3 thousand electric motors per year on the territory of an existing motor overhaul plant.

Successful implementation of the Project will create an effective integrated business for the production of electric motors, provide the domestic market with high-quality competitive products, as well as create about 50 new job places in Aktau.

Project location:
Industrial zone of Aktau

Project Initiator:
KERNEU LLP

Production capacity:
Reaching full capacity of 3,000 units per year is planned for the 9th year from the start of production, after which production levels will be stable at the level of 3000 units per year. The list of the manufactured products includes:

- Electric motors – 2,130 units per year;
- Traction motors – 870 units per year.

Sales market:
- Domestic market of Kazakhstan (55% of finished products);
- Exports to near-abroad countries, including Russia, Belarus, Azerbaijan, etc. (45%).

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>28,000</td>
</tr>
<tr>
<td>Project NPV, US$ thousand</td>
<td>28,092</td>
</tr>
<tr>
<td>IRR, %</td>
<td>25.9%</td>
</tr>
<tr>
<td>EBITDA margin, %</td>
<td>23%</td>
</tr>
<tr>
<td>Payback period, years</td>
<td>7.5</td>
</tr>
<tr>
<td>Discounted payback period, years</td>
<td>10.5</td>
</tr>
</tbody>
</table>

Investment structure

- Buildings and structures: 16% of $5.0 million
- Machinery and equipment: 73% of $23 million
- Initial working capital: 11% of $3.5 million

Prerequisites for implementation of the Project

Local manufacturing content. Basic materials and a part of components are available in Kazakhstan. A demand for electric motors from the oil and gas sector, mining industry and transport engineering and energy enterprises is mainly covered by imports. Local production will reduce the final cost of electric motors, providing consumers with quality and timely warranty service.

Relevant industry experience and established customer base. The Company’s accumulated experience in the overhaul of electric motors of the world’s leading manufacturers and other electrical equipment allowed the Company to establish long-term relationships with key consumers. The offtake programme of Samruk Kazyna NWF JSC aimed at supporting domestic producers allows the Company to conclude guaranteed long-term orders with national companies, ensuring uninterrupted manufacturing.

Project’s profitability

![Graph showing profitability over time with bars indicating sales and EBITDA margin.]

Financing structure

- Initiator equity 2.5% (US$ 0.69 mln)
- Participation of funds (KIDF, KCM, SKI) 13.5% (US$3.8 mln)
- Debt financing subject to collateral 70% (US$19.6 mln)
- Participation of the Investor from 14% (US$3.9 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.
Chemistry and petrochemistry
Modernisation and relaunch of a synthetic detergents plant in Shakhtinsk Chemistry

**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:** Acceptance and storage of liquid and bulk raw materials - composition preparation and maturation - spent heat carrier flushing - basic powder storage - finished product preparation - fill and finish.

**Key investment indicators**

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment amount, US$ thous.</td>
<td>2,059</td>
</tr>
<tr>
<td>Project NPV, US$ thous.</td>
<td>9,627</td>
</tr>
<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>

**Project profitability**

<table>
<thead>
<tr>
<th>Year</th>
<th>Sales, US$ thousand</th>
<th>EBITDA margin, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>2022</td>
<td>10,436</td>
<td>9%</td>
</tr>
<tr>
<td>2024</td>
<td>21,542</td>
<td>8%</td>
</tr>
<tr>
<td>2026</td>
<td>37,799</td>
<td>9%</td>
</tr>
<tr>
<td>2028</td>
<td>51,690</td>
<td>10%</td>
</tr>
<tr>
<td>2030</td>
<td>54,857</td>
<td>9%</td>
</tr>
<tr>
<td>2032</td>
<td>57,103</td>
<td>9%</td>
</tr>
<tr>
<td>2034</td>
<td>59,694</td>
<td>9%</td>
</tr>
<tr>
<td>PPP</td>
<td>61,029</td>
<td>9%</td>
</tr>
</tbody>
</table>

**Project financing scheme**

- Debt financing subject to collateral 70% ($1.44 mln)
- Participation of the Investor from 30% ($0.62 mln)

*Buy out of a stake in an operating company up to 49% is possible.

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.

**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.
**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 (Ablai 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>

**Investment structure**
- Construction and assembly work: 51% of $4.2 million
- Machinery and equipment: 40% of $3.3 million
- Others: 9% of $0.8 million

**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).

**Project profitability**

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+-----------------+-----------------+-----------------+-----------------+-----------------+-----------------+-----------------+-----------------+-----------------+-----------------+
|                 | 2023            | 2025            | 2027            | 2029            | 2031            | 2033            |
|-----------------+-----------------+-----------------+-----------------+-----------------+-----------------+-----------------|
| Revenue, USD million | 1.9            | 8.4            | 9.2            | 9.9            | 10.4           | 10.8           |
| EBITDA margin, %  | 47%             | 42%            | 42%            | 42%            | 42%            | 42%            |
```

**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: 47% $2.0 mln
- Purchase machinery and equipment: 53% $2.2 mln

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.

Project profitability

Revenue, US$ thous. EBITDA margin, %

<table>
<thead>
<tr>
<th>Year</th>
<th>2022</th>
<th>2025</th>
<th>2028</th>
<th>2031</th>
<th>2034</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenue</td>
<td>2,514</td>
<td>4,822</td>
<td>8,345</td>
<td>12,175</td>
<td>13,098</td>
</tr>
<tr>
<td>EBITDA margin, %</td>
<td>10%</td>
<td>19%</td>
<td>25%</td>
<td>28%</td>
<td>27%</td>
</tr>
</tbody>
</table>

Project financing scheme

- Initiator equity 15% ($0.635 mln)
- Debt financing subject to collateral 35% ($1.48 mln)
- Participation of the Investor from 50% ($2.12 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.
Construction of a chemical complex for the production of sodium cyanide

**Project overview:**
This investment project provides for the construction of a complex for the production of sodium cyanide up to 25 thousand tons per year.

**Commercial products:**
Sodium cyanide

**Raw materials:**
Ammonia, methane, caustic soda and air

**Technology:**
Direct production method (more efficient method without the need for sulfuric acid, phosphoric acid, energy and water).

**Initiator:**
ScandGreen Energy

**Project location:** SEZ "NIPT", Atyrau Oblast

**Consumer markets:** domestic market, CIS countries, China

### Key investment indicators

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment, US$ thousands</td>
<td>73,878</td>
</tr>
<tr>
<td>Project NPV, US$ thousands</td>
<td>93,075</td>
</tr>
<tr>
<td>IRR, %</td>
<td>30.3%</td>
</tr>
<tr>
<td>EBITDA returns, %</td>
<td>44-54%</td>
</tr>
<tr>
<td>Payback period, amount of years from the start of production</td>
<td>5.1</td>
</tr>
<tr>
<td>Discounted payback period, amount of years from the start of production</td>
<td>6.4</td>
</tr>
</tbody>
</table>

**Project location:** SEZ "NIPT", Atyrau Oblast

### Market assumptions:

**Growing demand**
According to the Statistics Committee of the Republic of Kazakhstan, over the past ten years, gold production in Kazakhstan has increased by almost 70%. Accordingly, manufacturers’ demand for sodium cyanide has increased.

**Import substitution**
In 2018, imports of sodium cyanide to the republic amounted to 24,456 US$ thousands (14 thousand tons). The growth in imports was due to an increase in gold mining and production in the country. The expected growth dynamics in the gold mining industry of the country necessitates the expansion of domestic production of sodium cyanide.

**Export potential**
In 2014-2018 the average annual growth rate of world gold production was equal to 2%. At the same time, the neighboring countries, such as China and Russia, are the largest producing countries of the precious metal, which account for about 15% and 8% of world production, respectively.

### Technological flows of the Project

direct production method

- Ammonia
- Methane
- Air

**Technological flows diagram:**
- Mixer → Reactor → Boiler
- Drying → Cooling → Absorber
- Filter → Briquette → Briquette Product
Construction of a complex for the production of caustic soda, hydrochloric acid and coagulants in the territory of the SEZ “NIPT”

Project overview:
Construction of a chemical complex for the production of caustic soda, hydrochloric acid and coagulants using specialized technologies in the territory of the SEZ “NIPT” in the Atyrau Oblast.

Commercial products and annual output:
- Sodium hydroxide 48%: 30 thousand tonnes per year;
- Calcium hypochlorite: 16.5 thousand tonnes per year;
- Ferric chloride 40%: 5 thousand tonnes per year;
- Hydrochloric acid 35%: 8.5 thousand tonnes per year;
- PAC-17 (aluminum oxychloride): 2 thousand tonnes per year.

Initiator:
Global Chemical LLP

Project location: SEZ "NIPT", Atyrau Oblast

Consumer markets: Domestic market, China, Russia

Key investment indicators

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment, US$ thousands</td>
<td>70,000</td>
</tr>
<tr>
<td>Project NPV, US$ thousands</td>
<td>55,646</td>
</tr>
<tr>
<td>IRR, %</td>
<td>22.2%</td>
</tr>
<tr>
<td>EBITDA returns, %</td>
<td>49%</td>
</tr>
<tr>
<td>Payback period, amount of years from the start of production</td>
<td>6.1</td>
</tr>
<tr>
<td>Discounted payback period, amount of years from the start of production</td>
<td>8.8</td>
</tr>
</tbody>
</table>

Market assumptions:
Growing demand for caustic soda
According to forecasts of the analytical agency Grand View Research, by 2024 the volume of the world market of caustic soda will exceed US$ 46 billion.

Growing demand for hydrochloric acid and coagulants
Demand for hydrochloric acid and coagulants, according to Grand View Research, the global market will exceed US$ 160 million (CAGR 5.8%) and US$ 2.63 billion dollars (CAGR 2.4%), respectively.

Raw materials availability
The main raw material for the production of caustic soda is plain salt, the supplier of which will be TUZ LLP. Salt supplies will be 27 thousand tonnes per year for a period of operation of 20 years. Also, an important raw material for the production of soda is technical water, the supplier of which will be the Association "Su Arnasy Kazakhstan".

Chemistry and petrochemistry

Gas chemical complex

Technological flows during Project implementation period

- Salt
- Chlorine
  - Sodium hydroxide
  - Hydrochloric acid 35%
  - Ferric chloride 40%
  - Oxichloride aluminum 17%
  - Calcium Hypochlorite
Project overview:
Construction of a new complex for the production of class 2 ammonia, on the territory of the existing ammonia and ammonium nitrate production plant in Aktau, Republic of Kazakhstan.

Commercial products and annual output:
300 thousand tonnes of liquid class 2 ammonia per year.

Initiator:
The Project is initiated by KazAzot JSC (“Initiator“), an industrial enterprise in Mangystau Oblast, the only producer of ammonium nitrate and ammonia.

Project location: Mangystau Oblast, Aktau.

Consumer markets: domestic market, Ukraine, as well as possible supplies to China, Turkey, Russia and Europe.

Key investment indicators

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment, US$ thousands</td>
<td>344,571</td>
</tr>
<tr>
<td>Project NPV, US$ thousands</td>
<td>79,986</td>
</tr>
<tr>
<td>IRR, %</td>
<td>14.0%</td>
</tr>
<tr>
<td>EBITDA returns, %</td>
<td>63%</td>
</tr>
<tr>
<td>Payback period, amount of years from the start of production</td>
<td>9.7</td>
</tr>
<tr>
<td>Discounted payback period, amount of years from the start of production</td>
<td>20.1</td>
</tr>
</tbody>
</table>

Market assumptions:
Growing demand for fertilizers
According to the report of Grand View Research Inc. it is expected that by 2025 the world demand for fertilizers will reach US$ 178.26 billion (CAGR 3.4%).

Import substitution
Kazakhstan is import-dependent on ammonia, the annual import of which amounted to 20-30 thousand tonnes. Imported ammonia is used by agricultural enterprises as a nitrogen fertilizer.

Raw materials availability
A new complex for the processing of natural gas into nitrogen mineral fertilizers will be built in close proximity to the current plant of KazAzot JSC.

Export potential
By increasing the production of ammonia, Kazakhstan can increase its share of exports to Turkey, China, Russia, as well as to Europe, which are one of the main consumers of ammonia on the world market.

Project profitability

Technological flows during Project implementation period
Construction of a plant for the production of household chemicals in Almaty

KAZAKH INVEST: Investment proposal

July 2019

Key investment data

<table>
<thead>
<tr>
<th>Index</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment, US$ thousands</td>
<td>23,479</td>
</tr>
<tr>
<td>Project NPV, US$ thousands</td>
<td>13,946</td>
</tr>
<tr>
<td>IRR, %</td>
<td>20.6%</td>
</tr>
<tr>
<td>EBITDA returns, %</td>
<td>18%</td>
</tr>
<tr>
<td>Payback period, years</td>
<td>7.2</td>
</tr>
<tr>
<td>Discounted payback period, years</td>
<td>11.5</td>
</tr>
</tbody>
</table>

Market assumptions:

Growing demand – The average annual growth rates for certain products of this industry range from 3% to 8% per year. The detergent market was estimated at $ 27.4 bln in 2017 and, according to forecasts by Allied Market Research, it will reach US$ 40.5 bln by 2025. The global market of hair care products was estimated by Mordor Intelligence at US$ 91.95 bln in 2017 and is expected to reach US$ 112.57 bln by 2023.

Availability of customer base – The company has a large customer base: its main customers are large retail chains, supermarkets, grocery stores, hotel complexes and educational institutions.

Import substitution - According to the comments of representatives of "Aurora Holding", the market of household chemicals of the Republic of Kazakhstan depends on import for 95%. For this reason, the dynamics of price increases in this industry can vary from 7% to 14% per year.

Project profitability

<table>
<thead>
<tr>
<th>Year</th>
<th>Revenue, US$ thous.</th>
<th>EBITDA margin, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>8,242</td>
<td>-20%</td>
</tr>
<tr>
<td>5</td>
<td>46,819</td>
<td>-15%</td>
</tr>
<tr>
<td>15</td>
<td>64,957</td>
<td>-10%</td>
</tr>
<tr>
<td>20</td>
<td>72,484</td>
<td>-5%</td>
</tr>
<tr>
<td>24</td>
<td>81,008</td>
<td>0%</td>
</tr>
</tbody>
</table>

Commercial products

<table>
<thead>
<tr>
<th>Product name</th>
<th>Volumes at full capacity, thous. liters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dishwashing liquid</td>
<td>7,806</td>
</tr>
<tr>
<td>Glass spray</td>
<td>1,498</td>
</tr>
<tr>
<td>Kitchen cleaning products</td>
<td>1,000</td>
</tr>
<tr>
<td>Cleaning products for plumbing</td>
<td>3,758</td>
</tr>
<tr>
<td>Cosmetics</td>
<td>3,886</td>
</tr>
<tr>
<td>Detergents for linen and textiles</td>
<td>556</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>18,500</strong></td>
</tr>
</tbody>
</table>
Project overview:
This investment project provides for the construction of a plant for the assembly and production of non-electric initiation systems and a mobile plant for the production of emulsion explosives ("Project"). This project is considered as innovative, since there is a construction of the first plant in Kazakhstan for the full-cycle production of NEIS.

Commercial products and annual output:
- emulsion explosives ("EE"): 24 thousand tonnes per year;
- non-electric initiation systems ("NEIS"): 50 million units per year.

Initiator:
Nitro-Kazakhstan LLP

Project location: Karaganda Oblast, Satpayev

Consumer markets: domestic market, Russia and Uzbekistan.

Key investment indicators

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment, US$ thousands</td>
<td>47,669</td>
</tr>
<tr>
<td>Project NPV, US$ thousands</td>
<td>238,209</td>
</tr>
<tr>
<td>IRR, %</td>
<td>72.94%</td>
</tr>
<tr>
<td>EBITDA returns, %</td>
<td>62.4%</td>
</tr>
<tr>
<td>Payback period, amount of years from the start of production</td>
<td>3.93</td>
</tr>
<tr>
<td>Discounted payback period, amount of years from the start of production</td>
<td>4.22</td>
</tr>
</tbody>
</table>

Project profitability

![Graph showing project profitability over time with EBITDA margin and revenue in US$ thousands.]

Market assumptions:
Growing demand for explosives The total market for explosives in Kazakhstan is estimated at US$ 150 million per year. The total consumption of explosives equals to about 300,000 tonnes per year. Along with the development of new fields, consumption is expected to grow by 7-10% annually.

Import substitution Today in Kazakhstan there is no production of NEIS. All components used in the production of NEIS are manufactured abroad. In Kazakhstan there are only assembly shops of NEIS. The launch of the plant for the production of NEIS will help reduce import dependence on other countries. According to the results of 2018, the import of NEIS in Kazakhstan amounted to 1,635 tonnes in the amount of about US$ 18 million.

Exporting potential Production of explosives and NEIS in the Karaganda Oblast will allow covering the country’s MMC market, as well as exporting products while increasing volumes to Turkey, Russia, Uzbekistan and Kyrgyzstan.

Products and services provided within the framework of the Project:

Types of NEIS:
- Single layer NEIS;
- Two-layer NEIS;
- Two-layer NEIS reinforced with industrial thread.

Types of EE:
- NPGM-100 Type A (for overburden and non-sulphide ores);
- NPGM-100 Type B (for sulphide ores).

Other services:
Blasting and drilling operations
Project overview: expansion of production capacity of the dry sodium cyanide plant up to 30 thousand tonnes per year

Production output for the entire Project period: 30 thousand tonnes of sodium cyanide

Raw materials: ammonia, caustic soda, natural gas and air

Commercial products: basic product - sodium cyanide, by-product - ammonium sulfate

Initiator: Talas Investment Company LLP, which is a part of Ontustik Financial, Trade and Industrial Corporation Group

Project implementation Location: Industrial zone of Karatau, Zhambyl Oblast

Potential markets: Kazakhstan, Russia, China, other near-abroad countries

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>including the investment stage, years</td>
<td>3</td>
</tr>
<tr>
<td>Operational stage, years</td>
<td>21</td>
</tr>
<tr>
<td>Investment, US$ thousands</td>
<td>21,051</td>
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<tr>
<td>Project NPV, US$ thousands</td>
<td>41,013</td>
</tr>
<tr>
<td>IRR, %</td>
<td>36%</td>
</tr>
<tr>
<td>EBITDA returns, %</td>
<td>22-33%</td>
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<tr>
<td>Payback period, years</td>
<td>5.1</td>
</tr>
<tr>
<td>Discounted payback period, years</td>
<td>5.9</td>
</tr>
</tbody>
</table>

Project location: industrial zone of Karatau, Zhambyl Oblast

Market assumptions:

Growing demand – 85 tonnes of gold produced in 2017 by domestic gold mining companies required more than 40 thousand tonnes of reagents, which is 3 times higher than production output of sodium cyanide in Kazakhstan.

Import substitution and export – Kazakhstan’s domestic need for sodium cyanide is mainly met by imports from Russia and China. About 90% of sodium cyanide in the world is used to process gold. Imports of sodium cyanide to Russia and China increased in 2014-2017 amid the increasing gold production as their domestic enterprises couldn’t fully meet demand for this reagent. Neighbouring countries Kyrgyzstan and Tajikistan are completely dependent on imports of sodium cyanide.

Planned capacity of the plant

<table>
<thead>
<tr>
<th>Index</th>
<th>2017</th>
<th>2018F-2019F*</th>
<th>2020F</th>
<th>2021F</th>
<th>2022F</th>
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<tbody>
<tr>
<td>Load, %</td>
<td>100%</td>
<td>100%</td>
<td>50-60%</td>
<td>70-80%</td>
<td>100%</td>
</tr>
<tr>
<td>Capacity, tonnes</td>
<td>15,000</td>
<td>15,000</td>
<td>7,500-9,000</td>
<td>10,500-12,000</td>
<td>13,500-15,000</td>
</tr>
</tbody>
</table>

Current capacity + Future capacity
Production of ammonium sulfate

Products
Annual capacity: - 100 thousand tons (50% - domestic market, 50% - export)

Project
Within the framework of the Project, it is planned to build a complex for the production of ammonium sulfate with a capacity of 100 thousand tons per year on the basis of the sulfuric acid plant of SSAP LLP in Stepnogorsk. Ammonium sulfate is mainly used in agriculture as a mineral fertilizer.

Company
SSAP LLP is the operator of the sulfuric acid plant in Stepnogorsk, launched in 2015 within the framework of state programs for industrial and innovative development and development of the chemical industry in the Republic of Kazakhstan in 2010-2014. SSAP LLP founders are United Chemical Company LLP (90.11%) and JSC NC Kazatomprom (9.89%).

Market
• According to IFA, in 2019, the total consumption of mineral fertilizers in the world reached 192.9 million tons of active substance. Over the past five years (2016-2020), world exports and imports of ammonium sulfate have shown growth dynamics, the average annual growth rate of exports for the specified period reached 2.7%, import growth - 3.3%.
• During the period 2014-2018, Kazakhstan saw an increase in the production of ammonium sulfate, the average annual growth rate of production reached 11.6%. Average annual ammonia sulphate import growth in 2016-2020 was 51.7%.

Project investment attractiveness:
• Investment – 12,000 thousand USD
• Project NPV – 10,895 thousand USD
• IRR – 38.0%
• Payback period – 4.7 years

What is the project’s attractiveness?
• Availability of own raw material base. 81,911 tonnes of 93% sulphuric acid is required to produce 100,000 tonnes of ammonia sulphate. The Initiator will guarantee the required raw materials (sulphuric acid) from its plant to produce required output.
• Developed infrastructure and own source of electricity. The project will be implemented in an industrial zone with the necessary infrastructure for functioning. A Siemens steam turbine is installed on the territory of the sulfuric acid plant.
• Experience of the Initiator. The Initiator is the operator of the sulfuric acid plant with a design capacity of 180 thousand tons of products per year. Effective relationships are in place with suppliers of raw materials (Tengizchevroil), equipment (Desmet Ballestra S.p.A.) and technology (Monsanto Enviro-Chem Systems, Inc.).

Investment proposal
The Project requires investment of 12,000 thousand USD, of which:
• 70 % (8,400 thousand USD) – debt financing subject to collateral;
• from 30 % (3,600 thousand USD) – investor participation
The proposed financing structure and state support measures are indicative. The final financing structure and participation in the Project will be determined based on the results of negotiations with the investor.
Project overview:
Construction of a plant for the production of base oil components from natural gas

Raw materials:
natural gas - 1.0 bln normal cubic meters per year

Commercial products and output capacity:
• 280 thousand tons of base oil components (paraffin) per year;
• 110 thousand tons of diesel and gasoline fractions per year;
• 10 thousand tons of liquefied petroleum gas per year.

Initiator: Company group “Condensate”

Project location: Aksai city, WKO.

Consumer markets: Kazakhstan, China, EU

Tax payments during the operation of the Project (2022-2042):
CIT – US$ 618 millions;
Other taxes, fees and contributions – US$ 66 millions;
Obligatory pension contributions - US$ 34 millions.

Key investment data

<table>
<thead>
<tr>
<th>Index</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment, US$ thousands</td>
<td>820,744</td>
</tr>
<tr>
<td>Project NPV (in Scenario 2 with price of natural gas 60 US$/thous. m3), US$ thousands</td>
<td>266,538</td>
</tr>
<tr>
<td>IRR, %</td>
<td>17.01%</td>
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<tr>
<td>EBITDA returns, %</td>
<td>58-63%</td>
</tr>
<tr>
<td>Payback period, years</td>
<td>8.2</td>
</tr>
<tr>
<td>Discounted payback period, years</td>
<td>13.8</td>
</tr>
</tbody>
</table>

Market assumptions:
Growing demand – According to the report of Grand View Research, Inc., it is expected that by 2024 the global base oil market will reach 40.47 billion US$. Growing demand for base oils is a key driver of growth in demand for products manufactured.

Availability of customer base – The patent holder of the gas chemical production technology of base oil components is the Chinese corporation Shanxi Lu’an Group (a minority shareholder of Cathay Biotech). The main part of the base oil components will be delivered to the plant of Shanxi Lu’an Group factory located south of Shanghai, as well as to the EU. The fractions of gasoline and diesel fuel can be used in its production cycle by the “Condensate” JSC or other oil refineries in the country

Raw materials availability – Reserves of the Karachaganak oil and gas condensate field amount to 1.35 trillion cubic meters of gas and 1.2 billion tons of oil and gas condensate. The resources of this field in the amount of 8.5 billion cubic meters per year are processed at the Orenburg Gas Processing Plant, and WKO consumers have a priority right to purchase natural gas from these resources.
Construction of a gas-chemical complex for the production of methanol in the West Kazakhstan region
Chemistry and petrochemistry

Project overview
Construction of a gas-chemical complex for the production of methanol with annual volume of 350,000 metric tons in the West Kazakhstan region.

It’s planned to reach the following purposes:
• Creating an effective integrated business for the production of methanol and its sale on the market of Kazakhstan and the EU;
• Creation of 152 permanent jobs.

Project location: country district Beles, Baiterek region, West Kazakhstan region.

Project Initiator
Limited Liability Partnership “Zhaik Petroleum Ltd” is the project developer and operator. The company activities include the processing of natural gas and methanol production.

Output capacity: Production of 350,000 metric tons of methanol class AA per a year;
Consumer markets: domestic market of Kazakhstan (62%) and the Russian market (38%). The Initiator has signed off-take contracts with ANPZ LLP and Ektokhim LLC.

Key Project indicators

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment, US$ thousands</td>
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<tr>
<td>Project NPV, US$ thousands</td>
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</tr>
<tr>
<td>IRR, %</td>
<td>22.4%</td>
</tr>
<tr>
<td>EBITDA returns, %</td>
<td>43%</td>
</tr>
<tr>
<td>Payback period, years</td>
<td>6.3</td>
</tr>
<tr>
<td>Discounted payback period, years</td>
<td>9.3</td>
</tr>
</tbody>
</table>

Market assumptions
Growing demand
According to a report by Market Research Future® (WantStats Research And Media Pvt. Ltd.), the global methanol market is expected to reach $ 61 billion by 2023. Methanol is widely used as an alternative fuel in internal combustion engines due to its efficiency and cost-effectiveness.

Import substitution
Kazakhstan is 100% import dependent on methanol, the annual consumption of which is at least 25 thousand tons. Imported methanol is used by gas industry enterprises as a method to combat the formation of hydrates. The need to import methanol (raw materials) at high prices determines the price non-competitiveness of Kazakhstan’s final products and enterprises.

Raw materials availability
The plant will be built in the West Kazakhstan region, bordering the Aktobe and Atyrau regions, the country’s oil and gas centers. Negotiations are currently underway with potential suppliers of raw materials Zhaikmunai LLP and KazTransGas Aimak JSC.

Project profitability

![Graph showing project profitability with years 3 to 24]

Investment structure

- Construction and assembly work 39% $63.9 million
- Machinery and transportation 42% $70.3 million
- Other capital expenditures 19% $31.9 million

Financing structure

- Participation of the Initiator 40% ($66.44 million)
- Debt financing subject to collateral 60% ($99.66 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

Construction of a gas chemical complex for the production of methanol and olefins in Aktau

**Project overview:**
Construction of a gas chemical complex for processing natural gas and methanol using specialized technologies, where gas is primarily processed into methanol, and methanol, subsequently, processed into olefins.

**Commercial products and annual output:**
- AA class methanol: 1,800 thousand tonnes per year;
- Olefins: 600 thousand tonnes per year (propylene - 360 thousand tonnes, ethylene - 240 thousand tonnes).

**Initiator:**
WestGasOil LTD, an industrial enterprise in the West Kazakhstan Oblast, which is engaged in large-scale gas chemical projects.

**Project location:** Mangystau Oblast, Aktau

**Consumer markets:** domestic market, Europe, Russia.

**Key investment indicators**

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment, US$ thousands</td>
<td>1,800,000</td>
</tr>
<tr>
<td>Project NPV, US$ thousands</td>
<td>1,068,605</td>
</tr>
<tr>
<td>IRR, %</td>
<td>21.2%</td>
</tr>
<tr>
<td>EBITDA returns, %</td>
<td>63%</td>
</tr>
<tr>
<td>Payback period, amount of years</td>
<td>6.9</td>
</tr>
<tr>
<td>from the start of production</td>
<td></td>
</tr>
<tr>
<td>Discounted payback period, amount of years from the start of production</td>
<td>9.7</td>
</tr>
</tbody>
</table>

**Project location:** Mangystau Oblast, Aktau

**Market assumptions:**

**Growing demand for methanol and olefins**
According to a report by Market Research Future® (WantStats Research And Media Pvt. Ltd.), the global methanol market is expected to reach US$ 61 billion by 2023. Global imports of propylene are growing at an average rate of 2.2% per year, while ethylene imports are growing at an average rate of 4.2% per year.

**Import substitution**
Over the past five years, Kazakhstan imported about 24 thousand tonnes of methanol per year, despite the fact that import volumes grow by an average of 14% per year. Production of domestic products will reduce the volume of gas and chemical imports.

**Export potential**
Besides sales, products will also be exported. The external market is attractive for sales due to the growing demand and availability of cheap raw materials, which opens up significant prospects for the organization of export of the Project’s products.

**Project profitability**

**Technological flows during Project implementation period**

- GTM technology (gas to methanol)
- MTO technology (methanol to olefins)

**Gas chemical complex**

- Natural gas
- Synthesis
- Methanol production
- Methanol to olefins
  - Ethylene
  - Propylene

**Gas chemical complex**

Almaty

July 2019
Chemical and petrochemical industry

Construction of gas chemical complex on the Karachaganak field

Project overview:
Construction of a gas chemical complex for processing of separated and stabilized gases, containing acid gas (CO2 + H2S). Separated and stabilized gases will be produced by production facilities at Karachaganak deposit.

Raw material:
Sulfur dioxide gas supplied by Karachaganak Petroleum Operating BV (KPO), the subsoil user of the Karachaganak field.

Commercial products and annual output:
• Liquefied petroleum gas (LPG) – 622 thousand tonnes;
• Polyethylene – 241 thousand tonnes;
• Pyrolysis petrol – 7 thousand tonnes.

Initiator: Kondensat JSC – large industrial enterprise in West Kazakhstan Oblast.

Project location: West Kazakhstan Oblast, 12 km from the town of Aksay.

Consumer markets: Kazakhstan, Europe, China and India.

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>5</td>
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<tr>
<td>operational stage, years</td>
<td>19</td>
</tr>
<tr>
<td>Investment, US$ thousands</td>
<td>1,705,896</td>
</tr>
<tr>
<td>Project NPV, US$ thousands</td>
<td>1,057,982</td>
</tr>
<tr>
<td>IRR, %</td>
<td>16%</td>
</tr>
<tr>
<td>EBITDA returns, %</td>
<td>71%</td>
</tr>
<tr>
<td>Payback period, amount of years from the start of production</td>
<td>5.9</td>
</tr>
<tr>
<td>Discounted payback period, amount of years from the start of production</td>
<td>10.6</td>
</tr>
</tbody>
</table>

Project location: West Kazakhstan Oblast, 12 km from the town of Aksay

Market assumptions:
Growing demand for petrochemicals – According to the Grand View Research, Inc. report, it is expected that the global demand for petrochemicals will reach US$ 952.89 billion by 2025. Growing demand for residential heating, automotive oils and industrial operations will remain a key driving factor for market growth. According to AS Marketing and METI, demand for polymers over the past five years has increased by almost 20%. Packaging industry is the main driver of the global demand growth for polymers.

Raw materials availability – According to the Ministry of Energy in Kazakhstan, the total volume of estimated extractable hydrocarbon resources in the country approximately equals to 15 billion tonnes. Kazakhstan is one of the leading countries in the world for proven oil reserves.

Export potential – In neighboring countries, there is a growing demand for petrochemical products (particularly for polymers). According to Bloomberg forecasts, China’s demand for polyethylene will grow by 26.6% and will reach 13.4 million tonnes per year by 2021.

Project profitability

![Project profitability chart]

Technological flows during Project implementation period

![Technological flows diagram]
Описание Проекта:
Строительство завода по производству базовых масел I, II и III группы в Туркестанской области

Сырье:
прямогонный мазут с нефтеперерабатывающего завода ТОО «ПетроҚазақстан Ойл Продактс» (ПҚОП)

Продукт:
высококачественные базовые масла I группы (1200SN), II группы (60N, 150N, 350N), III группы (650N).

Мощность: 255 тыс. тонн базовых масел в год

Инициатор: Группа компаний HILL Corporation, единственный крупный производитель смазочных масел в Казахстане.

Местоположение: Туркестанская область, промышленная зона г. Шымкент.

Рынок сбыта: Казахстан, Китай.

Ключевые инвестиционные показатели

<table>
<thead>
<tr>
<th>Показатель</th>
<th>Результаты</th>
</tr>
</thead>
<tbody>
<tr>
<td>Период реализации Проекта, лет</td>
<td>24</td>
</tr>
<tr>
<td>в т.ч. инвестиционная фаза, лет</td>
<td>4</td>
</tr>
<tr>
<td>эксплуатационная фаза, лет</td>
<td>20</td>
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<td>Сумма инвестиций, тыс. долл. США</td>
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</tr>
<tr>
<td>NPV Проекта, тыс. долл. США</td>
<td>770 807</td>
</tr>
<tr>
<td>IRR, %</td>
<td>26,3%</td>
</tr>
<tr>
<td>Доходность по EBITDA, %</td>
<td>65%</td>
</tr>
<tr>
<td>Срок окупаемости, лет</td>
<td>6,5</td>
</tr>
<tr>
<td>Дисконтированный срок окупаемости, лет</td>
<td>8,5</td>
</tr>
</tbody>
</table>

Местоположение Проекта: промышленная зона г. Шымкент, Туркестанская область

Рыночные предпосылки:
Наличие клиентской и сырьевой баз – Существует необходимость обеспечить сырьем действующий завод HILL Corporation по компаундированию смазочных масел. Основное сырье Проекта, прямогонный мазут, будет поставляться TOO «ПетроҚазақстан Ойл Продактс», нефтеперерабатывающим заводом в г. Шымкент, расположенным в 350 м от будущего завода.

Импортозамещение и экспорт – В Казахстане отсутствует производство базовых масел, которые используются местными предприятиями в качестве основы для смазочных материалов и моторных масел.
Внешний рынок привлекателен для сбыта ввиду высокого спроса, и это открывает значительные перспективы по организации экспорта продукции Проекта. Имеются предварительные соглашения на сбыт продукции как в самом Казахстане, так и на экспорт (в Китай). Согласно планам, объем экспорта масел составит 183 тыс. тонн в год.

Инвестиционное предложение

Рентабельность Проекта

<table>
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<tr>
<th>Год</th>
<th>Выручка, тыс. долл. США</th>
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</thead>
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<td>4</td>
<td>243 942</td>
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<td>5</td>
<td>481 443</td>
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<td>593 640</td>
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<td>20</td>
<td>656 470</td>
</tr>
<tr>
<td>24</td>
<td>713 267</td>
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</table>

Плановая мощность завода

<table>
<thead>
<tr>
<th>Продукция</th>
<th>Объем, тонны</th>
<th>Доля</th>
</tr>
</thead>
<tbody>
<tr>
<td>Базовые масла</td>
<td>254 738</td>
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</tr>
<tr>
<td>Базовое масло 60N</td>
<td>20 000</td>
<td>8%</td>
</tr>
<tr>
<td>Базовое масло 350N</td>
<td>36 044</td>
<td>14%</td>
</tr>
<tr>
<td>Базовое масло SN1200</td>
<td>40 470</td>
<td>16%</td>
</tr>
<tr>
<td>Базовое масло 650N</td>
<td>60 950</td>
<td>24%</td>
</tr>
<tr>
<td>Базовое масло 150N</td>
<td>97 274</td>
<td>38%</td>
</tr>
<tr>
<td>Побочные продукты</td>
<td>240 000</td>
<td>100%</td>
</tr>
<tr>
<td>Бурильная жидкость</td>
<td>18 000</td>
<td>8%</td>
</tr>
<tr>
<td>Нафта</td>
<td>50 542</td>
<td>21%</td>
</tr>
<tr>
<td>Деасфальтизат</td>
<td>75 074</td>
<td>31%</td>
</tr>
<tr>
<td>Дизтопливо</td>
<td>96 026</td>
<td>40%</td>
</tr>
</tbody>
</table>
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 Shiehi 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%.

**Project investment attractiveness:**

- **Investment** – US$ 8,314 thousand
- **NPV** – US$ 9,909 thousand
- **IRR** – 32.5%
- **Payback period** – 4.8 years

**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.
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 Astana Technopolis 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 envisages 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 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.
Projects profitability

Prerequisites for the Project implementation

Lack of similar facilities in Kazakhstan. This production is innovative for Kazakhstan. The lack of direct competitors in the market will make it possible to gain a large market share and implement an import substitution strategy.

Strength, moisture resistance and chemical resistance of sulphur concrete. Adding sulphur in the concrete production increases the material strength due to the close arrangement of sulphur molecules. For example, the compressive and flexural strength of sulphur concrete is 55-65 MPa and 10-15 MPa, for ordinary concrete - 15-25 and 6-9 MPa, respectively. Sulphur concrete has high moisture resistance and chemical resistance to aggressive environments. The use of sulphur concrete allows consumers to optimise costs as a result of a longer service life and increased interrepair cycle and the use of sulphur concrete for recycling.

Resources base. Negotiations were held with Tengizchevroil (TCO) on the supply of the main raw material - sulphur. An agreement was reached to provide up to 5 thousand tonnes per month (quota). Around 3.84 million tonnes or 96% of all sulphur in the country is produced annually in Atyrau Oblast, while TCO accounts for over 60% of that volume.

Advantages of sulphur concrete:
- Cost reduction resulting from a longer product life;
- Materials saving due to its recyclability;
- No costs associated with maintenance - products are not overgrown with water plant, there is no need for painting, treatment or other additional protection;
- Environmental friendliness in comparison with traditional alternatives - the production does not require the use of water, energy costs are reduced and emissions of CO² into the atmosphere are reduced;
- High strength;
- Corrosion resistance;
- Waterproof;
- Frost resistance and good adhesion.

Project idea:
Construction of sulphur concrete and/or sulphur asphalt concrete production plant. Project implementation will create more than 80 jobs.

Project location:
SEZ NIPT, Atyrau, Republic of Kazakhstan

Project initiator:
Kossan Petroleum LLP

Production capacity:
Sulphur concrete – up to 300 000 tonnes per year

Sales market:
Direct sales in Kazakhstan and export to the countries of Central Asia (Uzbekistan, Kyrgyzstan, Afghanistan and Tajikistan).

Production of sulphur cement products

Construction sector

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- Waterproof;
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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>10,540</td>
</tr>
<tr>
<td>Project NPV, US$ thousand</td>
<td>20,408</td>
</tr>
<tr>
<td>IRR, %</td>
<td>32.8%</td>
</tr>
<tr>
<td>EBITDA margin, %</td>
<td>27.1%</td>
</tr>
<tr>
<td>Payback period, years</td>
<td>6.2</td>
</tr>
<tr>
<td>Discounted payback period, years</td>
<td>7.5</td>
</tr>
</tbody>
</table>

Investment structure

- Construction and assembly work: 21% of $2.26 million
- Machinery and equipment: 44% of $4.65 million
- Initial working capital: 24% of $2.52 million
- Others: 11% of $1.11 million

Financing structure

- Initiator equity: 1% ($0.11 million)
- Participation of the Fund (KIDF or KCM): 14.2% ($1.5 million)
- Debt financing subject to collateral: 70% ($7.37 million)
- Participation of the Investor: 14.8% ($1.56 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.
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.

**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>1,685</td>
</tr>
<tr>
<td>Project NPV, US$ thous.</td>
<td>927</td>
</tr>
<tr>
<td>IRR, %</td>
<td>19.3%</td>
</tr>
<tr>
<td>EBITDA margin, %</td>
<td>49.7%</td>
</tr>
<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. (97%)
- Machinery and equipment: $1,627 thous. (3%)

**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.

**Project profitability**

- EBITDA margin, %: 2022 - 50%, 2025 - 49%, 2028 - 50%, 2031 - 50%, 2034 - 49%

**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.

KAZAKH INVEST
Investment proposal
November 2020

Deloitte
Transport and logistics
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>

Project profitability:

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
Project description:
This investment project envisages the construction of a Trade and Transport Logistics Center “Bask” (hereinafter referred to as “TLC”) of interregional significance in the West Kazakhstan region (“WKR”) in the city of Uralsk.

Capacity:
• Cargo turnover of 800 thous. tons/year;
• The warehouse area is 10,000 sq. m;
• Camping area – 1600 sq. m;
• Service stations (including shops) – 790 sq. m;
• Gas Station – 1580 sq. m;
• TIR parking – 5600 sq. m;
• Auto parking – 625 sq. m.

Location: Republic of Kazakhstan, West-Kazakhstan region, Uralsk, the area of the chalk hills and microdistrict "Sarytau"

Services: storage of goods, terminal cargo handling, provision of open areas, warehouses, TIR parking, car refueling services (gas stations)

Initiator: “EurasianLogistics” LLP

Key investment indicators

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment amount, US$ thous.</td>
<td>15,581</td>
</tr>
<tr>
<td>Project NPV, US$ thous.</td>
<td>5,367</td>
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<tr>
<td>IRR, %</td>
<td>18.1</td>
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<tr>
<td>EBITDA margin, %</td>
<td>37.8%</td>
</tr>
<tr>
<td>Payback period, years</td>
<td>7.2</td>
</tr>
<tr>
<td>Discounted payback period, years</td>
<td>12.1</td>
</tr>
</tbody>
</table>

Project location: West-Kazakhstan region, Uralsk

Market prerequisites:
Growth in the volume of wholesale, retail and foreign trade turnover
The growth in the volume of wholesale and retail trade in WKR in the period from 2017 to 2018 was 16% and 2%, respectively. Given the direct correlation between the increase in trade volumes and the growth in storage capacity of warehouses, an increase in demand in the warehouse rental sector is expected. In the period from 2016 to 2017, the WKR foreign trade turnover grew by 23% from 4,443 million US dollars in 2016 to 5,472 million US dollars in 2017.

Increasing freight turnover
The volume of cargo transportation in WKR for 2016-2018, is growing rapidly with an average CAGR of 10%.

Low competition in the field of transport and logistics in the West Kazakhstan region
Currently, there are no TLCs on the WKR market, which provide a full range of high-quality services. Due to the significant financial costs for the construction of the TLC and the lack of qualified personnel, competition for this type of service is not expected.

Favorable geographical location
The territory of the WKO is located in a strategic location in the oil and gas processing region. The region is bordered by the Russian Federation, also, it is adjacent to the Atyrau and Aktobe regions, which are the country’s oil and gas centers, and where the total population is over 1.5 million people. Within a radius of 200 km are the nearest four cities of the Russian Federation with a total number of more than 5 million people.

Project profitability

<table>
<thead>
<tr>
<th>Year</th>
<th>Profitability, US$ thous.</th>
<th>EBITDA margin, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>6,266</td>
<td>36%</td>
</tr>
<tr>
<td>5</td>
<td>7,623</td>
<td>36%</td>
</tr>
<tr>
<td>10</td>
<td>8,263</td>
<td>38%</td>
</tr>
<tr>
<td>15</td>
<td>9,456</td>
<td>38%</td>
</tr>
<tr>
<td>20</td>
<td>10,578</td>
<td>38%</td>
</tr>
<tr>
<td>24</td>
<td>11,672</td>
<td>38%</td>
</tr>
</tbody>
</table>
Project description:
This investment project (the "Project") provides for the modernization of the sea ferry complex Kuryk with the possibility of providing following services: the transshipment of bulky, heavy cargo, and the mooring of ships to the berth using tugboats. It is planned to build a grain complex in the port.

Project Goal: The development of the socio-economic situation of the region, the expansion of cross-border external trade and economic relations, increasing the transport, export and transit potential of the Republic of Kazakhstan.

Types of services: Transshipment of cargoes, ship calling services at a port for cargo operations. Services as mooring of vessels to the berth with the help of tugboats, and transshipment of bulky, heavy cargoes are planned.

Initiator: Port Kuryk LLP/NC KTZ JSC
Location: Mangistau oblast, Kuryk rural area

Key investment indicators

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment amount, US$ thousand</td>
<td>37,742</td>
</tr>
<tr>
<td>Project NPV, US$ thousand</td>
<td>97,699</td>
</tr>
<tr>
<td>IRR, %</td>
<td>33.3%</td>
</tr>
<tr>
<td>EBITDA margin, %</td>
<td>75%</td>
</tr>
<tr>
<td>Payback period</td>
<td>5.5</td>
</tr>
<tr>
<td>Discounted payback period</td>
<td>6.9</td>
</tr>
</tbody>
</table>

Project development location:
R, Mangistau oblast, Karakiya district, KuKryk rural area, Sarsha region, sites 26 and 27

Market prerequisites:
The position of Kazakhstan between the largest trading partners - China and the EU countries gives an advantage for increasing the volume of transit cargo. The volume of foreign trade between China and the EU by 2020 will increase from 615 to 800 billion USD, and, taking into account these factors, the potential volume of transit freight through the RK can reach 5-8% of the total transit freight.

The growth of cargo transit. The transit of goods through the territory of the RK in 2014 amounted to 8.7 million tons and reached 9.3 million tons by 2018. According to experts of Strategy Partnership, an increase in the volume of transit of goods through the RK to 36 million tons is expected by 2020, with the subsequent achievement of up to 50 million tons per year.

Low competition. The location of the Kuryk port allows the supply of port cranes for the organization of bulky and heavy cargo transshipment, which cannot be physically handled through the port of Aktau and the Aktau Sea North Terminal due to overall dimensional restrictions.

Project profitability

Technical process
The main activity of the port of Kuryk is transshipment from one mode of transport to another. The production process of transshipment operations is the movement of cargo in the port for the purpose of loading or unloading vehicles (ships, wagons, cars). The structure of transported vehicles is railway, automobile, self-propelled machinery, rolling cargo.
Project description:
This investment project provides for the construction and organization of roadside service along the roads of national and international importance.

Project Goal: Creation and development of a roadside service network on the country’s roads to improve transport infrastructure in the Republic of Kazakhstan and increase budget revenues, as well as improve the quality of transport services, ensure safe and uninterrupted traffic and increase the competitiveness of Trans-Kazakhstan transit routes.

Services provided:
Motels with 25 rooms, commercial and public service blocks with cafes, maintenance blocks (gas stations, service stations with a car wash), parking lots, engineering structures and networks in all regions and cities of the regional destination of Kazakhstan.

Initiator:
JSC “National company”KazAvtoZhol”

Key investment indicators of one object

<table>
<thead>
<tr>
<th>Index</th>
<th>Categories of motoway services</th>
<th>A and B</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment, US$ thousands</td>
<td>2,456</td>
<td>367</td>
<td>883</td>
<td></td>
</tr>
<tr>
<td>Project NPV, US$ thousands</td>
<td>2,045</td>
<td>319</td>
<td>167</td>
<td></td>
</tr>
<tr>
<td>IRR, %</td>
<td>26.12%</td>
<td>28.41%</td>
<td>17.10%</td>
<td></td>
</tr>
<tr>
<td>EBITDA return, %</td>
<td>18.4%</td>
<td>79.9%</td>
<td>13.1%</td>
<td></td>
</tr>
<tr>
<td>Payback period, years</td>
<td>5.12</td>
<td>4.81</td>
<td>6.98</td>
<td></td>
</tr>
<tr>
<td>Discounted payback period, years</td>
<td>7.35</td>
<td>6.67</td>
<td>13.84</td>
<td></td>
</tr>
</tbody>
</table>

Types of roadside service points

- For IB, IIA, IIB climatic subareas with usual geological conditions;
- For IVA, IVG climatic subareas with usual geological conditions;
- For IB, IIB, IIA, IIB, IVG climatic subareas with seismic activity of 7 points;
- For IB, IIB, IIA, IIIB, IVG climatic subareas with seismic activity of 8 points;
- For IB, IIB, IIIA, IIIB, IVA, IVG climatic subareas with seismic activity of 9 points;

Buildings and construction of the objects of category "A" and "B"

<table>
<thead>
<tr>
<th>Name</th>
<th>Floors</th>
<th>Built-up area, sq. m</th>
<th>Total area, sq. m</th>
<th>Constr. volumen of the building, cub. m</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motel with 25 rooms</td>
<td>2</td>
<td>410</td>
<td>567</td>
<td>2,667</td>
</tr>
<tr>
<td>Block of commercial services with a cafe</td>
<td>1</td>
<td>850</td>
<td>616</td>
<td>3,584</td>
</tr>
<tr>
<td>Maintenance block with gas station building</td>
<td>1</td>
<td>370</td>
<td>275</td>
<td>1,437</td>
</tr>
<tr>
<td>Total</td>
<td>-</td>
<td>1,630</td>
<td>1,348</td>
<td>7,688</td>
</tr>
</tbody>
</table>

Market prerequisites:
Growing demand for cars. Over the past 10 years, the average annual increase in the number of cars in the country amounted to 5%. According to forecasts, the car fleet will grow from 4.3 million units in 2018 to 10 million units by 2045-2050. The country has also increased passenger and cargo turnover in road transport. The average annual growth for these indicators over the past 5 years was 2.6% and 2.05%, respectively. At the same time, Project implementation will create pressure on informal road carried for their registration and subsequent streamlining of the transport industry.

Transit potential. The use of the territory of the Republic of Kazakhstan for the transit of goods between East and West is becoming increasingly attractive. The growth in transit by road over the past year amounted to 223%. Project implementation is necessary to extract the greatest benefits from transit flows and ensure high quality transport infrastructure for them.

Extensive customer base. In 2018, the share of cargo transportation by land was 30%, and the share of passenger turnover was 88%.

Project profitability

Categories "A" and "B"

<table>
<thead>
<tr>
<th>Year</th>
<th>US$ thous.</th>
<th>EBITDA margin, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020</td>
<td>3,715</td>
<td>17%</td>
</tr>
<tr>
<td>2021</td>
<td>4,006</td>
<td>17%</td>
</tr>
<tr>
<td>2022</td>
<td>4,333</td>
<td>18%</td>
</tr>
<tr>
<td>2023</td>
<td>4,262</td>
<td>19%</td>
</tr>
<tr>
<td>2024</td>
<td>5,363</td>
<td>19%</td>
</tr>
</tbody>
</table>

Categories "C" and "D"

<table>
<thead>
<tr>
<th>Year</th>
<th>US$ thous.</th>
<th>EBITDA margin, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>2025</td>
<td>4,006</td>
<td>78%</td>
</tr>
<tr>
<td>2026</td>
<td>1,353</td>
<td>13%</td>
</tr>
<tr>
<td>2027</td>
<td>1,359</td>
<td>13%</td>
</tr>
<tr>
<td>2028</td>
<td>1,428</td>
<td>13%</td>
</tr>
<tr>
<td>2029</td>
<td>1,795</td>
<td>13%</td>
</tr>
<tr>
<td>2030</td>
<td>1,970</td>
<td>13%</td>
</tr>
</tbody>
</table>
Project Description:
Creation of a multimodal transportation hub at the Astana International Airport which in turn will become a center of a new Aerotropolis with commercial and residential objects, industrial zone, logistical companies, recreational and touristic facilities

Location: project will be implemented in Astana city at the current Astana International Airport.

Services provided:
- Service of aircraft, service of passengers, cargo services and storage, multimodal cargo services;
- Development of the Aerotropolis: attracting private investors into the industrial and commercial zones and for construction of recreational, touristic and residential facilities.

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>10</td>
</tr>
<tr>
<td>operational stage, years</td>
<td>14</td>
</tr>
<tr>
<td>Investment, US$ thousands</td>
<td>430,975</td>
</tr>
<tr>
<td>Project NPV, US$ thousands</td>
<td>967,264</td>
</tr>
<tr>
<td>IRR, %</td>
<td>21.3%</td>
</tr>
<tr>
<td>EBITDA returns, %</td>
<td>3-51%</td>
</tr>
<tr>
<td>Payback period, years</td>
<td>9.7</td>
</tr>
<tr>
<td>Discounted payback period, years</td>
<td>11.7</td>
</tr>
</tbody>
</table>

Project profitability

Market prerequisites:

Strategic location: Astana Airport has a unique chance to become a transcontinental air bridge, since in a 8 hour flight radius there are 2.3 billion people, which includes populations of China, India and Russia.

Growth of passenger and freight traffic at the airport: Average annual growth rate of freight traffic at the Astana airport amounted to 8% (CARG since 2013 until 2017), while passenger traffic increased from 2.6 million to 4.3 million passengers in the same period. According to Lufthansa Consulting Astana airport will see passenger traffic of 13 million passengers and freight traffic of 117 thousand tons in 2030.

New destinations: Due to the beginning of the functioning of the Financial Center in the city of Astana and in accordance with the Nation’s Plan (Step 67) new destinations will be launched to New York, Tokyo and Singapore. This will lead to an additional increase in passenger and freight traffic at the airport.

Freight traffic from China: Located in-between two major exporters and importers of the world: China and EU, will allow the multimodal hub to service the transit of goods between China and Europe.

Structure of the multimodal hub and the Aerotropolis
Introduction of the national system of charging a fare on the roads of the Republic of Kazakhstan

Project description:
Construction, launch and maintenance of the national charging system ("NCS") for using 11,095 kms of highways of national importance.

Road length: 11,095 km of highways of national and international importance with the possibility of further expansion to 15,000 km.

Location: The Republic of Kazakhstan

Project initiator: JSC "National Company "KazAvtoZhol" (JSC "NC" KazAvtoZhol")

Partnership terms and conditions: The project will be implemented on the basis of public-private partnership ("PPP"). A Concession grantor will be the Committee of Highways of the Ministry of Investments and Development of the Republic of Kazakhstan (MI&D of RK), while JSC "NC" KazAvtoZhol" will be the national project operator.

Main Users: Local and foreign owners of cars and trucks; transport passing through the country (transit)

Key investment indicators

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project implementation period, years</td>
<td>13</td>
</tr>
<tr>
<td>incl. investment stage, years</td>
<td>5</td>
</tr>
<tr>
<td>operational stage, years</td>
<td>8</td>
</tr>
<tr>
<td>Investment, US$ thousands</td>
<td>267,399</td>
</tr>
<tr>
<td>Project NPV, US$ thousands</td>
<td>34,704</td>
</tr>
<tr>
<td>IRR, %</td>
<td>13%</td>
</tr>
<tr>
<td>EBITDA return, %</td>
<td>98-98%</td>
</tr>
<tr>
<td>Payback period, years</td>
<td>7.7</td>
</tr>
<tr>
<td>Discounted payback period, years</td>
<td>10.6</td>
</tr>
</tbody>
</table>

Market prerequisites:

Growing demand Over the past 10 years, the average annual growth in the number of cars in the country amounted to 5%. The country has also seen an increase in passenger and cargo traffic by road. The average annual growth in these indicators for the last 5 years was equal to 2.6% and 2.05% respectively.

Transit potential Over the last year, the growth of transit on motor transport amounted to 223%. Implementing the Project is necessary to maximize the benefits of transit flows, while providing the transit cargo and passengers with a high level of transport infrastructure quality.

Process optimization and reducing the strain on the budget The implementation of the PPP project will reduce national budget expenditures. After the launch of the NCS, road maintenance will be financed from the collected funds, which will reduce the burden on the budget in the long term.

Qualitative indicators

Project Participants
- Private partner
- State partner (Committee of highways of the MI&D of RK)
- National operator (JSC "NC" KazAvtoZhol")

Private partner income
- Compensation of investment and operating costs
- Dividends

Use of payments
The funds received from the collection tolls will be used by the national operator for maintenance of these roads.

Transfer of know-how
Project involves transfer of proprietary software to the national operator for further development, expansion and adaptation to local conditions and needs.

Tolling system
- On Category I roads (1396 km of Project's roads) a hybrid tolling system will be installed (fee collection from all vehicle types)
- On roads of categories II and III (about 9,699 km of the Project's roads) an open tolling system will be installed (charging only trucks).
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.

Project investment attractiveness:
Investment – US$ 6,138 thousand
Project NPV – US$ 9,340 thousand
IRR – 34.7%
Payback period – 4.68 years

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.
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

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 thousand 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.

Project location
Taraz Chemical Park SEZ

KAZAKH INVEST. Investment Proposal August 2021 г.
Project idea
The Project envisages the construction of a plant for the manufacturing syringes with a capacity of 285 million units per year. The production will be located in the Special Economic Zone “Park of Innovational Technologies” in Almaty region. The total area of the land is 5 ha, production area – 4,000 sq. m.

Company
Dolce LLP is a Kazakhstani pharmaceutical company founded in 2003 and specializing in the production and wholesale and retail sales of medical devices. The company has experience in the sale of medical products to state medical institutions throughout the country. Since 2011, it has been a supplier of the distributor – SK-Pharmacy LLP.

Market
- According to Firch Solutions, the syringe market is projected to reach US$ 11.5 billion by 2026. Syringe production will grow at a CAGR of 7.9% over the period 2021-2026.
- The demand for syringes in Kazakhstan reached 502,790 thousand units in 2020, with an increase of 37% compared to the previous year. The country continues to have a shortage of syringes on average 76% during 2016-2020. In 2020, Kazakhstan imported 407,322 thousand disposable syringes.

Investment attractiveness of the project:
- Investment amount – 5,731 US$ thousands
- Project NPV – $6,287 thousand USD
- IRR – 31.4%
- Payback period – 4.9 years

Prerequisites for the Project implementation
- Low competition and deficit in the domestic market. The Project will provide medical institutions with domestic products and reduce import dependence. Today only a few manufacturers are involved in the production of syringes in Kazakhstan.
- Developed infrastructure and communications. The industrial facility will be provided with water and electricity. In addition, there is a transport infrastructure: highways are connected to the territory of the SEZ.
- Availability of distribution channels. The Project Initiator has signed a long-term contract with a distributor SK-Pharmacy LLP within a state program for a period of 10 years.

Required investments and structure of financing
The Project requires investment of US$ 5,731 thousand, of which:
- 30 % (US$ 1,719.3 thousand) – debt financing subject to collateral;
- from 70 % (US$ 4,011.7 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.
Medical glove production in Almaty Oblast

Commercial products
Annual capacity – 144 million units of medical gloves.

Project description
The purpose of the Project is to build a latex glove plant with capacity to produce 144 million units per year. Production will be located in the Innovative Technology Park Special Economic Zone in Almaty Oblast on a 5 ha plot. The production site will cover an area of 3,100 m2.

Company
Dolce LLP is a Kazakhstan pharmaceutical company founded in 2003, specializing in the production of medical items and wholesale/retail sales. The company has many years of experience in selling medical devices to state medical institutions throughout the country. Since 2011, it has been a supplier to the integrated distributor SK-Pharmacy LLP.

Market
• According to Fitch Solutions, global medical glove production will reach 3.7 billion USD by 2026. Average annual growth in medical gloves production will be 7.8% in 2021-2026.
• Domestic demand is covered by imports. In 2020, Kazakhstan imported 24.3 million pairs of medical gloves worth 2.1 million USD. The average annual growth in medical glove supplies into Kazakhstan in the last five years was -9%.

Investment attractiveness of the project:
Investment – US$ 4,124 thousand
Project NPV – US$ 4,458 thousand
IRR – 38.9%
Payback period – 4.4 years

What is the attractiveness of the project?
• Export potential. The launch of industrial production and the receipt of the required international compliance and quality certificates help the Company expand its sales geography significantly, first of all in other CIS countries.
• Developed infrastructure and communications. To ensure operating continuity, the facility will have access to utilities, electricity and transport infrastructure: the SEZ territory is connected to the road system.
• Sales channels in place. The Initiator has entered into a long-term (10-year) agreement to supply medical items with SK-Pharmacy LLP as part of the programme to support domestic producers.

Investment proposal
The Project requires investment of US$ 4,124 thousand, of which:
• 70% (2,887 thousand USD) – debt financing subject to collateral;
• from 30% (1,237 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.

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

**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 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>
<td>98,887</td>
</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>

Project profitability

<table>
<thead>
<tr>
<th>Year</th>
<th>US$ thousands</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year 2</td>
<td>32,697</td>
</tr>
<tr>
<td>Year 4</td>
<td>138,257</td>
</tr>
<tr>
<td>Year 6</td>
<td>191,500</td>
</tr>
<tr>
<td>Year 8</td>
<td>252,837</td>
</tr>
<tr>
<td>Year 10</td>
<td>277,563</td>
</tr>
</tbody>
</table>

Financing structure

- Initiator equity: 15% ($15.55 million)
- Participation of the Fund (KIDF or KCM): 7.3% ($0.98 million)
- Debt financing subject to collateral: 70% ($70.39 million)
- 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.

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.
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>

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

<table>
<thead>
<tr>
<th>Year</th>
<th>Revenue, US$ thous.</th>
<th>EBITDA margin, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year 4</td>
<td>29,864</td>
<td>39%</td>
</tr>
<tr>
<td>Year 6</td>
<td>46,677</td>
<td>35%</td>
</tr>
<tr>
<td>Year 8</td>
<td>50,353</td>
<td>34%</td>
</tr>
<tr>
<td>Year 10</td>
<td>55,612</td>
<td>34%</td>
</tr>
<tr>
<td>Year 12</td>
<td>56,502</td>
<td>33%</td>
</tr>
</tbody>
</table>

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.
Prerequisites for Project implementation

Low competition in Kazakhstan.
To date, several manufacturers are involved in the production of nonwovens in Kazakhstan, and the implementation of the Project will allow to provide raw materials for local manufacturers of disposable medical devices and reduce import dependence. In connection with the growing demand for medical personal protective clothing around the world due to the Covid-19 coronavirus infection pandemic, the Kazakhstan Government introduced restrictions on the imports of foreign medical products to support domestic manufacturers.

Global demand for medical devices made of nonwoven material. According to Fitch Solutions, the global production of medical products from polypropylene in 2019 amounted to US$ 16 billion, down 2% compared to the previous year. The CAGR for the period between 2015 and 2019 amounted to 5%. It is expected to reach US$19 billion by 2022.

Project profitability

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.
Tourism

Construction of the ski resort Turgen - 37

Product
The number of rooms in hotel - 70 rooms.
Other services: ski school, equipment for rental, Alpine Coster Rides attraction and other.

Project
This investment project (the "Project") envisages the construction of a ski resort in the Turgen gorge of Almaty region. A land plot of 310 hectares allocated for the Project is located 70 km from Almaty. The expected length of ski slopes of various levels is 37.5 km with a capacity of up to 5,000 people per day. The project provides for the installation and construction of 3 cable cars, the installation of 5 ski lifts and the construction of a hotel with 70 rooms. In addition, there will be a restaurant and 4 cafes, a first-aid post, shops, a ski school and recreational facilities on the ski resort territory.

Company
The Project initiator is Turgen Resort LLP.

Market
• In 2016-2019, average annual growth of incoming tourists was 12.7%. 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.

What is the attractiveness of the project?
• **Year-round offerings.** The unique mountainous area makes the location attractive for year-round offerings, including hotel accommodation, skiing, ecotourism, recreational facilities and other types of recreation (snowmobile tour, outdoor pool, horse riding, baths and SPA).
• **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 1-2-hour car journey from major Kazakhstan city - Almaty. After commissioning, the Initiator will become the only supplier of tourist services in the middle price segment in the unique mountainous area of the Turgen gorge.

Investment proposal
The Project requires investment of US$ 98,133 thousand, of which:
• 70% (US$ 68,393 thousand) – debt financing subject to collateral;
• from 30% (US$ 29,440 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.

Investment attractiveness of the Project:
Investment – US$ 98,133 thousand
NPV – US$ 19,869 thousand
IRR – 13.6%
Payback period – 8.8 years

KAZAKH INVEST.
Investment proposal
December 2021
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:
Investment – US$ 7,147 thousand
NPV – US$ 2,951 thousand
IRR – 20.1 %
EBITDA return –55.4%
Payback period – 6.9 years
Discounted payback period – 11.4 years

What is the 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
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.

Investment attractiveness
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.
Project Profitability

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.

Project Profitability

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment amount, US$ thous.</td>
<td>5,478</td>
</tr>
<tr>
<td>Project NPV, US$ thous.</td>
<td>3,121</td>
</tr>
<tr>
<td>IRR, %</td>
<td>19.3%</td>
</tr>
<tr>
<td>EBITDA yield, %</td>
<td>61%</td>
</tr>
<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>

Investment attractiveness of the Project

<table>
<thead>
<tr>
<th>Year</th>
<th>Revenue, US$ thous.</th>
<th>EBITDA margin, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year 2</td>
<td>70</td>
<td>819</td>
</tr>
<tr>
<td>Year 4</td>
<td>62</td>
<td>2,178</td>
</tr>
<tr>
<td>Year 6</td>
<td>61</td>
<td>2,376</td>
</tr>
<tr>
<td>Year 8</td>
<td>61</td>
<td>2,625</td>
</tr>
<tr>
<td>Year 11</td>
<td>61</td>
<td>2,897</td>
</tr>
</tbody>
</table>

Financing structure

- Debt financing subject to collateral
  - 70% ($3.8 mln)
- Participation of the Investor from 30% ($1.6 mln)
- Total financing: $5.5 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.
Tourism

Development of a resort complex on Bolshoe Chebachye and Tekekol lakes

Project description:
Development of a multifunctional resort complex ("Complex") in Burabay resort area, on the shores of Bolshoye Chebachye and Tekekol lakes, with a year-round operational schedule.

Location:
Akmola region, Burabay resort area, the shores of Bolshoye Chebachye and Tekekol lakes

Project initiator:
Burabay Damu LLP: subordinate organization of the Office of the President's Affairs ("OPA").

Governmental support:
OPA provides a land plot and the government finances construction of engineering infrastructure.

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>13</td>
</tr>
<tr>
<td>Operating stage, years</td>
<td>11</td>
</tr>
<tr>
<td>Investment amount, US$ thous.</td>
<td>190,151</td>
</tr>
<tr>
<td>Project NPV, US$ thous.</td>
<td>53,898</td>
</tr>
<tr>
<td>IRR, %</td>
<td>17.4%</td>
</tr>
<tr>
<td>EBITDA margin, %</td>
<td>42%</td>
</tr>
<tr>
<td>Payback period, years</td>
<td>10.6</td>
</tr>
<tr>
<td>Discounted payback period, years</td>
<td>17.9</td>
</tr>
</tbody>
</table>

Market prerequisites:
Growing demand for tourism services: The average annual growth in the number of domestic tourists in Kazakhstan in 2013-2017 amounted to 10%, while the number of outbound tourists was almost left unchanged over the last five years. Average annual growth in the number of inbound tourists in 2016-2017 amounted to 18%. In 2017, the number of inbound tourists (mainly from the CIS countries) amounted to 7.7 million people.

Increase in attendance of Burabay resort area:
Burabay resort area is one of the most popular resorts in Kazakhstan. In 2017, 150,000 people have stayed at its guest stay facilities. While an estimated total attendance of the resort area came at around 600,000 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 4.1%.

Low market competition level: 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.

Capacity projections for the Complex by 2040:
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.

Key facilities 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: 4/4+.

Leisure and entertainment facilities
- Aqua-park and adventure park;
- 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.
Energy sector
Construction of a hybrid biogas and solar power station

**Annual capacity:**
- electricity – 20,520 thousand kWh;
- organic fertiliser – 10 thousand tonnes.

**Project investment attractiveness:**
- Investment – US$ 13,813 thousand
- NPV – US$ 7,124 thousand
- IRR – 20.6%
- Payback period – 6.4 years

**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>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purchase</td>
<td>6.21</td>
<td>6.19</td>
<td>6.42</td>
</tr>
<tr>
<td>Production</td>
<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
</tr>
<tr>
<td>Consumption</td>
<td>3.1</td>
<td>3.1</td>
<td>3.1</td>
</tr>
</tbody>
</table>

The initiator is also negotiating with Chinese offtakers.

China’s imports of electrical energy, mln MWh

<table>
<thead>
<tr>
<th></th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Russia</td>
<td>43</td>
<td>43</td>
<td>43</td>
</tr>
<tr>
<td>Myanmar</td>
<td>25</td>
<td>25</td>
<td>25</td>
</tr>
<tr>
<td>Korea</td>
<td>34</td>
<td>34</td>
<td>34</td>
</tr>
<tr>
<td>Hong Kong, China</td>
<td>17</td>
<td>17</td>
<td>17</td>
</tr>
</tbody>
</table>

Prices of electrical energy by exporting country, USD/MWh

<table>
<thead>
<tr>
<th></th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Russia</td>
<td>120</td>
<td>120</td>
<td>120</td>
</tr>
<tr>
<td>Myanmar</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>Korea</td>
<td>117</td>
<td>117</td>
<td>117</td>
</tr>
<tr>
<td>Hong Kong, China</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

Investment highlights

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Upfront investment</td>
<td>$38 MM</td>
</tr>
<tr>
<td>NPV</td>
<td>$12 MM</td>
</tr>
<tr>
<td>IRR</td>
<td>21%</td>
</tr>
<tr>
<td>Payback period</td>
<td>7 years</td>
</tr>
</tbody>
</table>

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

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 prices 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>59%</td>
</tr>
<tr>
<td>2024</td>
<td>114,803</td>
<td>59%</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>
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 product will be sold domestically. The target groups for product sales are construction companies, tyre production and restoration companies; and wholesale and retail market networks.

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.
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.

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

Product 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.
Project overview:
Modernization of the municipal solid waste (MSW) management system in Pavlodar Oblast.

Objective of the Project:
Improving the efficiency, reliability, environmental and social acceptability of a range of services for the collection, transportation, processing and disposal of municipal solid waste, increasing the share of solid waste recycling, as well as ensuring safe disposal of waste in Pavlodar Oblast.

Production: solid waste disposal service, 20 types of recyclable materials obtained by sorting.

Annual capacity: 150 thousand tonnes of solid waste per year.

Initiator: Specmashin LLP, Pavlodar city

Location:
Pavlodar city, satellite cities – Aksu and Ekibastuz.

Key consumers:
Household solid waste companies engaged in the recycling of secondary raw materials.

Key investment indicators

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment, US$ thousands</td>
<td>6,427</td>
</tr>
<tr>
<td>Project NPV, US$ thousands</td>
<td>9,631</td>
</tr>
<tr>
<td>IRR, %</td>
<td>13.8%</td>
</tr>
<tr>
<td>EBITDA returns, %</td>
<td>35%</td>
</tr>
<tr>
<td>Payback period, number of years</td>
<td>2.8</td>
</tr>
<tr>
<td>Discounted payback period, number of years</td>
<td>3.1</td>
</tr>
</tbody>
</table>

Location of the Project: Pavlodar, Aksu and Ekibastuz

Market assumptions
High level of MSW accumulation. According to the Committee on Statistics of the Republic of Kazakhstan, there is a high level of generation of solid household waste, which is not regenerated, at the level of 3 million tonnes annually. Between 2021 and 2030, an increase in waste generation is expected to reach 8.3 million of solid waste per year. For comparison, the global waste management market amounted to US$ 330.6 billion in 2017 and it is predicted that by 2025 this figure will reach US$ 530 billion with a CAGR of 6%.

Increased public awareness of waste management. The number of landfills and their area is growing rapidly, having a negative impact on the environment. At present, in Kazakhstan there are more than four thousand landfills, of which only 13% comply with sanitary standards and have a permit for emissions into the environment. The standard of living of the population will improve significantly with the comprehensive modernization of the MSW management system in the country.

Dynamic socio-economic development of the region. Pavlodar is one of the most economically important cities in the country with an average annual growth of gross regional product of 13%.
Other promising sectors
Digital logistics system in the Republic of Kazakhstan (ASU DKR 2.0)

Research and development

Project description:
Modernize the automated control system "Contractual and commercial work 2.0" to coordinate the process of cargo transportation of the operator of the main railway network "National Company" Kazakhstan Temir Zholy" JSC.

Number of jobs created – 71.

Location:
The equipment is located in the premises of the data center of "NC" KTZ" JSC - "Main computing center" at Nur-Sultan, Saryarka district, Zhenis Ave. 42.

Initiator:
Networks Energy LLP.

Sales volumes and types of services provided:
Revenue is expected to grow from 4,015 thous. US dollars in 2021 to 18 678 thousand US dollars by 2035, at a CAGR of 11.6%.

Types of services provided: customs brokerage processing service, electronic cargo insurance service, bank processing service and technical support.

Sales market: Kazakhstan.

Key investment indicators

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment amount, US$ thou.</td>
<td>12,720</td>
</tr>
<tr>
<td>Project NPV, US$ thou.</td>
<td>17,565</td>
</tr>
<tr>
<td>IRR, %</td>
<td>25.7%</td>
</tr>
<tr>
<td>EBITDA margin, %</td>
<td>47.1%</td>
</tr>
<tr>
<td>Payback period, years</td>
<td>6.2</td>
</tr>
<tr>
<td>Discounted payback period, years</td>
<td>8.5</td>
</tr>
</tbody>
</table>

Investment structure

Intangible assets: $12.60 million (99%)
Machinery and equipment: $0.11 million (0.9%)
Other: $0.01 million (0.1%)

Market prerequisites:
Approval of new services of ASU DKR in test mode.
In 2019, the Initiator, together with "Insurance Company "Centras Insurance" JSC, developed and tested the possibility of integrating online insurance functionality in the ASU DKR 2.0.

In addition, the Initiator, together with ForteBank JSC, developed and tested the integration functionality of online banking in the ASU DKR 2.0.

Digitalization of business processes of railway cargo transportation. By expanding the services of the ASU DKR system, the process of digitalization of cargo transportation in the Republic of Kazakhstan will accelerate:
а) there will be a transition from paper railway bills to electronic versions,
б) operational risk or human factor is minimized,
в) temporary and transaction costs will be reduced,
г) the cost of tariffs for the services of "NC" KTZ" JSC will decrease, etc.

Project profitability

<table>
<thead>
<tr>
<th>Year</th>
<th>Revenue, US$ thous.</th>
<th>EBITDA margin, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>2021</td>
<td>4,015</td>
<td>25%</td>
</tr>
<tr>
<td>2024</td>
<td>8,598</td>
<td>51%</td>
</tr>
<tr>
<td>2027</td>
<td>12,782</td>
<td>52%</td>
</tr>
<tr>
<td>2030</td>
<td>15,149</td>
<td>49%</td>
</tr>
<tr>
<td>2033</td>
<td>17,048</td>
<td>48%</td>
</tr>
</tbody>
</table>

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.
Project description:
The project provides the development of software and technological equipment in the field of logistics. 

Capacity: 15,645 tastamats

Products: Tastamats; TOOLPAR hardware; Range of services: «Postbox», «Client», «Service» and «Marketplace».

Initiator: TOOLPAR LLP


Main consumers:
1) Owners of commercial premises willing to work under the partnership scheme;
2) Mail and logistics operators, e-commerce traders;
3) Legal entities and individuals in the marketplace;
4) Enterprises providing repair of personal items, as well as dry cleaning and laundry services.

Market prerequisites

Growth of the mail and logistics market. Globally as well as in Kazakhstan, the general trend of growth in the volume of postal and courier services could be admitted. In particular, the volume of postal and courier services rendered within the market of Kazakhstan is estimated at KZT 33,688 mln in 2018, which is 16% higher than the same indicator for 2014.

E-commerce market development. The e-commerce market in Kazakhstan is growing at a dynamic pace. According to the data from the Committee on Statistics of the Ministry of National Economy of the Republic of Kazakhstan, the volume of services sold via the Internet in 2016 amounted to 32.5 mln units, of which 15.4 mln units are retail goods. The annual increase in traded volumes is more than 42%.

Growth in demand for postamat services. Accordingly to a described reasons, operators launched an active adaptation of postamats into the market of Kazakhstan. Currently, there are over 400 parcel lockers installed across the Kazakhstan. Moreover, it is expected to install additional 1,500 postamats by 2020.

Key investment indicators

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment amount, US$ thous.</td>
<td>10,975</td>
</tr>
<tr>
<td>Project NPV, US$ thous.</td>
<td>78,233</td>
</tr>
<tr>
<td>IRR, %</td>
<td>28.7%</td>
</tr>
<tr>
<td>EBITDA margin, %</td>
<td>63%</td>
</tr>
<tr>
<td>Payback period, years</td>
<td>6.5</td>
</tr>
<tr>
<td>Discounted payback period, years</td>
<td>7.4</td>
</tr>
</tbody>
</table>

Project profitability

The number of postamats by regions of RoK, 2018

- Almaty Oblast: 17%
- East Kazakhstan Oblast: 8%
- Karaganda Oblast: 12%
- Shymkent Oblast: 5%
- Kostanay Oblast: 10%
- Nur-Sultan Oblast: 43%
- Others: 43%
Construction of a furniture production workshop in Almaty

Product
Production capacity: 737,404 units annually, namely: chairs – 662,702 units; benches – 20,616 units; armchairs – 54,086 units.
Domestic demand: 2,201 thousand units, namely; metal-frame seating furniture – 1,632 thousand units; wooden-frame seating furniture – 569 thousand units.

Company
P.T.Z. LLP is part of the Zeta group of companies (the “Group”), which has 25 years of experience in furniture production and trading.

The Group incorporates five furniture production plants in Almaty and one in Nur-Sultan; 50 stores in 26 towns and cities around Kazakhstan and several branches in other CIS countries.
The share of Kazakhstan content in finished products is approximately 80%. The Company employs over 3,000 people and produces in excess of 6,000 different items.

Market
• According to GR&DS, global upholstered metal-frame seating furniture sales will almost double to 51 billion USD with CAGR reaching 14.46% (2020-2025).
• According to GS&DS, in Kazakhstan demand for adjustable seating furniture will reach 31 million USD in 2025 (CAGR at 12.9% in 2020-2025). Demand for upholstered and metal-frame furniture will reach 25.5 million USD (CAGR at 18.3% in 2020-2025). The positive trend may be due to the growth in real estate purchased in Kazakhstan.

Investment attractiveness of the project:
Investment – US$ 7,141 thousand
NPV – US$ 7,876 thousand
IRR – 27.2%
Payback – 7.2 years

What is the attractiveness of the project?
• Low production costs and competitive selling prices. The Company has a good supply base for raw materials and parts (Kazakhstan content is 80%). Thus, the production process does not require resources to be purchased from overseas. Finished items are lower in price than imports whose end cost includes significant transportation costs etc.
• Good location. Production has been planned for Almaty, the country’s most densely populated and economically active city. The Almaty agglomeration has well-developed road and logistics infrastructure in place, which is one of the deciding factors influencing successful Project implementation.
• Vast experience in the furniture market. ZETA has 25 years of market experience, and is a well-known brand among B2B and B2C consumers.

Investment proposal
The Project requires investment of US$ 7,141 thousand, of which:
• 70% (4,999 thousand USD) – debt financing subject to collateral;
• from 30% (2,142 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 wool worsted fabrics

Annual capacity:
• 552 tonnes of worsted fabric.

Project
This investment project (the “Project”) provides for the expansion of the primary wool processing factory into a textile production of worsted fabric in Tekes village of Almaty oblast.

Company
Kuat LTD factory limited liability partnership is a project Initiator, whose core activity is wool processing. The company has been operating in the wool market for 30 years: currently, the company specialises in the production of scoured wool of all types. The Initiator has a land plot of 2 hectares with a total area of production facilities of over 5,000 sq. m.

Market
• According to Mordor Intelligence, the textile market will show stable growth over the next 5 years increasing from US$ 791 billion in 2021 to US$ 967 billion with CAGR of 5.2%.
• In 2019, the woolen fabric production in the country ceased due to an increase in the supply of cheap imported raw materials from China, the countries of Southeast Asia and Turkey, as well as the violation of cooperation ties.
• In 2020 the volume of imports of fabrics containing predominantly wool mixed with synthetic fiber increased by 48.1% compared to the previous year. The potential volume of import substitution for this product amounted to US$ 819 thousand.

Investment attractiveness of the project:
Investment – 8,174 thousand USD
NPV – 8,030 thousand USD
IRR – 24.2%
Payback – 6.5 years

What is the attractiveness of the project?
• Favorable location. Almaty region with favourable climatic conditions is the best zone for breeding mutton-wool sheep in Kazakhstan, which is confirmed by the region’s leading position in the production of sheep wool in 2020.
• Access to infrastructure. The company is a primary wool processing factory and owns a land plot with production workshops. It also has own treatment facilities with a sewerage system, water supply, a boiler room for heating and production of technical steam.
• Full cycle of fabric production. The formation of own herd of fine-wool merino breed will ensure the production of high-quality raw materials and reduce wool supply risks. Organization of an enterprise with a full cycle of production of fabrics used in the manufacturing of finished textile products for final use will allow achieving low production costs and ensuring the competitiveness of production.

Investment proposal
The Project requires investment of US$ 8,174 thousand, of which:
• 70% (US$ 5,722 thousand) – debt financing subject to collateral;
• 30% (US$ 2,452 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 textile plant

Product
Processing capacity: 20,000 tons of cotton fibre.
Production volumes: yarn – 18,000 tons; cotton fibre waste – 1,300 tons.

Project
The investment project ("Project") involves the construction of a textile plant to process cotton fibre into yarn for weaving. The Project is due to be realised in two stages:

• cotton fibre production capacity will be 10 thousand tonnes in stage one;
• capacity is due to be increased to 20 thousand tonnes per year for stage two.

The plant is due to be built in the Ontustik SEZ in Shymkent. Turkestan Oblast is the only region in Kazakhstan producing cotton thanks to its favorable climate.

The Initiator has signed agreements of intent with local producers to supply 20-30 thousand tonnes of cotton fibre per year.

Company
Shymkent Textile Group LLP was created to implement a project to produce cotton yarn from cotton fibre processing for weaving purposes.

Market
• In Kazakhstan, the average gross raw cotton harvest is 326.5 thousand tonnes, while cotton fibre production is 74.5 thousand tonnes. On average, fibre yield from raw cotton in Kazakhstan is 20%, which is lower than industry averages in other Central Asian countries (30-40%), but is growing year on year.

What is the attractiveness of the project?

• Advantageous location. Turkestan Oblast is the only region in Kazakhstan producing cotton, and is home to a number of textile enterprises and plants. The region is known for its well-developed transportation and logistics infrastructure, which helps to reduce the time and costs needed to deliver finished products across the country and overseas.

• SEZ advantages. As the Company operates in a SEZ, the Project may be eligible for CIT, property tax, land tax and land use charge exemptions, as well as a simplified procedure for hiring foreign specialists, special customs and tax regimes, and access to a “one-stop-shop” in terms of servicing for the entire Project.

Investment proposal
The Project requires investment of 34,053 thousand USD, of which:

• 70% (23,837 thousand USD) – debt financing subject to collateral;
• 30% (10,216 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:

• 15% (5,000 thousand USD) – buildings and structures;
• 65% (22,040 thousand USD) – equipment purchases;
• 20% (7,013 thousand USD) – working capital.
Construction of a furniture factory

Product
Production volumes in 2025:
- plywood – 12,216 cubic m/year;
- stepladder – 462,863 units/year;
- pellets – 14,029 tonnes/year.

Project
The Project envisions the construction of a plant for the production of solid wood products, the list of which includes plywood, a Bekvam stepladder and pellets.

Company
Initiator of the project is Aptha Kazakhstan LLP, whose core activity is a production of chairs and other seating furniture. The main potential participant of the Project and co-founder of the Company is a Bosnian company Aptha Corp. specializing in the production/export of wood products, including for IKEA.

Market
• According to GR&DS, the market for other chairs will grow from 14.3 US$ million in 2020 to 22.7 US$ million in 2025, reaching CAGR of 9.73%.
• Imports of birch plywood in monetary terms showed significant growth over the period 2017-2019, with a compound annual growth rate of 23.8% (CAGR - 23.8%). In 2020, however, this figure decreased by 24% compared to 2019. Import substitution potential is valued at 17.2 US$ million.
• Imports of wood pellets to the RK showed significant growth during the period 2016-2018, with a compound annual growth rate of 75% (CAGR - 75%). In 2019, the volume of imports decreased to 1,000 tonnes. In 2020, an increase in supplies from the Russian Federation led to an almost two-fold increase in imports which amounted to 1,960 tonnes.

Investment attractiveness of the project:
Investment – US$ 21,519 thousand
NPV – US$ 13,003 thousand
IRR – 23.3%
Payback – 6.5 years

What is the attractiveness of the project?
• Advantageous production location. The developed and ramified system of railroads of Trans-Siberian Railway and South Urals Railway, present in North Kazakhstan region, provides a short transport shoulder and allows to arrange both delivery to nearby countries and supply of raw materials. The region possesses rich wood fund, where suppliers of wood raw material have the permits for cutting of wood in 20 of 39 forestries of North Kazakhstan region.
• Budget segment products and waste-free production. The demand for chairs and plywood is always relevant due to their relatively low price and wear resistance, especially when launching programs to support the construction sector and commissioning residential buildings and office space. It is planned to produce pellets from compressed waste for export.
• An established customer base of Aptha Corp. will reduce the marketing costs of building a customer base for product sales.

Investment proposal
The Project requires investment of US$ 21,519 thousand, of which:
• 70% (US$ 15,063 thousand) – debt financing subject to collateral;
• 30% (US$ 6,456 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 sanitary paper product production plant with creation of 37 new workplaces.

**Project location:**
North-Kazakhstan Oblast, Petropavlovsk

**Project Initiator:**
Raduga LLP main activities of which involve the production and distribution of consumer goods.

**Product and output:**
Toilet paper – 8 thousand tonnes/year;
Paper tissues – 0.5 thousand tonnes/year;
Paper towels – 0.6 thousand tonnes/year;
A4 office paper – 0.6 thousand tonnes/year.

**Sales market:**
The manufactured products are planned to be sold on the domestic market of the Republic of Kazakhstan through its own distribution network with branches in 10 cities: Petropavlovsk, Kokshetau, Nur-Sultan, Kostanay, etc.

**Production process:**
2. Rewinding of paper base, embossing, cutting, printing and packaging of finished products.

**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>9,422</td>
</tr>
<tr>
<td>Project NPV, US$ thous.</td>
<td>11,881</td>
</tr>
<tr>
<td>IRR, %</td>
<td>32.5%</td>
</tr>
<tr>
<td>EBITDA margin, %</td>
<td>36%</td>
</tr>
<tr>
<td>Payback period, years</td>
<td>5.5</td>
</tr>
<tr>
<td>Discounted payback period, years</td>
<td>6.9</td>
</tr>
</tbody>
</table>

**Investment structure**

- **Purchase of transport and equipment**
  - 14%
  - $1.4 million

- **Machinery and equipment**
  - 40%
  - $3.7 million

- **CAPEX**
  - 38%
  - $3.6 million

- **Other**
  - 8%
  - $0.7 million

**Prerequisites for Project implementation**

**The growth of paper product market.** In comparison to other segments of the pulp and paper industry, the sector of sanitary products is growing steadily. The total production of sanitary paper goods in Kazakhstan increased by 17% in 2019 (CAGR on average 14.2% over 5 years).

**Import substitution.** The share of imports in the structure of sanitary paper products consumption of the country is 46%. Thus, Kazakhstan had imported 37 thou. tonnes of toilet paper, paper tissues and towels in 2019. Therefore, an expansion of own production will reduce the amount of imported goods.

**Export development.** The total volume of exports of sanitary paper products in 2019 was 300 tonnes. The indicator had decreased by 32% in comparison to 2015. Considering the stable growth of the industry and the high demand for sanitary paper products, there is a potential for growth of export volumes.

**Project profitability**

![Graph showing Project profitability with EBITDA margin and Revenue over the years 2022 to 2034 and PPP]

**Financing structure**

- **Initiator equity**
  - 15% ($1.4 million)

- **Debt financing subject to collateral**
  - 70% ($6.6 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.