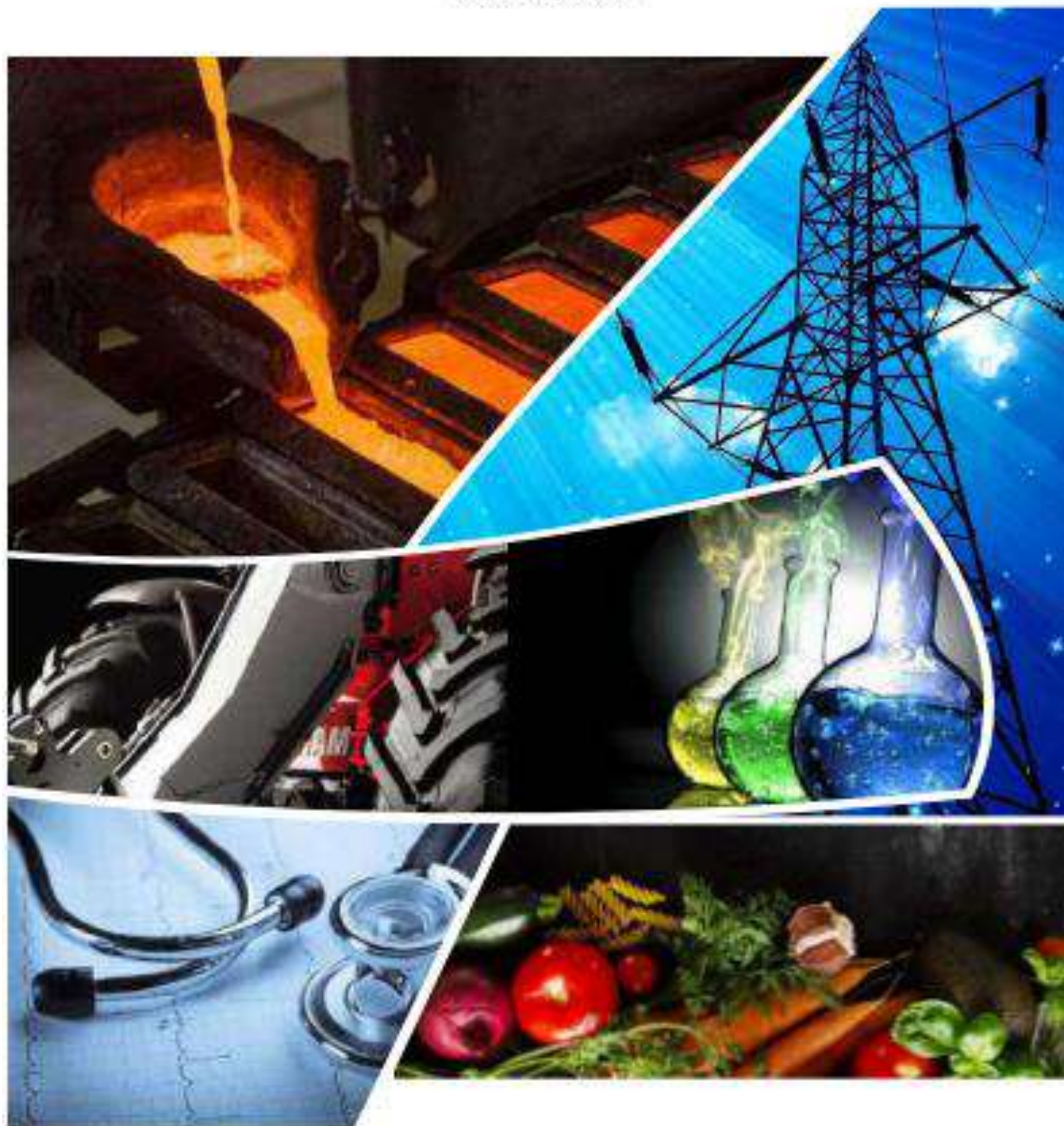




KAZAKH INVEST

NATIONAL COMPANY



**INVESTMENT OPPORTUNITIES  
OF KAZAKHSTAN**  
Niche projects

# Agro-industrial complex

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

KAZAKH INVEST  
Investment proposal  
August 2020

## Agro-industrial complex

### Project description:

Construction of a plant for the production of pectin and dry granulated feed from beet pulp (waste from the processing of sugar beet) based on the new practical technology for extracting pectin from beet pulp (new practical way).

### 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.

### 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.

### 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.

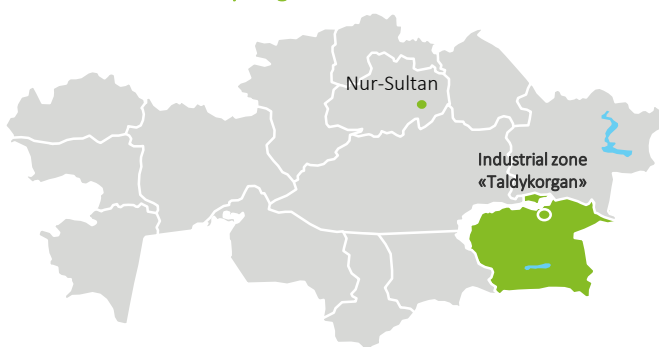
**Project innovativeness.** A new technology has been developed for extracting pectin from beet pulp, which is more economical than technologies for extracting pectin from citrus and apples. The developers of the technology registered their rights to the technology in accordance with the requirements 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.

### Key investment indicators

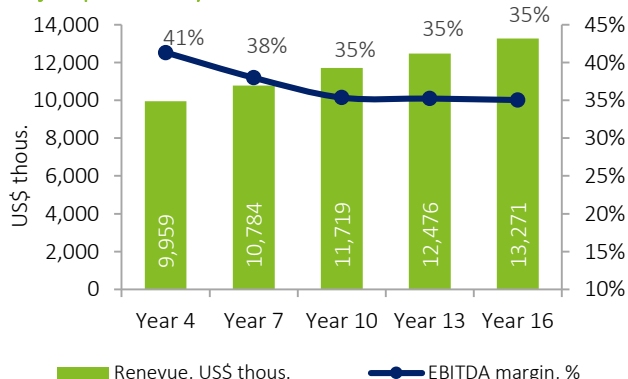
Indicator	Results
Investment amount, US\$ thous.	13,300
Project NPV, US\$ thous.	9,090
IRR, %	19.7%
EBITDA margin, %	37.3%
Payback period, years	7.1
Discounted payback period, years	10.9

### Project location:

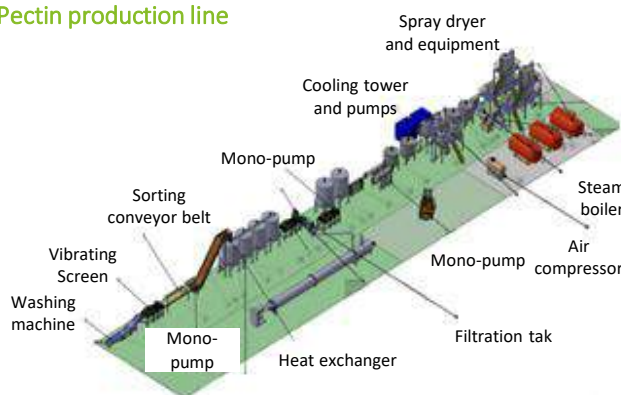
industrial zone «Taldykorgan»



### Project profitability



### Pectin production line





# Expansion of a modern pig farm to a capacity of 500,000 heads

## Agro-Industrial complex

KAZAKH INVEST  
Investment proposal  
August 2020

### 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.

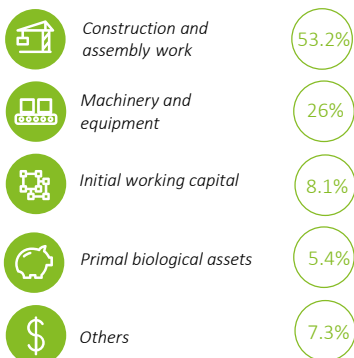
### Production process:

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

Indicator	Results
Investment amount, US\$ thousand	126,866
Project NPV, US\$ thousand	121,368
IRR, %	26.4%
EBITDA margin, %	22%
Payback period, years	8.2
Discounted payback period, years	10.2

### Investment structure



### Prerequisites for the Project implementation

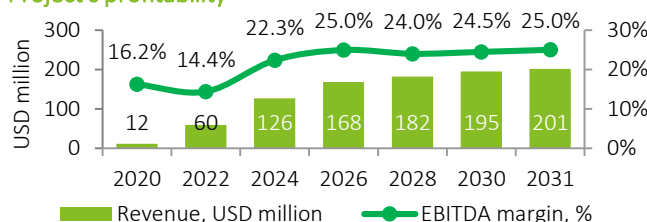
**Food base.** The pig farm is located in the center of the grain region of Kazakhstan, rich in cultivated wheat, rapeseed, and soy. Availability of high-quality and inexpensive feed is one of the key conditions for pig farming and gives a significant competitive advantage. EMC Agro LLP purchases feed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

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

### Availability of the necessary infrastructure and qualification

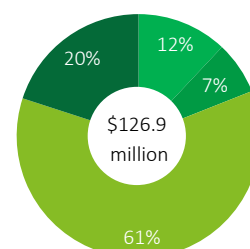
The Initiator manages a modern pig farm, has a land plot with all engineering and technical communications. The pig complex, where technological processes are automated, includes: reproductive farm, artificial insemination station, growing and fattening farm, meat processing plant, own veterinary service,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

### Project's profitability



### Financing structure

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



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

# Full-cycle cattle fattening and meat processing and sale enterprise

## Agricultural sector

KAZAKH INVEST  
Investment proposal  
August 2020

### Project summary

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

Under the project implementation in two locations it is planned to:

- expand in Boleksaz village of Kegen district the existing feedlot capacity, and to provide own forage resources on a leased land plot;
- build in Koshmambet village of Karasay district new feedlot, to increase the meat processing plant capacity.

Within the Project 192 jobs are expected to be created.

### Project Initiator:

Meat Processing and Service LLP

### Project location:

Republic of Kazakhstan, Almaty Oblast

### Marketed products and Project capacity:

24,157 tons of meat annually since 2022.

Within the Project is planned to produce:

- chilled beef carcasses.

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

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

### Investment attractiveness of the Project

Indicator	Results
Investment, US\$ thousand	35,508
Project NPV, US\$ thousand	44,277
IRR, %	27.8
EBITDA margin, %	11
Payback period, years	6.3
Discounted payback period, years	8.3

### Investment structure



Construction and assembly work

20%

\$7.1 million



Machinery and equipment

7%

\$2.4 million



Other expenses

24%

\$8.5 million



Initial working capital

49%

\$17.5 million

### Prerequisites for Project implementation

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

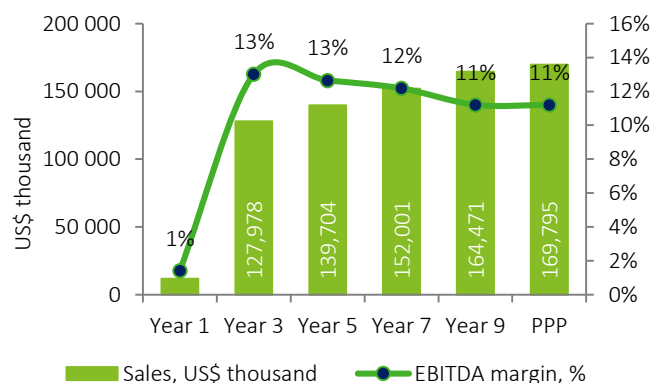
The Initiator is accredited for products distribution to China, Russia and the Middle East.

**Company's extensive material and technical base** - The Company's assets include large land plots for arable land and pastures, an operating meat processing plant, a feedlot, a trading network of five stores, seeding 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.

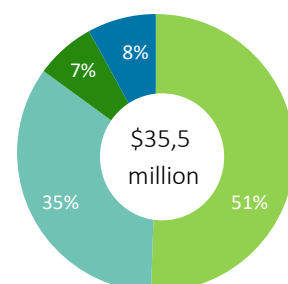
### Project profitability



### 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

KAZAKH INVEST  
Investment proposal  
August 2020

## 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 supermarkets in Almaty, such as Ramstore, Metro Cash & Carry, Magnum Cash & Carry, Dastarkhan, SMALL, A-Store, Carrefour, 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

Growth method	Coconut
Growth system	Hanging trays
Number of rows	8

### Investment attractiveness of the Project

Indicator	Results
Investment amount, US\$ thousand	8,207
Project NPV, US\$ thousand	5,995
IRR, %	20.1%
EBITDA margin, %	43%
Payback period, years	6.0
Discounted payback period, years	9.4

### Investment structure



Construction and assembly work

42%

\$3.5 million



Machinery and equipment

45%

\$3.8 million



Other

13%

\$1.0 million

### Prerequisites for implementation of the Project

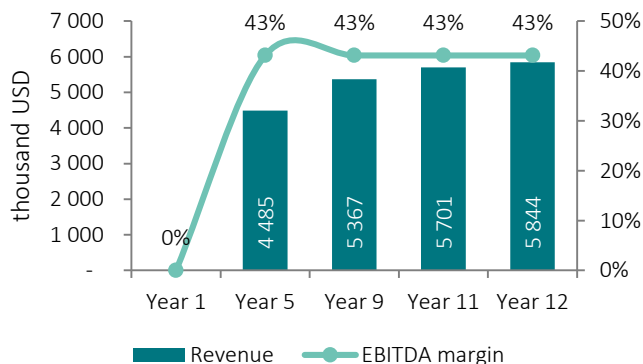
**Priority investment project.** Industrial cultivation of strawberries is categorised under 01. Crop production - growing other types of fruit trees, bushes and nuts, which is recognised as a priority investment project.

**Import substitution opportunity.** Project implementation will help replace a significant volume of imported products.

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

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

### Project's profitability

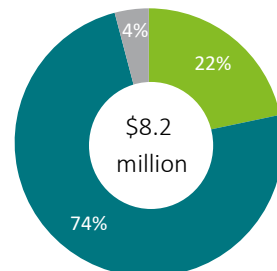


### Схема финансирования Проекта

Initiator equity  
22% (\$1.8 million)

Debt financing subject to collateral  
74% (\$6.1 million)

Participation of the Investor  
om 4.1% (\$336 thousand)



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 the agro-industrial complex "Sary-Arka" for the production and processing of agricultural products

## Agricultural sector

### Project description:

Creation of a plant for deep processing of wheat with an opening of 56 new workplaces.

### Project location:

Akmola oblast, Nur-Sultan, on the territory of the SEZ "Astana-Technopolis"

### Project Initiator:

"APK "Sary-Arka" LLP

### Product and output:

Gluten – 3.9 thousand tonnes per year;  
Starch – 14.8 thousand tonnes per year;  
Dry animal feed additives – 14.5 thousand tonnes per year;  
Glucose-fructose syrup – 16.8 thousand tonnes per year.

### Sales market:

Up to 80% of manufactured products are planned to be sold on the domestic market, 20% - on the external market (China, Uzbekistan, Kyrgyzstan).

### Production process:

1. Cleaning and grinding of grain, separation of gluten, starch and dry feed additives.
2. Preparation of marketable product (prepackaging operation, packaging and transportation).

### Key investment indicators of the Project

Indicator	Results
Investment amount, US\$ thousands	34,537
Project NPV, US\$ thousands	31,247
IRR, %	22.8%
EBITDA margin, %	50%
Payback period, years	6.4
Discounted payback period, years	9.4

### Investment structure



Construction and assembly work

17%

\$5.8 million



Machinery and equipment

76%

\$26.4 million



Initial working capital

7%

\$2.3 million

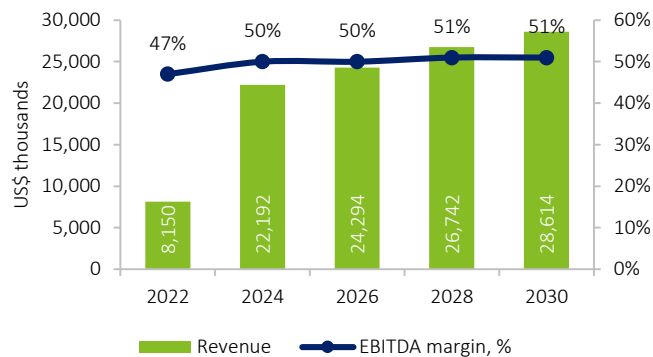
### Prerequisites for Project implementation

**Sufficiency of the raw material base** – Kazakhstan is among the top 10 countries in the world in terms of wheat export. In 2019, 11.5 million tonnes of wheat were produced. Also, Akmola oblast is the leader in terms of the gross harvest of summer wheat: in 2019, 32% of the national indicator was collected within a region.

**Import substitution** - In 2019, imports of wheat starch increased by 46% while ready-made feed for farm livestock increased by 12.5%. Kazakhstan's high import dependence indicates a clear imbalance in the production of deep grain processing products. Saturation of the domestic market with locally produced goods will replace expensive analogues of foreign suppliers.

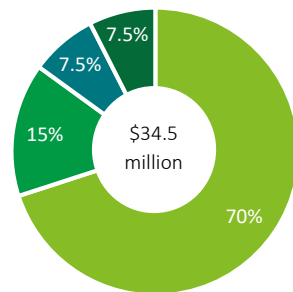
**Export potential** – Deep processing of wheat is a relatively new line in the industrial sector of the Republic of Kazakhstan. Considering a vast scope of applications and the high demand for starch and gluten, Kazakhstan with the proper rates of development, has a potential for entering international markets.

### Project profitability



### Financing structure

- Initiator equity  
7.5% (\$2.6 million)
- Participation of the Fund (KIDF or KCM)  
7.5% (\$2.6 million)
- Debt financing subject to collateral  
70% (\$24.2 million)
- Participation of the Investor  
from 15% (\$5.2 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.

# Industrial cultivation of blueberries and the organization of a plant cloning center in the Turkestan region

## Agro-industrial complex

KAZAKH INVEST  
Investment proposal  
August 2020

### Description of the project:

Creation of a full-cycle agro-technical complex, which ensures the production of planting material and sale of blueberries. Production will create 250 permanent and 3,000 seasonal jobs.

### Location:

Turkestan region, Arys district, Sarsenbay village.

### Initiator:

Vanrik Eco berry is a joint venture, established by Vanrik Agro Group holding (50%) and Kazakh company LOYALMATY GROUP LLP (50%). Vanrik Agro Group is an agricultural holding from Georgia that has 11 years of experience in blueberry cultivation.

### Output and capacity:

Industrial cultivation of blueberries is planned on an area of 520 hectares: 9,227 tons of fresh blueberries, 3,104 tons of frozen blueberries. Product is planned to be sold to China, Russia, Kyrgyzstan and Uzbekistan.

### Production process:

1. Seedlings microcloning; shadberry, paulownia and blueberry planting;
2. Inspection, packaging and sale of blueberries.

### Investment attractiveness of the Project

Indicator	Results
Investment amount, US\$ thous.	33,034
Project NPV, US\$ thous.	48,643
IRR, %	25.9%
EBITDA yield, %	21%
Payback period, years	7.0
Discounted payback period, years	9.0

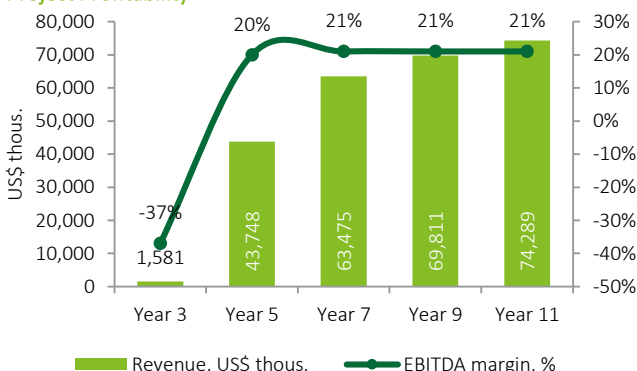
### Prerequisites for implementation of the Project

**Growth in demand for blueberries in the world.** The global blueberry growing market in 2018 was estimated at US\$ 1,741 million. It is expected to reach US\$ 2,638 million by 2024. CAGR for the forecast period will be 7.3%.

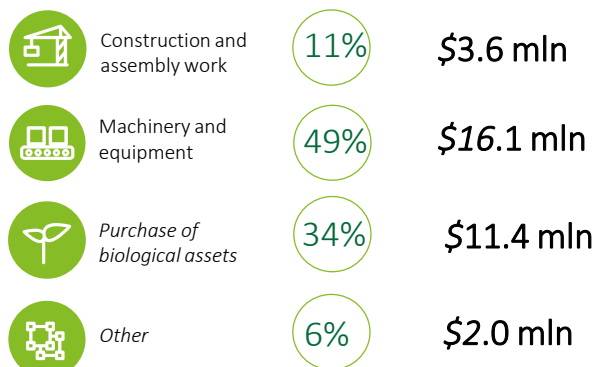
**Country's dependence on blueberry imports.** In Kazakhstan, blueberries are not currently grown on an industrial scale. All blueberry consumption is covered by imports, so prices for blueberries in Kazakhstan remain high. The volume of imports in 2019 amounted to 41 tons (US\$ 407 thousand in monetary terms).

**Proximity to capacious markets.** The geographical closeness of the country to capacious sales markets such as the Russian Federation, China and Southeast Asia allows to establish exports with an aim of gaining a significant share in neighbor consumption markets. Early ripening blueberry varieties will be sold in the Russian Federation, where there is a shortage in the market in May /June. Middle and late varieties, bearing fruit in June-August, are planned to be supplied to the Chinese and Southeast Asian markets at high prices. At these markets blueberry harvesting ends in April / May, and a deficit is usually observed since June.

### Project Profitability

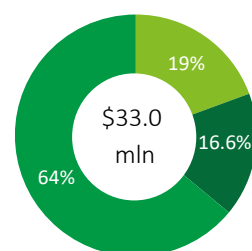


### Investment structure



### Financing structure

- Initiator equity  
19.4% (\$6.4 mln)
- Participation of the Fund (KIDF or KCM)  
16.6% (\$5.5 mln)
- Debt financing subject to collateral  
64% (\$21.1 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 an oil extraction plant

KAZAKH INVEST  
Investment proposal  
August 2020

## 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

Indicator	Results
Investment amount, US\$ mill.	179.0
Project NPV, US\$ mill.	252.3
IRR, %	25.5%
EBITDA margin, %	20.22%
Payback period, years	6.4
Discounted payback period, years	8.6

### Investment structure



Construction and assembly work

41%

\$73.6 million



Machinery and equipment

51%

\$91.4 million



Other expenses

8%

\$14,1 million

### Prerequisites for Project implementation

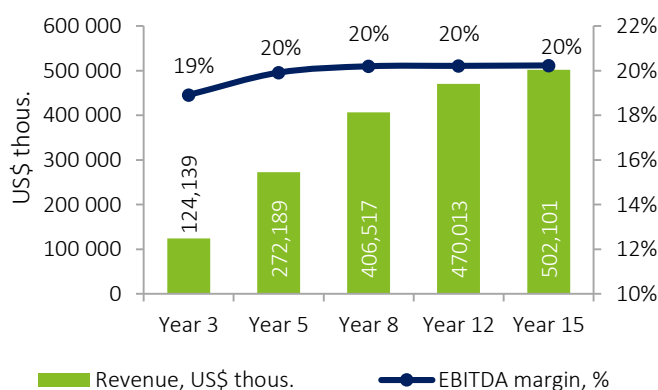
**Rich raw material base** - The gross harvest of sunflower, rapeseed and soybean seeds in Kazakhstan in 2019 amounted to 918, 241 and 282 thous. tons.

**Price differential with neighboring countries.** In general, there is a disparity in prices in Kazakhstan in comparison with prices for products in neighboring countries, which justifies the increased export of oilseeds from Kazakhstan in a number of positions.

**Qualified staff.** The company attracts qualified personnel for effective production management, as well as with scientific and practical experience in the selection of oilseed varieties with increased consumer properties.

**A reliable partner and modern plant equipment.** The Exoil Group has significant experience in processing, trading of oilseeds and grains, port handling and logistics. In 2016, the group put into operation a similar project for the production and deep processing of oilseeds with a capacity of 2,000 tons per day in the Lipetsk oblast, RF.

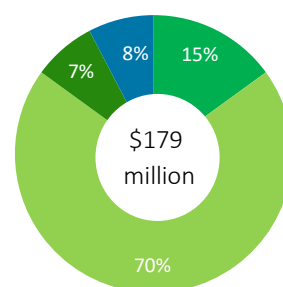
### Project profitability



### Financing structure

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

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



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

# Organization of a meat cluster for the production of lamb and beef in West Kazakhstan oblast

## Agro-Industrial Complex

KAZAKH INVEST  
Investment proposal  
August 2020

### Description of the project:

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

Reproducer with a capacity of 5,000 heads of one-time keeping, a feedlot with a capacity of 20,000 heads of one-time keeping, a meat processing plant with a slaughter capacity of 700 carcasses per shift are planned to be built according to the project. Production will create 95 additional workplaces.

### Location:

West Kazakhstan Oblast, Syrym district, Sholakankatyn district, Togan village

### Initiator:

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

### Output and capacity:

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





### Production process:

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

### Investment attractiveness of the Project

Indicator	Results
Investment amount, US\$ thous.	18,468
Project NPV, US\$ thous.	32,164
IRR, %	16.7%
EBITDA yield, %	26%
Payback period, years	11.1
Discounted payback period, years	15.7

### Investment structure

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

### Prerequisites for implementation of the Project

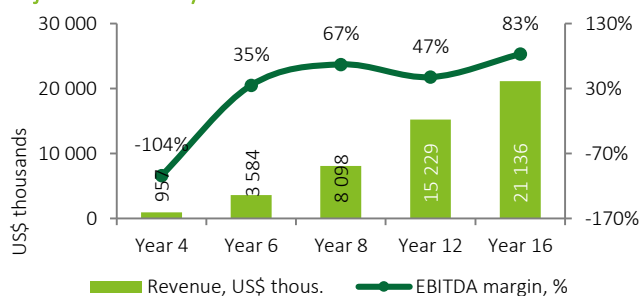
**Growing global demand for lamb.** According to forecasts by the OECD and the UN FAO, there will be an increase in the global level of consumption of mutton. The average annual growth rate in 2020-2024 will be 2.39%.

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

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

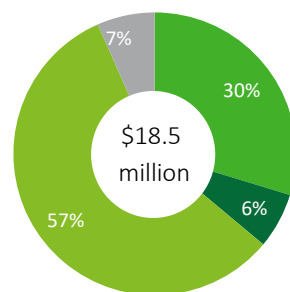
**Favorable location.** The climatic conditions of the region are favorable for sheep breeding. The selected plot for the farm is sown meadows with access to river water.

### Project Profitability



### Financing structure

- Initiator equity  
30% (\$5.5 million)
- Participation of the Fund (KIDF or KCM)  
6% (\$1.2 million)
- Debt financing subject to collateral  
57% (\$10.6 million)
- Participation of the Investor  
om 7% (\$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.

# Goat farm and construction of a dairy plant

KAZAKH INVEST  
Investment proposal  
August 2020

## Agro-industrial complex

### Project Description:

The Project idea is the launch of a farm with a livestock of 10,000 goats and a plant construction for the production of liquid pasteurized and whole powdered goat milk in the Almaty oblast. Alpine dairy goats will be imported from France. The Project envisages the transfer of technology for raising dairy goats in a modern farm with a high level of technological processes automation, which reduces the cost of maintaining the farm. The Alpine goat produces milk that is devoid of the traditional goat scent, so it cannot be distinguished from cow's milk by taste or smell. The project will create 65 jobs.

### Initiator of the project:

The initiator of the Project is the French company S.A.S D.A.E, founded by two French farmers - René Montserre and David Ammeu

### Proposed sales markets and volumes:

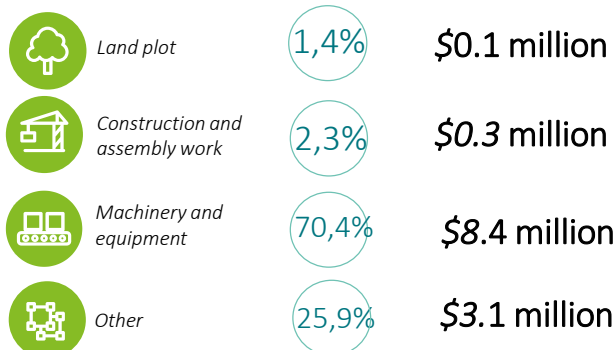
Pasteurized milk and whole milk powder.

Upon reaching the design capacity, it is planned to produce 2.7 mln liters of pasteurized milk and 840 tons of whole milk powder. It is planned to sell products both in the domestic market and abroad. 19% of the milk powder volume is planned to be exported to China.

### Key investment indicators of the Project

Indicator	Results
Investment amount, US\$ thous.	11,886
Project NPV, US\$ thous.	14,893
IRR, %	24.8%
EBITDA margin, %	37.39%
Payback period, years	6.6
Discounted payback period, years	8.8

### Investment structure



### Prerequisites for Project implementation

#### Domestic market deficit

In 2019, the production deficit amounted to 21.7 thousand tons, and the provision with products of its own production was 13%. All products presented on the market are mainly imported. The main exporters of milk powder to Kazakhstan are Belarus, Lithuania and France.

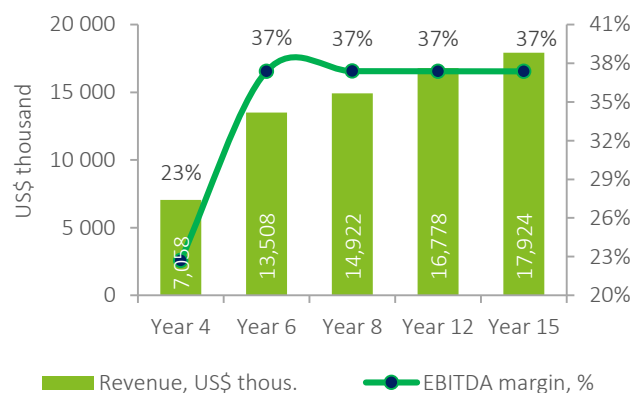
#### Quality dairy products

Alpine goats has good genetics, is one of the most productive dairy breeds of domestic goats and is well adapted to harsh climates. The average milk yield of a goat per day is 2.9 liters.

#### Low level of competition.

There is an acute shortage of breeding goats in Kazakhstan. Today there are only 3 relatively large goat farms in Kazakhstan. Dairy products are not produced in our country on an industrial scale. You can often find imported skimmed goat milk powder and UHT milk on the shelves of shops in large cities and metropolitan areas.

### Project profitability

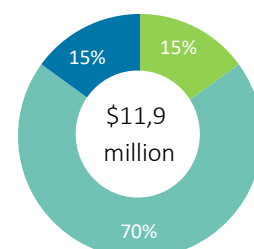


### Financing structure

Initiator equity  
15% (\$1.8 million)

Debt financing subject to collateral  
70% (\$8.3 million)

Participation of the Investor  
from 15% (\$1.8 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.



# Development of an aquaculture complex to produce black caviar and commercial sturgeon

## Agricultural sector

KAZAKH INVEST  
Investment proposal  
August 2020

### Project description:

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

### Project location:

West-Kazakhstan Oblast, Uralsk, Zachagansk Village

### Project Initiator:

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

### Product and output:

Smoked fish – 3 tonnes

Fresh-frozen fish – 6.7 tonnes

Black caviar - 10 tonnes.

### Sales market:

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

Exports: fresh-frozen fish 6.7 tonnes (Russia) and 8 tonnes of caviar (Russia, UAE, USA, Japan, EU).





### Production process:

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

### Key investment indicators of the Project

Indicator	Results
Investment amount, US\$ thousands	8 400
Project NPV, US\$ thousands	30,533
IRR, %	36.5%
EBITDA margin, %	58%
Payback period, years	7.4
Discounted payback period, years	8.7

### Investment structure

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

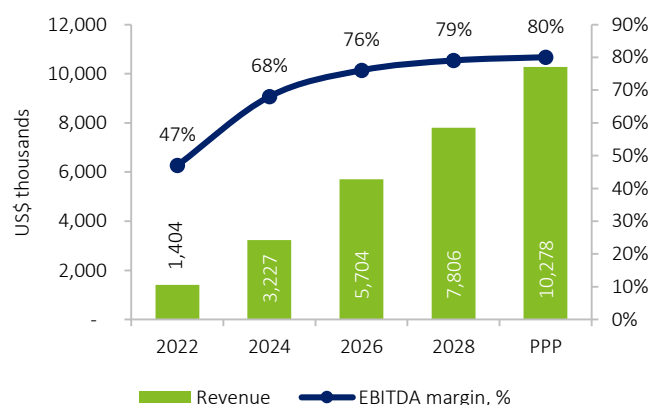
### Prerequisites for Project implementation

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




**Growing demand for fish and sturgeon caviar** - According to forecasts by the OECD and UN FAO, there will be an increase in the total level of fish consumption in the world. Average annual growth rate (CAGR) in 2019-2025 will be 1.8%. Thus, whilst in 2018 fish consumption per capita amounted to 20.3 kg per person, by 2027 consumption will reach the level of 21.3 kg per person. According to forecasts, the global caviar market will also grow with a significant CAGR of 7% for 2015 - 2025. It is estimated that by 2025 the caviar market will be valued at US\$ 560.6 mln.

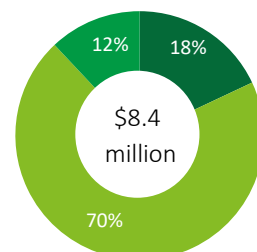
**Import substitution** - Total volume of imports of sturgeon caviar in 2019 had shown a 1.5 times increase compared to 2018 and amounted to 3.4 tonnes. That provides the possibility to occupy a significant niche in the market by producing the quality products at reasonable prices.

### Project profitability



### Financing structure

	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

KAZAKH INVEST  
Investment proposal  
August 2020

## 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;
- "Zhanyrn" 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

Financial indicators	Results
Investment, US\$ thousand	15,655
Project NPV, US\$ thousand	19,300
IRR, %	23,9%
EBITDA margin, %	22,5%
Payback period, years	7,4
Discounted payback period, years	10,3

### Investment structure



Land plot

0%

\$0.03 million



Construction and assembly work

17%

\$2.6 million



Machinery and equipment

37%

\$5.8 million



Other

46%

\$7.3 million

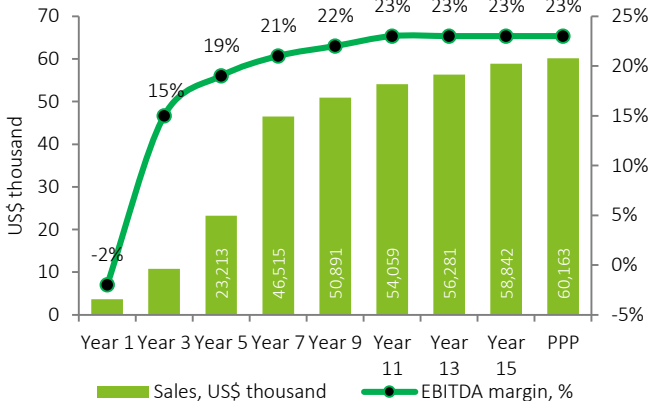
### Prerequisites for Project implementation

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

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

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

### Project profitability

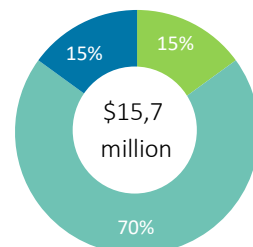


### Financing structure

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

KAZAKH INVEST  
Investment proposal  
August 2020

### 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.

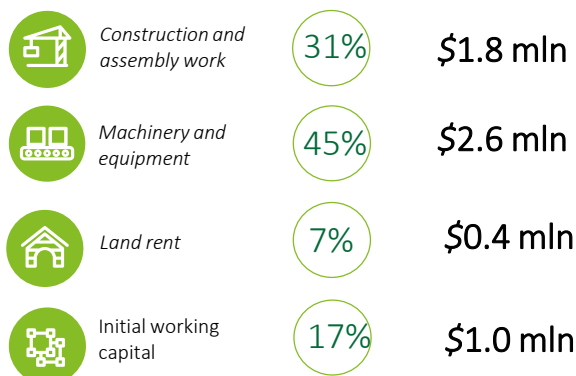
### Production process:

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

Indicator	Results
Investment amount, US\$ thous.	4,841
Project NPV, US\$ thous.	4,576
IRR, %	29%
EBITDA yield, %	22.62%
Payback period, years	5.23
Discounted payback period, years	6.92

### Investment structure



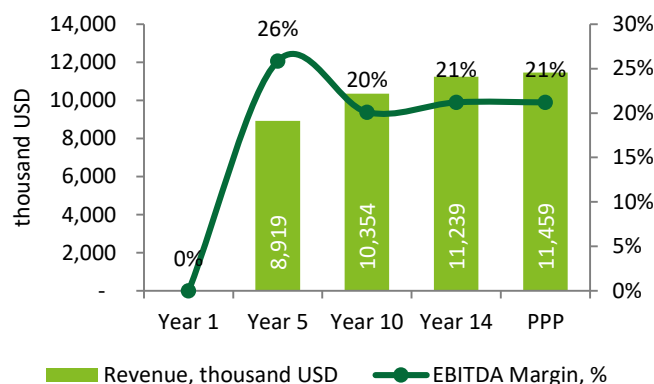
### Prerequisites for implementation of the Project

**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.

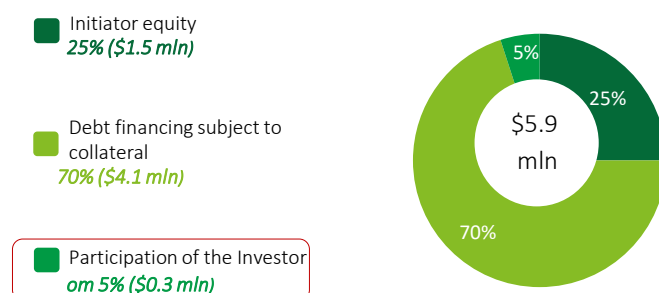
**Location.** The plant's location is perfect for cross-border trade with the regions of China: the distance from the wells to the border with China is 35 km. It significantly reduces transport costs and ensures prompt delivery of products.

**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



### 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.



# Organic production in Kostanay region

## Organic farming

### Project idea:

Organization of cultivation and production of organic products. The project will create 24 new permanent jobs.

### Project location:

Kostanay region, Republic of Kazakhstan

### Project Initiator

Aldamar Agro Export LLP

### Products and production capacities (per year):

Lentils – 1,360 tons, Soybeans – 1,496 tons,  
Sunflower seeds – 1,664 tons, Flax – 1,690 tons,  
Durum wheat – 5,299 tons, Soft wheat – 4,416 tons,  
Barley – 4,122 tons.

### Sales market:

The manufactured products are planned to be exported to the European Union market.

### Production process:

Organic farming is a method of farming that excludes the use of pesticides, herbicides, chemical fertilizers, various plant growth regulators, as well as genetically modified seed. The use of fertilizers containing magnesium, mineral potassium, trace elements, manure and heavy metals is limited.

### Investment attractiveness of the Project

Figure	Results
Investment amount, thousand USD	11,814
NPV, thousands USD	15,638
IRR, %	23%
EBITDA margin, %	49%
Payback period, years	7.3
Discounted payback period, years	9.8

### Investment structure



Construction and assembly work

7%

\$0.9 million



Machinery and equipment

68%

\$7.9 million



Land acquisition

20%

\$2.3 million



Initial working capital

5%

\$0.6 million

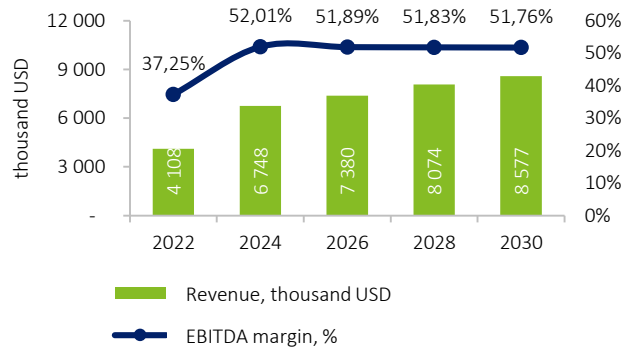
### Prerequisites for the implementation of the Project

**Favorable climate.** Kostanay region has favorable climatic conditions, which helps to reduce costs associated with growing crop products. The average air temperature in the winter months is (-13.6 °C), in the summer 19.9 °C, the number of sunny days per year is 64.3 days.

**Environmentally friendly products.** Consumer demand is gradually shifting in favor of environmentally friendly organic products, despite their high cost. The production of organic products (organic food) in Kazakhstan may become a competitive industry. Compliance with the standards of environmental purity of crop products, without the use of chemical mineral fertilizers and plant protection products, allows to grow environmentally friendly products of high quality that are safe for consumption.

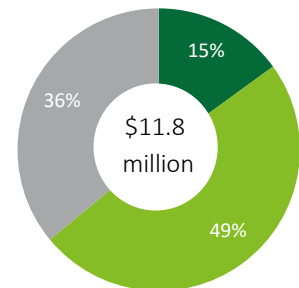
**Competitive prices.** The selling price with delivery will be lower than the average prices in the European market, which will probably give an opportunity to occupy a certain share in the markets for the consumption of organic products.

### Project profitability



### Financing structure

- JSC "SEC" Tobol " 15% (\$1.8 million)
- Foreign partner 49% (\$5.7 million)
- Debt financing subject to collateral 36% (\$4.2 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.

# Greenhouse complex construction

KAZAKH INVEST  
Investment proposal  
August 2020

## Agro-industrial complex

### Project description:

The construction of a 20 ha greenhouse agricultural complex to grow tomatoes in Karaganda oblast. Annual production capacity will be 13 087 tonnes of tomatoes per year (planned yield of 66 kg/m<sup>2</sup>). The project will create 314 jobs.

### Initiator:

JSC Kazakhmys Corporation is a leading group of companies producing and processing natural resources, and a leading copper producer in Kazakhstan. As a “town-forming enterprise” in Karaganda oblast, the Company is promoting the Project as a means of regional development.

### Commodity production and capacity:

All produce grown will be sold domestically – 6,544 tonnes per year, and exported to Russia – 6,544 tonnes per year.

Full design capacity is expected in year 2 following the launch of production.

### Key investment indicators of the Project

Indicator	Results
Investment amount, US\$ thous.	50,293
Project NPV, US\$ thous.	54,260
IRR, %	17.3%
EBITDA margin, %	59%
Payback period, years	8.6
Discounted payback period, years	11.4

### Investment structure



Construction and assembly work

42%

\$20.9 million



Machinery and equipment

58%

\$29.4 million

### Prerequisites for Project implementation

#### The country's dependence on tomato imports –

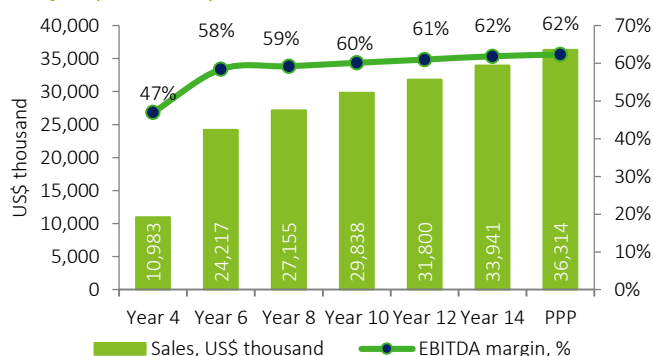
In Kazakhstan there is the tomato deficit during season changes, which is covered by import. In 2019, tomato imports amounted to 43 thousand tonnes. A greenhouse with capacity for 13,087 tonnes of tomatoes per year will help replace imported tomatoes with domestic product.

**Favorable location –** The greenhouses' location in Karaganda oblast will help cover the market not only in Karaganda and the surrounding oblast, but also neighbouring regions. In Karaganda, the sunshine duration is 2,572 hours, which is considered high solar radiation inflow and will reduce the cost of tomato production.

#### Price differential with the Russian Federation –

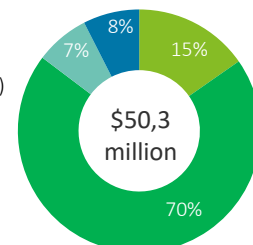
The average tomato prices in the regions of the Russian Federation bordering Kazakhstan is 31% higher than in Kazakhstan. Geographical proximity to a major importer – Russia – provides easy access to major sales markets with 19.4 million population. In 2019, Russia imported 558 thousand tonnes of tomatoes.

### Project profitability



### Financing structure

- Initiator Equity  
from 15.3% (\$7,7 million)
- Debt financing subject to collateral  
(the share of the Initiator in the collateral security no more than 51%)  
up to 70% (\$35,2 million)
- Possible participation of an investment fund  
up to 7.2% (\$3,6 million)
- Participation of the Investor  
from 7.5% (\$3,8 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 of organic and humic complex fertilizers

KAZAKH INVEST  
Investment proposal  
August 2020

## Agricultural sector

### 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) - 47.7 thousand tonnes per year

### Sales market:

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





### Production process:

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

### Key investment indicators of the Project

Indicator	Results
Investment amount, US\$ thousands	6,459
Project NPV, US\$ thousands	9,994
IRR, %	34%
EBITDA margin, %	23%
Payback period, years	5.4
Discounted payback period, years	6.6

### Investment structure

	Construction and assembly works	28%	\$2.4 million
	Machinery and equipment	39%	\$1.8 million
	Technique and transport	14%	\$1.0 million
	Initial working capital	18%	\$1.1 million

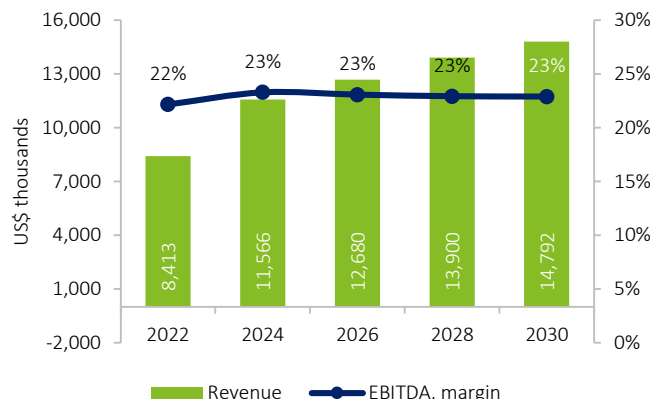
### Prerequisites for Project implementation

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

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

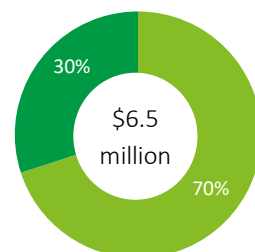
**Import substitution** – total volume of imports of organic fertilizers in 2019 had shown a 5 times increase compared to 2015 and amounted to 1.6 thousand tonnes. That provides the possibility to occupy a significant niche in the market by producing the quality products at reasonable prices.

### Project profitability



### Financing structure

- Initiator equity  
0% (\$0 million)
- Debt financing subject to collateral  
70% (\$4.5 million)
- Participation of the Investor  
from 30% (\$1.9 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

KAZAKH INVEST  
Investment proposal  
November 2020

### 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

Indicator	Results
Investment amount, US\$ thousand	9,744
Project NPV, US\$ thousand	16,140
IRR, %	27.3%
EBITDA margin, %	30.0%
Payback period, years	6.0
Discounted payback period, years	8.0

### 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%.

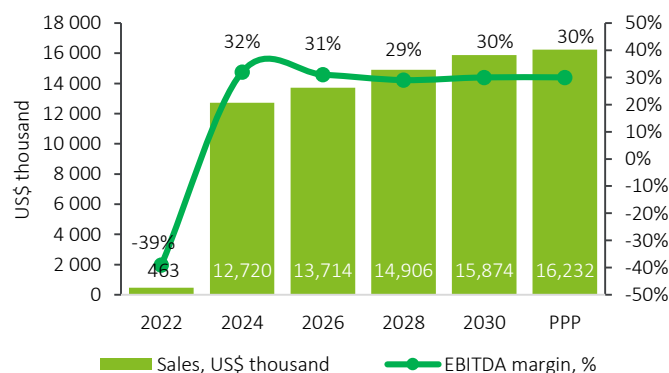
#### Guaranteed sales.

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

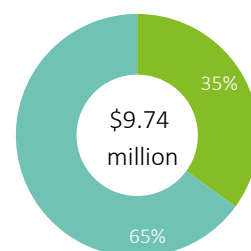
### Project profitability



### 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.

# Poultry feed farming and production on newly irrigated land

## Agro-industrial complex

KAZAKH INVEST  
Investment proposal  
November 2020

### 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

Indicator	Results
Investment amount, US\$ thousand	11,968
Project NPV, US\$ thousand	14,060
IRR, %	25.0%
EBITDA margin, %	53.0%
Payback period, years	6.0
Discounted payback period, years	7.9

### 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.

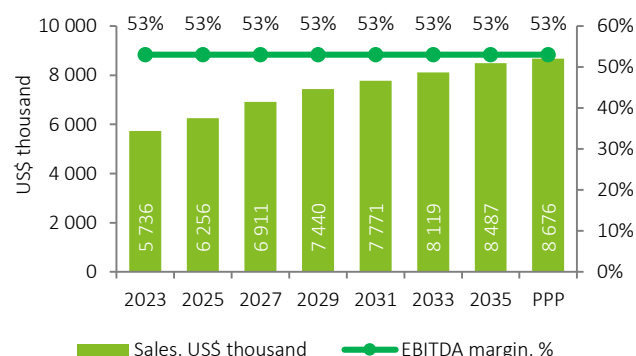
The products will be sold under contracts with the sister company Capital Project LLP (100%), which provides a guaranteed sales for the products manufactured.

#### 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.

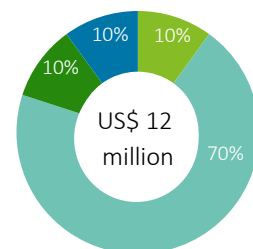
**Favourable location.** The moderately cold climate of the selected region is favourable for the selected crops. The growing season is 150-160 days per year. The absolute maximum temperature is observed in July, with an average monthly temperature of 19.8 °C and the absolute minimum temperature is in 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



### Financing structure

- Initiator equity  
10% (\$1.2 million)
- Debt financing subject to collateral  
70% (\$8.4 million)
- Funds participation (KIDF, KCM, SKI)  
10% (\$1.2 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.

# Poultry feed farming and production on newly irrigated land

## Agro-industrial complex

KAZAKH INVEST  
Investment proposal  
November 2020

### 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 cultiv

### 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

Indicator	Results
Investment amount, US\$ thousand	6,968
Project NPV, US\$ thousand	5,520
IRR, %	22.9%
EBITDA margin, %	53.0%
Payback period, years	6.6
Discounted payback period, years	9.5

### Investment structure



Construction and assembly work

10%

\$0.7 million



Machinery and equipment

28%

\$2.0 million



Other capital expenses

62%

\$4.3 million

### 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.

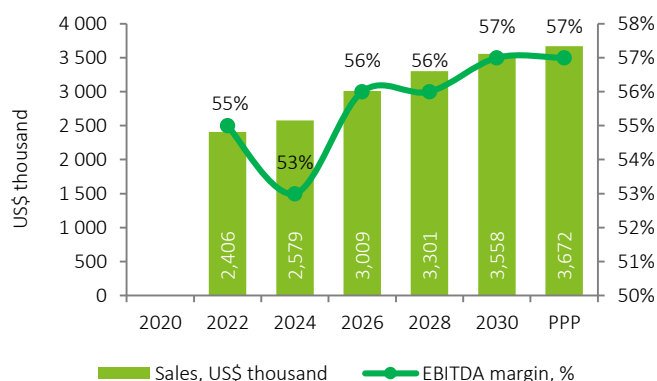
The grain feed consumption by poultry in 2019 increased 3 times compared to 2015. CAGR of grain feed consumption for 2015-2019 was 32%, indicating a strong demand for the product. The grain legumes consumption in 2019 amounted to 1.8 thousand tonnes, with an increase of 23% compared to last year.

#### 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.

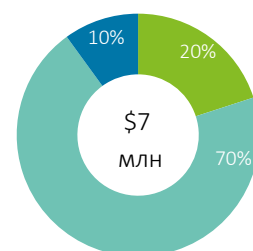
The absolute maximum temperature is observed in July, with an average monthly temperature of 22.0 °C and the absolute minimum temperature is in January, with an average temperature of -8 °C. The precipitation is about 400 mm per year.

### Project profitability



### 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

KAZAKH INVEST  
Investment proposal  
November 2020

### 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

Indicator	Results
Investment, US\$ thousand	38,974
Project NPV, US\$ thousand	55,145
IRR, %	18.3%
EBITDA margin, %	15%
Payback period, years	6.9
Discounted payback period, years	9.9

### Investment structure



Construction and assembly work

29%

\$11.3 million



Machinery and equipment

70%

\$27.4 million



Other expenses

1%

\$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

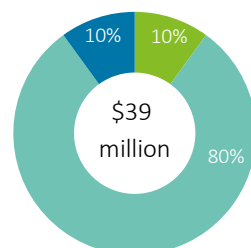


### Financing structure

Initiator equity  
10% (\$3.9 million)

Debt financing subject to collateral  
80% (\$31.2 million)

Participation of the Investor  
from 10% (\$3.9 million)



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

# Production and processing of fruits

KAZAKH INVEST  
Investment proposal  
November 2020

## Agricultural sector

### Project idea:

The planting of intensive orchards with a total area of 5 thousand hectares and the processing of fruits by a closed production cycle with a “zero-waste policy”. Investments include the establishment of orchards and plants for the production of concentrates, ready-made juices and packaging of fresh fruits.

The project will create about 1,300 new job places in the Turkestan oblast.

**Project location:** Kazygurt village, Turkestan oblast

### Project Initiator:

LLP Amankeldi together with Göknur Gıda, largest fruit and vegetable concentrator producer in Turkey.

### Production capacity:

It is planned to reach full capacity in the 5th year from the moment of launch, after which production volumes will reach a plateau at the level of 137.3 thous. tonnes per year. The list of manufactured products consists of 86% fresh fruit and 14% concentrates, juices and purees.

**Sales market:** Domestic market (52%) and export, including Russia and China (48%).

### Investment attractiveness of the Project

Indicator	Results
Investment amount, US\$ thousand	336,646
Project NPV, US\$ thousand	181,979
IRR, %	17%
EBITDA margin, %	49%
Payback period, years	10.5
Discounted payback period, years	15.5

### Investment structure



Machinery and equipment

45.4%

\$152.9 mln



Biological assets

27.8%

\$93.6 mln



Buildings and structures

4.5%

\$15.2 mln



Purchase of land plots

1.5%

\$5 mln



Other costs

20.8%

\$70 mln

### Prerequisites for implementation of the Project

#### Initiator experience.

Göknur Gıda is the first company in Turkey to use its own farmland to grow organic fruits for the production of fruit juices, concentrates, purees and other ingredients. The company owns 5 farmland in Turkey (Nigde, Adana, Afyon, Yozgat and Eskisehir) with a total capacity of 125 thousand tonnes of fruits annually (apple, sweet and sour cherry, pear, peach, pomegranate, quince) and 4 production sites with a processing capacity of 7.5 thousand tonnes of fruit daily.

#### Well-developed sales strategy.

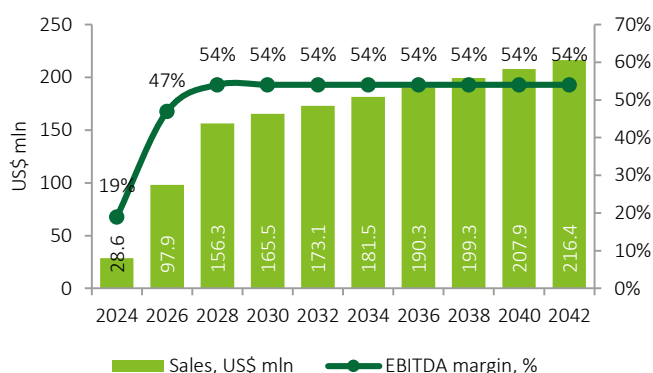
The Company's output is 40% organic. The company serves 500 different clients in 60 countries around the world. Göknur Gıda has representatives in America, the Netherlands, Germany and Russia, and ensures a high degree of customer satisfaction by providing door-to-door delivery services with its own warehouse and logistics staff.

#### Brand awareness.

The Company's products are marketed under international brands: United Juice (USA), Rheinfrucht (Netherlands), Fruit Drops (Turkey), Yeni Hayat (Turkey), Pegoo Juice (China).

**Growing demand.** An increase in consumption of organic products (over US\$ 95 billion) is observed worldwide. Fruit consumption in Kazakhstan also increased in 2019 and reached 77.4 kg per capita per year.

### Project's profitability

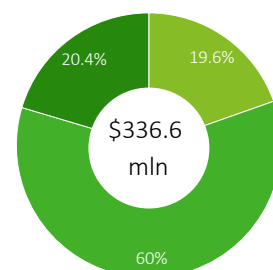


### Financing structure

Participation of funds  
(KIDF, KCM, SKI)  
19.6% (\$65.98 mln)

Debt financing subject  
to collateral  
60% (\$201.99 mln)

Participation of the Investor  
20.4% (\$68.68 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.

# Launch of a compound feed production plant

KAZAKH INVEST  
Investment proposal  
November 2020

## 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 m<sup>2</sup>.

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. На начальных этапах развития At initial stages, product will include compound feed for various bird types, according to age, including:

- Start – 13.1 thous. tonnes;
- Grower – 40.4 thous. tonnes;
- Finish – 65.3 thous. 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

Indicator	Results
Investment amount, US\$ thousand	3,633
Project NPV, US\$ thousand	26,417
MIRR, %	24.5%
EBITDA margin, %	13%
Payback period, years	2.0
Discounted payback period, years	2.1

### Investment structure



Initial working capital

100%

\$3.6 mln

### Prerequisites for implementation of the Project

#### 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.

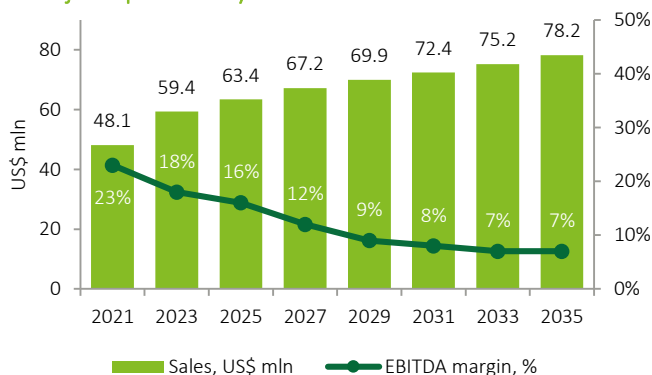
#### Sources of raw materials.

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.

### Project's profitability



### 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.

# Cheese plant construction in Almaty

KAZAKH INVEST  
Investment proposal  
November 2020

## 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: Agrofirma 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.

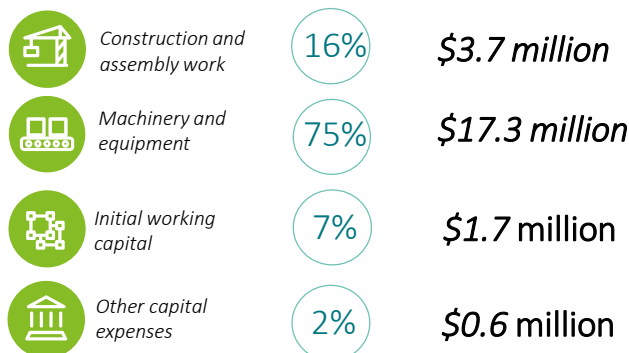
#### Sales markets:

Export (China, the UAE) and domestic market.

### Key investment indicators of the Project

Indicator	Results
Investment amount, US\$ thousand	23,292
Project NPV, US\$ thousand	36,995
IRR, %	31.4%
EBITDA margin, %	26%
Payback period, years	6.6
Discounted payback period, years	7.7

### Investment structure



### 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.

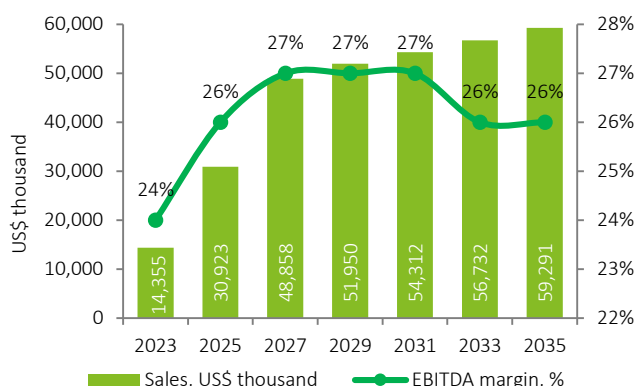
#### Demand for products.

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.

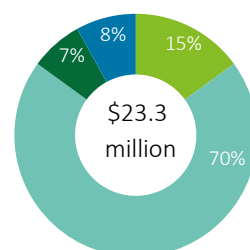
The location in the densely populated Almaty Oblast gives an advantage in proximity to the large consumer markets of Almaty city and Almaty Oblast (population of about 4 million people). In addition, the strategically convenient location of the region for cross-border trade with China will reduce transportation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

### Project profitability



### Financing structure

- Initiator equity  
15% (\$3.5 million)
- Debt financing subject to collateral  
70% (\$16.3 million)
- Funds participation (KIDF, KCM, SKI)  
7% (\$1.7 million)
- Participation of the Investor  
from 8% (\$1.8 million)



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



# Construction of a full-cycle mushroom growing complex in Almaty region

## Agro-industrial complex

KAZAKH INVEST  
Investment proposal  
November 2020

### 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

Indicator	Results
Investment amount, US\$ thousand	44,229
Project NPV, US\$ thousand	43,655
IRR, %	17.5%
EBITDA margin, %	47.0%
Payback period, years	6.7
Discounted payback period, years	8.9

#### Investment structure



Construction and assembly work

29%

\$11.7 million



Machinery and equipment

66%

\$27.3 million



Other capital expenses

5%

\$2.2 million



Initial working capital

7%

\$3.0 million

### 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.

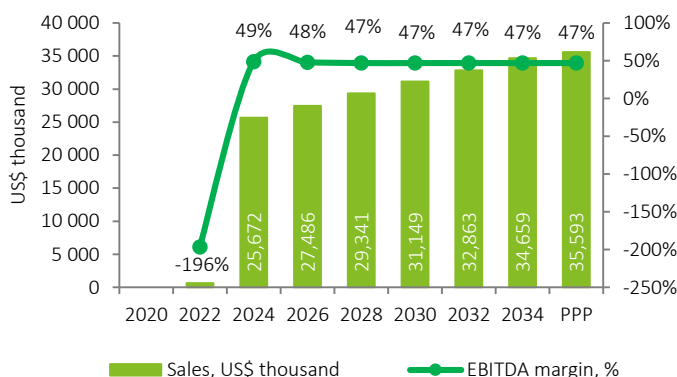
#### Global demand for mushrooms and its products.

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.

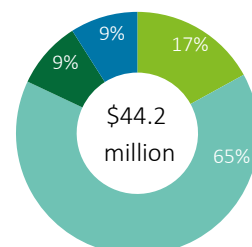
Considering that Almaty and Almaty region have an extensive road transport and logistics infrastructure for access to sizeable sales markets, like the Russian Federation and the CIS countries, a short transport shoulder makes it possible to establish exports in order to occupy a significant share in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

### Project profitability



### 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

KAZAKH INVEST  
Investment proposal  
November 2020

### 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

Indicator	Results
Investment amount, US\$ thousand	5,708
Project NPV, US\$ thousand	9,788
IRR, %	22.6%
EBITDA margin, %	22.9%
Payback period, years	5.8
Discounted payback period, years	7.6

### Investment structure

	Buildings and structures	50.2%	\$2.9 million
	Machinery and equipment	28.5%	\$1.6 million
	biological assets	17.5%	\$1.0 million
	Vehicles	1.1%	\$0.06 million
	Others	2.7%	\$0.15 million

### Prerequisites for the Project implementation

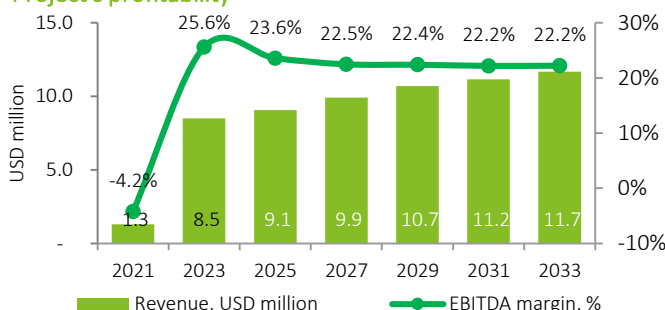
**Favourable location.** The location in the densely populated Almaty Oblast gives an advantage in proximity to the sales markets of Almaty and Almaty Oblast of 3.8 million people. In addition, the strategically convenient location of the region for cross-border trade with China will reduce transportation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

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

### Availability of the necessary infrastructure and qualification

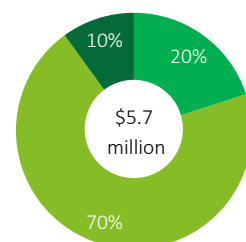
The Initiator manages a modern pig farm, equipped with necessary engineering and technical communications. The slaughterhouse complex, where technological processes are automated, includes: reproductive farm, artificial insemination station, reproduction workshop, fattening workshop, feed shop equipped with a mechanical feed from the feed kitchen and other.

### Project's profitability



### Financing structure

- Initiator equity  
20% (\$1.1 million)
- Debt financing subject to collateral  
70% (\$4.0 million)
- Participation of the Investor  
From 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 region

## Agro-industrial complex

KAZAKH INVEST  
Investment proposal  
November 2020

### 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

Indicator	Results
Investment amount, US\$ thous.	232,558
Project NPV, US\$ thous.	211,003
IRR, %	20.1%
EBITDA margin, %	33.7%
Payback period, years	7.2
Discounted payback period, years	9.9

### Investment structure



Buildings and constructions

58%

**\$133,757 thous.**



Machinery and equipment

40%

**\$94,166 thous.**



Transport

27%

**\$4,635 thous.**

### Market prerequisites:

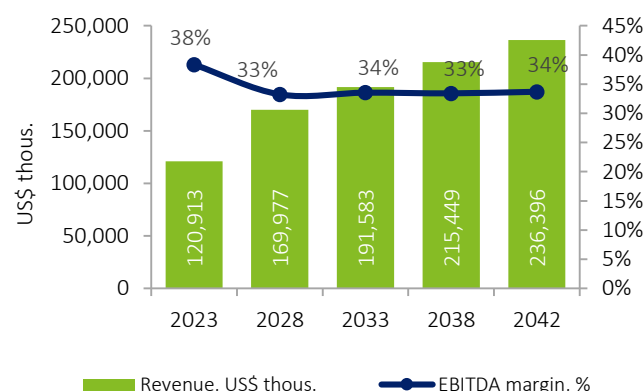
**The Initiator's Experience.** The initiator has extensive experience (over 18 years) in the implementation of such projects, management of the existing poultry farm for the production of chicken and chicken eggs. Also, at present, the Initiator is modernizing the poultry farm of Poultry-Agro LLP for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



### Financing structure

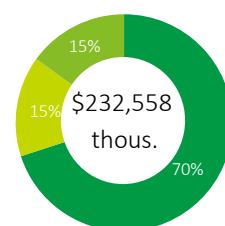
Participation of the Fund (KIDF or KCM)

**7.5% (\$34,186 thous.)**

Debt financing subject to collateral

**70% (\$162,791 thous.)**

Participation of the Investor from 7.5% (**\$35,581 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.



# Construction of an industrial complex for deep processing of wheat in "Kostanay" Industrial Zone

## Agricultural sector

### Project description:

The construction of an industrial complex for deep processing of wheat with the production of citric acid, wheat gluten, native and modified starches, glucose syrups, feed for animal husbandry in the Industrial Zone "Kostanay" on a land plot of 20 ha.

The estimated capacity of the enterprise will be 237 thous. tonnes of products per year. The implementation of the Project contributes to the creation of 361 jobs.

**Project location:** Kostanay, "Kostanay" industrial zone

### Project Initiator:

Olzha Agro LLP is agro-industrial holding of Kazakhstan, which is a complex of processing and manufacturing companies.

Total land assets - 930 thous. ha. Olzha Agro comprises of 10 agricultural enterprises, 8 elevators with a total capacity of 1 million 450 thous. tonnes.

### Product and output:

Wheat gluten – 21.0 thous. tonnes;  
Native starch – 51.1 thous. tonnes;  
Cationic starch – 26.0 thous. tonnes;  
Extrusion starch – 26.5 thous. тонн;  
Lemon acid – 31.7 thous. tonnes;  
Canned syrups – 11.0 thous. tonnes;  
Feed additive – 69.9 thous. tonnes.

**Sales market:** Domestic and export.

### Key investment indicators of the Project

Indicator	Results
Investment amount, US\$ thous.	290,241
Project NPV, US\$ thousands	130,971
IRR, %	18.7%
EBITDA margin, %	38.9%
Payback period, years	7.0
Discounted payback period, years	12.2

### Investment structure



Construction and assembly work



\$58.9 million



Machinery and equipment



\$179.6 million



Other



\$51.7 million

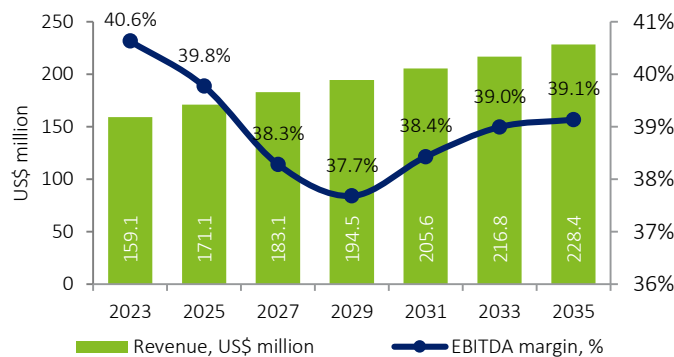
### Prerequisites for Project implementation

**Sufficiency of the raw material base** –The plant will be located in close proximity to suppliers of raw materials in order to ensure uninterrupted supply of wheat (250 thous. tonnes per year). Kostanay region is leading in terms of gross wheat harvest: in 2019, 2.4 million tonnes or 19.2% of country's wheat harvested. 280 thous. tonnes of wheat were collected on the fields of the holding, with an average yield of 14 c/ha.

**Import substitution** - In 2019, imports of wheat starch increased by 46% while ready-made feed for farm livestock increased by 12.5%. Kazakhstan's high import dependence indicates a clear imbalance in the production of deep grain processing products. Saturation of the domestic market with locally produced goods will replace expensive analogues of foreign suppliers.

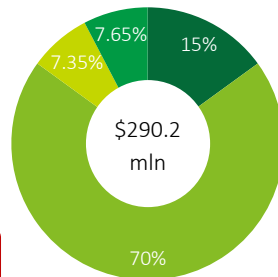
**Export potential** – Considering a vast scope of applications and the high demand for starch and gluten, Kazakhstan with the proper rates of development, has a potential for entering international markets.

### Project profitability



### Financing structure

- Initiator equity  
15% (US\$ 43.6 million)
- Debt financing subject to collateral  
70% (US\$ 203.3 million)
- Participation of the Fund (KIDF, KCM, SKI)  
7.35% (US\$ 21.3 million)
- Participation of the Investor  
from 7.65% (US\$ 22.2 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.



# Construction of a flax shive biofuel plant in Akmola region

## Agro-industrial complex

KAZAKH INVEST  
Investment proposal  
November 2020

### 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:

Konysbay 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

Indicator	Results
Investment amount, US\$ thous.	4,488
Project NPV, US\$ thous.	7,712
IRR, %	28%
EBITDA margin, %	43%
Payback period, years	6.3
Discounted payback period, years	7.9

### 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:

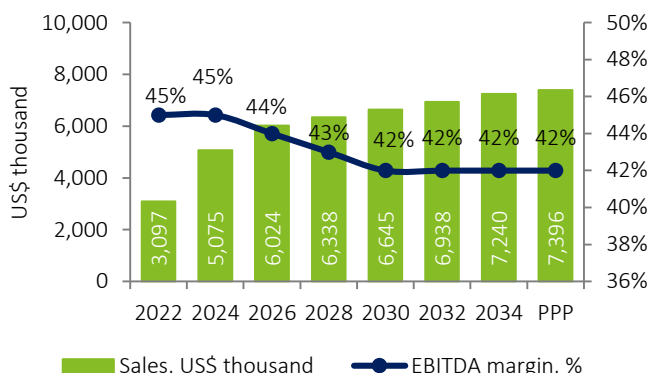
**Certified product.** Different countries have adopted different standards for the fuel pellets production. The company has the ENplus certificate, which is required for the sale of products in the EU countries, and the products fully comply with GOST 34092—2017 (ISO16993: 2015) standard.

**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 CO<sub>2</sub> and sulphur compounds when burned. In addition, ash can be used as fertiliser.

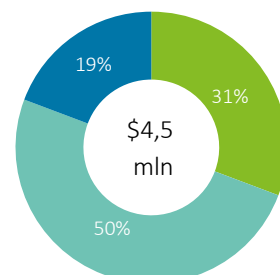
**Sales market.** Renewable and environmentally friendly sources and energies are in high demand in industrial enterprises in Europe and East Asia.

### Project profitability



### Project financing scheme

- Participation of the Initiator  
31% (\$1.4 mln)
- Debt financing  
50% (\$2.2 mln)
- Participation of the Investor  
from 19% (\$0.9 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.

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

## Agricultural sector

KAZAKH INVEST  
Investment proposal  
November 2020

### 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.

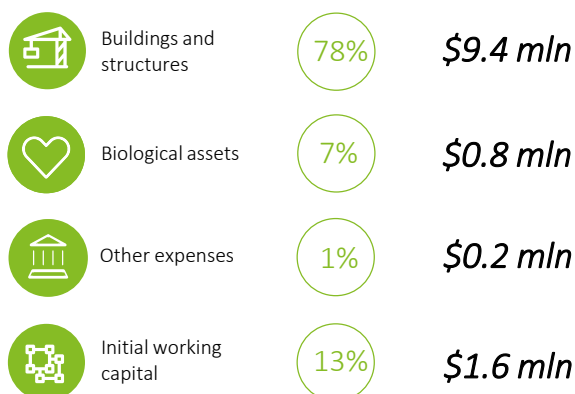
### Sales market:

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

### Investment attractiveness of the Project

Indicator	Results
Investment amount, US\$ thousand	10,444
Project NPV, US\$ thousand	9,180
IRR, %	16.97%
EBITDA margin, %	49%
Payback period, years	6.8
Discounted payback period, years	9.8

### Investment structure



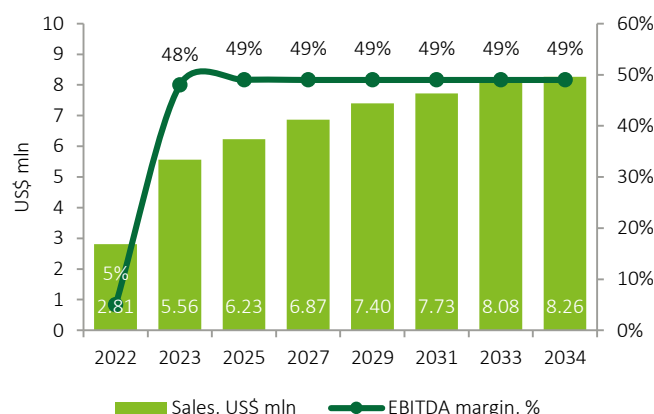
### Prerequisites for implementation of the Project

**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° C, and the coldest month (January) is -16° C. 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).

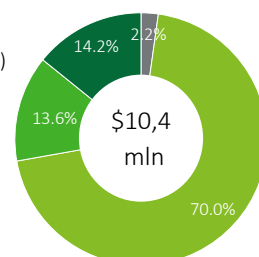
**Growing demand.** According to forecasts, there will be an increase in the overall level of beef consumption in the world and in Kazakhstan, which will provide an opportunity to further expand the sales area.

### Project's profitability



### 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.

# Construction of a sheep farm in Almaty region

## Agro-industrial complex

KAZAKH INVEST  
Investment proposal  
November 2020

### 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 organise 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

Indicator	Results
Investment amount, US\$ thous.	3,107
Project NPV, US\$ thous.	3,221
IRR, %	18.5%
EBITDA margin, %	50.3%
Payback period, years	8.3
Discounted payback period, years	12.7

### 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.

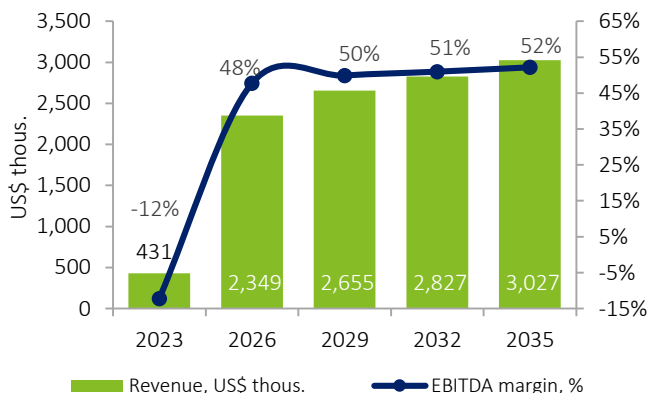
#### Favourable location.

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

#### Sale agreements.

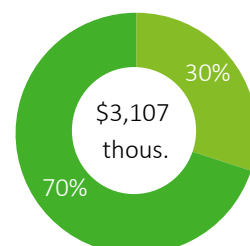
The Company has a positive experience of supplying berries and fruits to Dubai, UAE. Expansion of the range of exported products and preliminary agreements for the supply of meat products will strengthen the company's position in the market of Dubai, UAE.

### Project profitability



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.



# Construction of a fish and caviar processing plant

KAZAKH INVEST  
Investment proposal  
November 2020

## Agricultural sector

### Project description:

Expansion of the capacity of a sturgeon farm producing black caviar and commercial sturgeon up to 300 tons of fish and 3 tons of black caviar per year.

### Project location:

Mangistau oblast, Akshukur village

### Project Initiator:

From the moment the enterprise was organized, Kazakh Osseter LLP specialized in the cultivation of fish products. At the beginning of its activity, the company produced a limited range of fish products, working on tolling raw materials. While developing, Kazakh Osseter LLP increased processing volumes, attracted the best fish processing technologists in the village of Akshukur, formed its own breeding stock. The company occupies 15% of the fish and fish products market in the Mangistau region.

### Product and output:

Fresh-frozen fish – 163 tonnes

Processed fish – 85 tonnes

Granular sturgeon caviar - 3 tonnes.

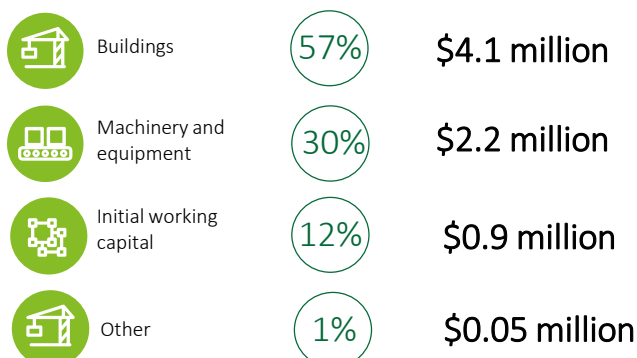
### Sales market:

The initiator plans to sell products both on the domestic market and for export (CIS countries). Upon reaching the design capacity in the 5th year of the Project operation, it is planned to sell 195 tons on the domestic market, and the remaining 57 tons - for export.

### Key investment indicators of the Project

Indicator	Results
Investment amount, US\$ thousands	7,157
Project NPV, US\$ thousands	6,270
IRR, %	23.7%
EBITDA margin, %	45.4%
Payback period, years	8.4
Discounted payback period, years	10.8

### Investment structure



### Prerequisites for Project implementation

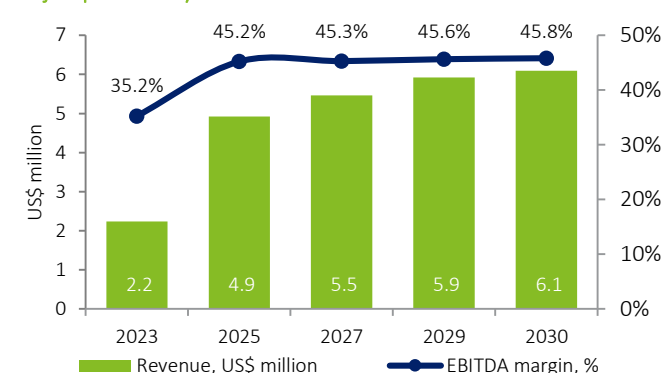
**Breeding experience** - The region is historically well-known for the fishery breeding and farming of sturgeon. Since 2014, the plant has developed positive experience in growing and breeding sturgeon.

The sturgeon farm is strategically located for product marketing. Akshukur settlement is located on the shores of the Caspian Sea, 19 km from Aktau, with a developed transport infrastructure, labor market and solvent population.

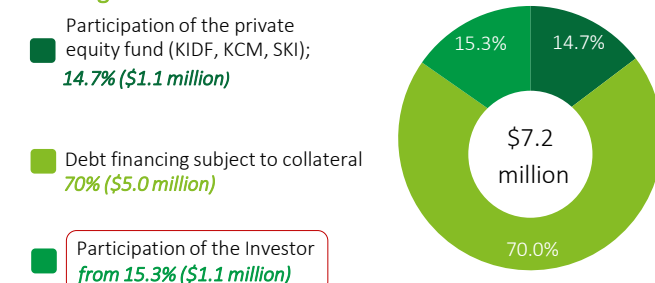
**Growing demand for fish and sturgeon caviar** - According to forecasts by the OECD and UN FAO, there will be an increase in the total level of fish consumption in the world. Average annual growth rate (CAGR) in 2019-2025 will be 1.8%. Thus, whilst in 2018 fish consumption per capita amounted to 20.3 kg per person, by 2027 consumption will reach the level of 21.3 kg per person. According to forecasts, the global caviar market will also grow with a significant CAGR of 7% for 2015 - 2025. It is estimated that by 2025 the caviar market will be valued at US\$ 560.6 mln.

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

### Project profitability



### Financing structure



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



# Construction of a wheat grain deep processing plant with a capacity of 41 thousand tonnes per year

## Agricultural sector

### Project description:

Construction of a wheat grain deep processing plant with a capacity of 40.9 thousand tonnes per year. Realization of this Project will create 43 permanent jobs.

### Project location:

At the moment, the possibility of locating production on the territory of Industrial Park No. 1 of SEZ Astana - New City is being studied. At the same time, in the future, location in the Industrial Zone Kostanay in Kostanay Oblast is considered as an alternative in terms of the availability of natural gas, which will significantly reduce the cost of production.

### Project Initiator:

BS Prom LLP

### Product and output:

The full design capacity of 40.9 thousand tonnes/year is planned to be reached in 2023:

Gluten – 5.1 thousand tonnes per year;

Wheat starch (A) – 27.4 thousand tonnes per year;

Wheat starch (B) – 6.3 thousand tonnes per year;

Fertilisers and feed – 2.1 thousand tonnes per year.

**Sales market:** Domestic market and export. The main export destinations are Russia, Uzbekistan, Kyrgyzstan, Tajikistan and Turkmenistan.

### Key investment indicators of the Project

Indicator	Results
Investment amount, US\$ thousands	15,100
Project NPV, US\$ thousands	17,119
IRR, %	26.2%
EBITDA margin, %	22%
Payback period, years	6.9
Discounted payback period, years	9.1

### Investment structure



Construction and assembly work

21.5%

\$3,250 thous.



Machinery and equipment

57.6%

\$8,700 thous.



Initial working capital

20.9%

\$3,150 thous.

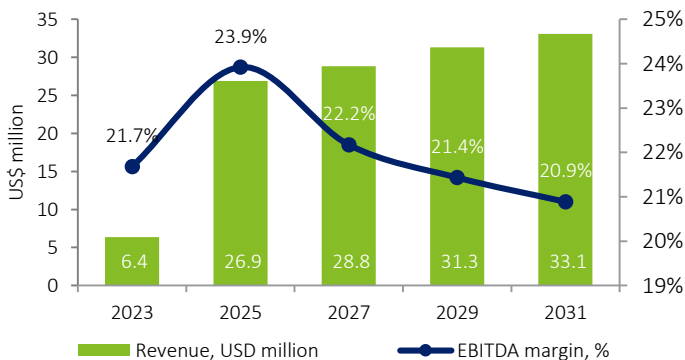
### Prerequisites for Project implementation

**Sufficiency of the raw material base.** The choice of the project implementation location is due to the abundance of large elevators and mills in the mentioned regions, which will reduce transportation costs for the delivery of the necessary raw materials. In 2019, Akmola and Kostanay oblasts accounted for 49% of the total wheat production in the country, or 5.6 million tonnes.

**Growing demand for products.** According to UN Comtrade, the global demand for deep-processed wheat grain products will only grow in the coming years. For example, the demand for wheat gluten will increase from US\$ 12.5 billion in 2019 to US\$ 13.4 billion in 2024. The market size for starch, including modified starch, will grow from US\$ 144.8 billion to US\$ 152 billion for the same period.

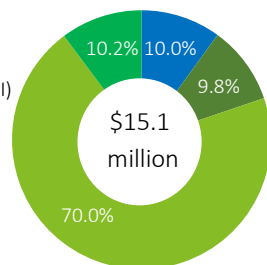
**Strong government support.** The production of starch and starch products is included in the list of priority investment projects of the manufacturing industry, for which a number of state support measures are provided under the Entrepreneurial Code, the State Program for Industrial and Innovative Development for 2020-2025, etc.

### Project profitability



### Investment financing structure

- Investor's own fund  
10% (\$ 1,510 thous.)
- Participation of the Fund (KIDF, KCM, SKI)  
9.8% (\$1,480 thous.)
- Debt financing subject to collateral  
70% (\$10,570 thous.)
- Participation of the Investor  
from 10.2% (\$1,540 thous.)



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.

# Creation of a veterinary medicine production line

KAZAKH INVEST  
Investment proposal  
November 2020

## Veterinary

### Project idea:

The creation of a veterinary medicine production line at an already existing bioplant with the capacity of 60 thousand units per year, which will create around 40 new job places in Dzhambul Oblast.

### Project location:

Sarybulak village, Kordai District, Dzhambul Oblast.

### Project Initiator:

BioVet KZ LLP, specialized in production and sale of veterinary medicines.

### Production capacity:

It is planned to reach full capacity in the second year from the date of launch, after which production volumes will reach a plateau at the level of 60 thousand units per year. The list of manufactured products includes:

- Rabies vaccines – 4,708 units/year;
- Sheep and goat pox vaccines – 7,145 units/year;
- Sheep and goat contagious pustular dermatitis (ecthyma) – 3,776 units/year;
- Cattle nodular dermatitis vaccine – 2,406 units/year;
- Anthrax – 27,018 units/year;
- Avian flu vaccine – 3,449 units/year;
- Animal brucellosis vaccine – 11,497 units/year.

**Sales market:** Until 2025, over 20% of Project product will be sold overseas. After this, there will be a planned transition to covering domestic demand, for which reason over 99% of production in 2030 will be sold in Kazakhstan.

### Investment attractiveness of the Project

Indicator	Results
Investment amount, US\$ thousand	10,512
Project NPV, US\$ thousand	7,689
IRR, %	27%
EBITDA margin, %	30%
Payback period, years	5.9
Discounted payback period, years	8.4

### Investment structure



Machinery and  
equipment



US\$ 10.5 mln

### Prerequisites for implementation of the Project

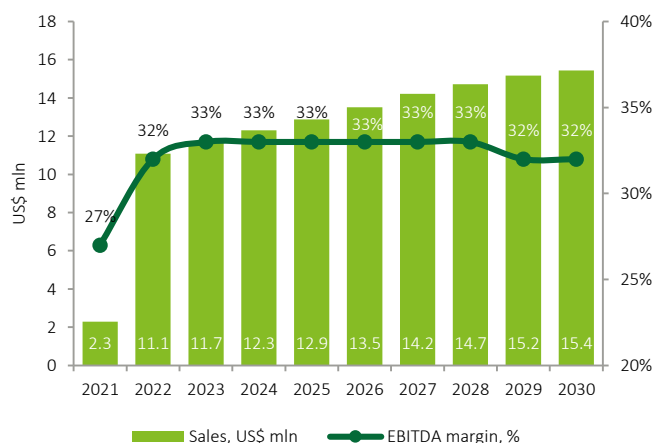
**Innovative product.** Company bio preparations meet global GMP and GLP standards and are developed based on domestic vaccine strains, meaning there are no local equivalents.

**Best practices.** The company possesses an extensive intellectual and material base for advanced experimental developments.

**Lack of competition.** Homemade small-scale technology and obsolete laboratory equipment, involving manual stages, are currently used most frequently in Kazakhstan to produce vaccines.

**Scaling of product assortment and application field.** The availability of resources, state support instruments and the use of innovative production technology helps increase production capacity and product range.

### Project's profitability

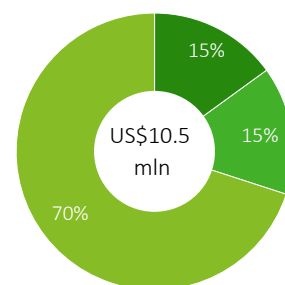


### Financing structure

Initiator equity  
15% (US\$ 1.58 mln)

Debt financing subject to collateral  
70% (US\$ 7.36 mln)

Participation of the Investor  
from 15% (US\$ 1.58 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.

# Organization and development of the production of vegetable oils

KAZAKH INVEST  
Investment proposal  
2020

## Agriculture-industrial complex

### Description of the Project

This investment project envisages the organisation and development of vegetable oil production. The plant is being built on an 18 hectare site on a major agricultural and industrial complex in Taldykorgan, Almaty Oblast.

The following tasks will be carried out within the project:

- completion of the plant construction in the industrial zone of Taldykorgan and further development of modern production of high-quality vegetable oils;
- creation of 135 permanent jobs.

**Location:** Taldykorgan, Industrial Zone, Almaty Oblast, Republic of Kazakhstan.

**Initiator:** «ZhetysuMazhiko» agricultural complex - project company specializing in the production of vegetable oils

### Products and production capacity:

- Hydrated vegetable oil (sunflower and rapeseed)– 26.8 thousand tons;
- Oilcake (sunflower and rapeseed) – 35.8 thousand tons.

**Sales markets:** markets of CIS countries, China, Turkey, India and Iran.

### Key investment indicators

Indicator	Results
Investment, USD thousands	12,304
Project NPV, USD thousands	10,268
IRR, %	22.0%
EBITDA returns, %	12%
Payback period, number of years from the start of production	5.8
Discounted payback period, number of years from the start of production	8.2

### Investment structure



Construction and assembly work

21%

\$2.6 million



Machinery and equipment

43%

\$5.3 million



Other capital expenses

1%

\$0.1 million



Working capital requirement

35%

\$4.3 million

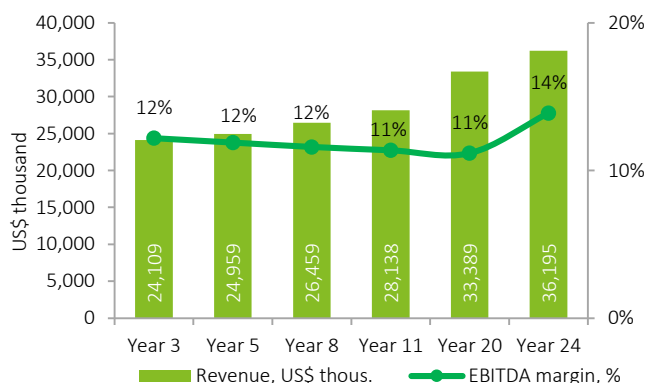
### Market background

**Growing demand for vegetable oil and oilcake in the domestic and global markets.** There is an increased demand for vegetable oils. Also, oilcake is used in preparation of feed for livestock, which generally contributes to the realization of the project. Compound annual growth rate (CAGR) of oilseed consumption is projected to be 1.95% by 2023. Global vegetable oil consumption reached 201 million tons in 2019.

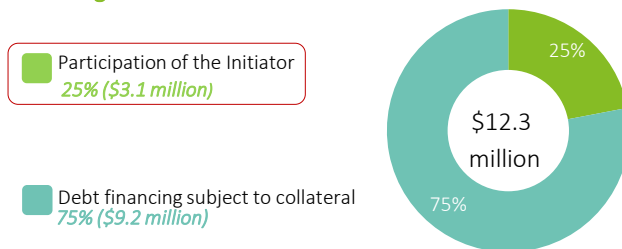
**Rich raw materials base.** Accessible in the country raw materials base corresponds to the creation of highly efficient plants for the production of vegetable oils. Recently, there has been a trend of intensive growth of sown oilseeds in Kazakhstan. The gross harvest of sunflower and rapeseed in Kazakhstan for 2019 was 918 and 241 thousand tons relatively.

**Price differential with neighboring countries.** In general, there is a disparity in prices in Kazakhstan compared to the prices of products in neighboring countries, which justifies the increased exports of oilseeds from Kazakhstan for a number of positions.

### 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.

## Agroindustrial complex

### Project description:

Construction of an integrated agro-industrial complex consisting of a potato starch production plant and a cattle fattening site for slaughter.

The projects aims fulfilling following goals:

- Creation of an effective integrated potato processing business, production and sale of starch in the domestic and export markets;
- Creation of more than 90 permanent jobs.

### Location:

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

### Project Initiator:

Kereku Agro LLP is a large-scale vegetable growing enterprise with an irrigated area of about 6,000 hectares with modern warehouses for long-term storage of vegetables.

### Commodity production and capacity:

- potato starch - up to 13.5 thous. tons per a year;
- potato juice – up to 52.7 thous. tons per a year;
- beef – up to 2.6 thous. tons per a year;
- by-products – 536 tons per a year;
- hides – 341 tons per a year.

### Key Project Indicators

Indicator	Results
Investment amount, US\$ thous.	44,948
Project NPV, US\$ thous.	30,760
IRR, %	28.7
EBITDA margin, %	30-38%
Payback period, years	5.1
Discounted payback period, years	7.1

### Investment structure



Construction and assembly work

38%

\$17.3 million



Machinery and equipment

50%

\$22.3 million



Working capital

12%

\$5.3 million

### Market prerequisites

#### 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. Compound annual growth rate of potato starch imports in Kazakhstan is relatively stable, amounting to 2% over the past five years.

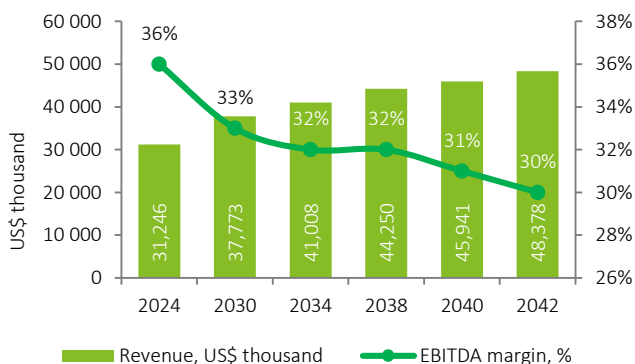
#### Low production cost

The raw material for the production of potato starch is potatoes, the prices of which in 2020 amounted to US\$ 0.18 / kg. The gross potato harvest in Kazakhstan in 2020 amounted to 4 007 thous. tons, which more than covers the entire consumption of the country. Also, the Company will become the main supplier of raw materials for the Project, which will further reduce the cost of production.

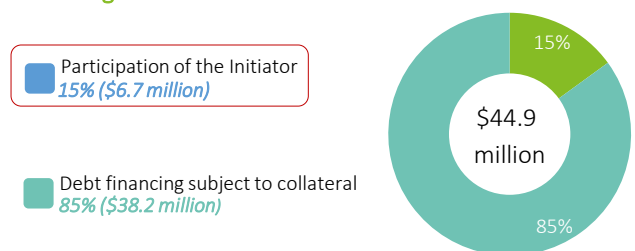
#### Waste-free production scheme

The construction of a starch plant with a cattle fattening site and close cooperation with the existing agricultural enterprise of the Initiator will allow establishing a waste-free production scheme that will increase the profitability of the Project and allow diversifying sources of income.

### 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.



# Construction of a plant for the production of non-alcoholic products, concentrates and puree

## Agriculture-industrial complex

KAZAKH INVEST  
Investment proposal  
2020

### Project overview

This investment project provides for the construction of a plant for the production of non-alcoholic products in assortment, as well as the production of concentrates and purees from fresh fruits and berries according to the European standards BSI, DIN, EN and ISO EU. The Project creates 180 permanent jobs.

**Project location:** Shymkent, Republic of Kazakhstan.

**Project Initiator:** ANM group LLP produces non-alcoholic products, beverages and drinking water.

#### Maximum Project capacity:

- Bottled water – 80 mln bottles/year;
- Natural and juice drinks – 30 mln bottles/year;
- Iced teas – 33 mln bottles/year;
- Iced coffee drinks – 11 mln cans/year;
- Carbonated soft drinks – 40 mln bottles/year;
- Apple concentrate – 60,000 tonnes/year;
- Apple puree – 15,000 tonnes/year;
- Other fruits – 38,000 tonnes/year;
- Concentrate of berries – 25,000 tonnes/year.

**Sales markets:** domestic market of Kazakhstan and the CIS countries markets.

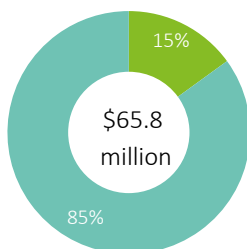
### Key investment indicators

Indicator	Results: non-alcoholic products	Results: concentrates and puree
Investment, US\$ thousands	27,667	38,178
Project NPV, US\$ thousands	30,495	26,198
IRR, %	28%	26%
EBITDA returns, %	18.1%	7.6%
Payback period, amount of years from the start of production	6	7
Discounted payback period, amount of years from the start of production	7.8	9.2

### Financing structure

Participation of the Initiator  
15% (\$9.9 million)

Debt financing subject to collateral  
85% (\$55.9 million)



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

### Market assumptions

#### Growing demand for non-alcoholic drinks

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). Analysis of the data showed the country's import dependence on beverages and fruit concentrates.

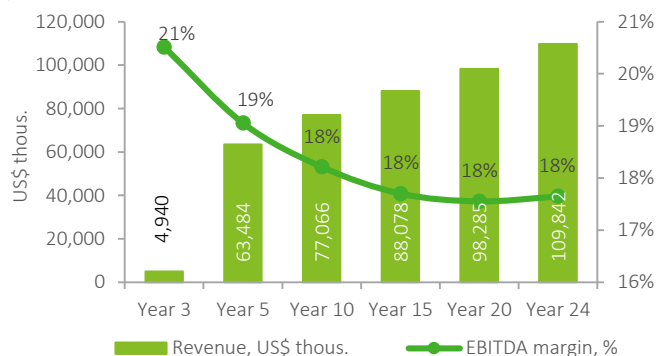
#### Growing demand for fruit concentrate

In line with global trends, the fruit and vegetable juice market will see positive changes – average CAGR of 8.9%. Furthermore, juice consumption in cost-effective packaging (2 and 1.5 litres) will grow to 25% of the market. Additional demand for juice has been seen in the winter season and is explained by a shortage of fresh vegetables and fruit, which are the main sources of vital vitamins and minerals.

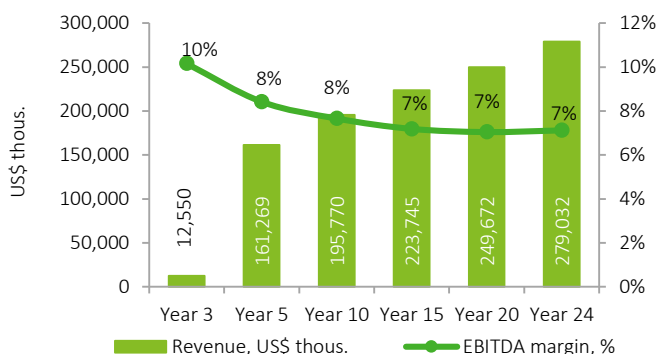
#### Import substitution

Imports of non-alcoholic beverages have risen. Average annual growth in imports for 2015 – 2019 amounted to 23.3%, and exports – 9.6%.

### Project profitability for the production of non-alcoholic products



### Project profitability for the production of concentrates and puree



# Construction of greenhouse complex in North Kazakhstan oblast

KAZAKH INVEST  
Investment proposal  
2020

## Agriculture-industrial complex

### Project description:

The investment project provides for the construction of a 3 ha greenhouse complex for growing tomatoes and cucumbers per year with subsequent expansion to 10 ha, as well as the organization of year-round production of tomatoes and cucumbers in its own greenhouse and further sales in Petropavlovsk and neighboring regions of the Russian Federation.

The following tasks will be carried out within the project:

- construction of an industrial greenhouse will meet the needs of the domestic market, replace imports, as well as develop the proper level of export potential of the vegetable industry of the country;
- creation of 54 permanent jobs.

### Location:

North Kazakhstan oblast, Petropavlovsk city, Yaroslav Gashek st., 3

### Initiator:

Rim-KazAgro LLP is a 100% subsidiary of Raduga LLP. The enterprise belongs to the subjects of small and medium business.

### Production volume:

1,200 tons of tomatoes and 1,300 tons of cucumbers per year

### Target markets:

Petropavlovsk and border regions of Russia.

### Key investment indicators

Indicator	Result
Investment amount, \$US thousands	17,764
Project NPV, \$US thousands	9,738
IRR, %	15.4%
EBITDA margin, %	70%
Payback period, years	9.5
Discounted payback period, years	14.7

### Investment structure



Construction and assembly work

1%

\$0.1 million



Machinery and equipment

73%

\$13 million



Other capital expenses

26%

\$4.6 million

### 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 38,9 thousand tons of tomatoes and 7.8 thousand tons of cucumbers in 2020.

#### Price differential with Russia

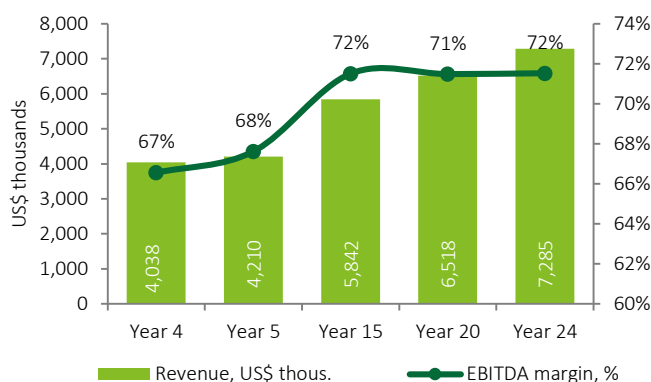
The average price of tomatoes in the border regions of the Russian Federation is 31% higher than prices in the country. Geographic proximity to Russia, a major tomato importer, provides convenient access to a target large and capacious market with a population of 19.4 million people.

#### Development of export supplies to foreign countries

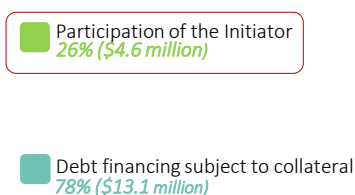
Exports of vegetables from RK are growing at a dynamic pace: in 2018 exports of tomatoes amounted to 30.4 thousand tons, of cucumbers – 7.4 tons.

**Proximity to the Russia**, a major importer of tomatoes and cucumbers, provides easy access to the target market. In 2019 Russia imported 558 thousand tons of tomatoes and 100 thousand tons of cucumbers.

### 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.

# Rainbow Trout Production Complex

## Agro-Industrial Complex

### Project overview:

Construction of a full cycle aquaculture complex. The project envisages the creation of a modern production for the cultivation and processing of marketable fish of valuable species in closed water supply installations with subsequent sale in the domestic and foreign markets.

### Project location:

Almaty Oblast, Karaoisky village, Ili district

### Initiator:

"Central Asia Beer (CAB)" LLP

### Project's peak capacity:

Annual production of 6 thousand tons of a harvestable fish

### Principal products:

Rainbow Trout

### Production process:

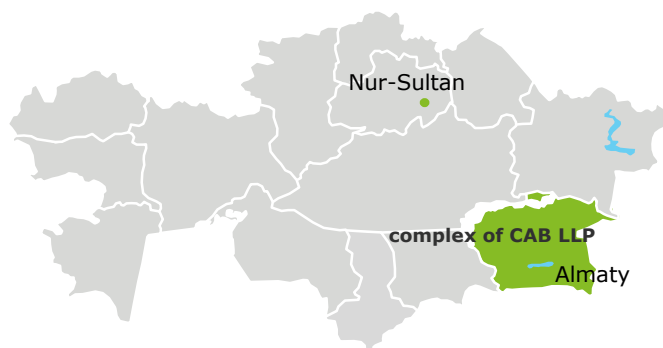
Closed terrestrial aquaculture farm in closed water installations

### Key investment indicators

Indicator	Results
Investment, US\$ thousands	35,194
Project NPV, US\$ thousands	29,567
IRR, %	20.4%
EBITDA returns, %	46%
Payback period, amount of years from the start of production	9.1
Discounted payback period, amount of years from the start of production	12.6

### Project location:

#### Almaty Oblast



### Market assumptions

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

**Import substitution** - The share of imports in the structure of consumption of fish and fish products in the country is 74%, which indicates a high import dependence of the country.

So, in 2018 Kazakhstan imported 30 thousand tons of frozen fish, which is 5 times higher than the volume of its own production.

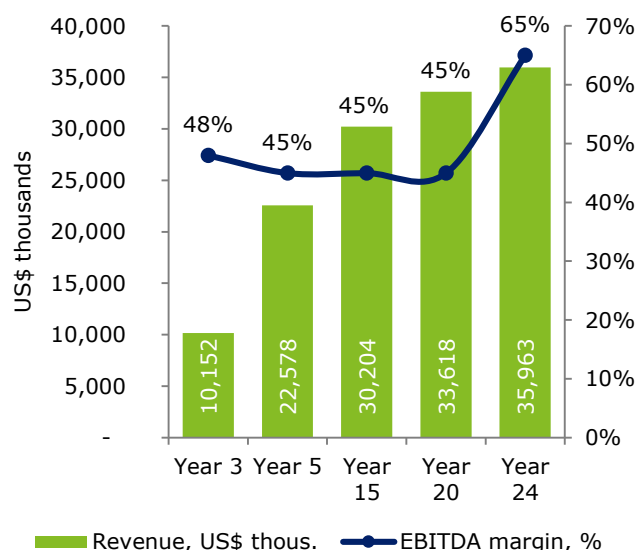
**Export potential** - Kazakhstan also sends fish products of organic origin for export. In 2018, the volume of fish exports amounted to 12.5 thousand tons, showing an increase of 64% compared with 2013.

This growth is explained by the beginning of large deliveries to Russia, which is a major buyer of Kazakhstani fish. Since 2017, over 25% of all exports went to China.

**High-value species of fish.** Trout is a delicacy valued for its digestive and dietary qualities. It is used in cooking across the world thanks to its health properties and small size (300-600 g).

**Absence of industrial catches.** In Kazakhstan, trout is bred in small quantities in cool mountain lakes in the east and south of the country, which prevents it from being caught for industrial purposes.

### Project profitability





# Organization of an integrated farm for the breeding of small cattle (sheep)

**Project description:**

Organization of an integrated farm for the breeding of small cattle: fattening and slaughter of small cattle with the subsequent sale of sheep carcasses. The parallel cultivation of grain will ensure the diversification of the business and the feed base of the farm, which in general will enhance the sustainability of the enterprise.

**Project implementation location:**

Karasu village, Amangeldy district of Kostanay region of Kazakhstan

**Project initiator:**

Dosset Farm LLP

**Maximum project capacity:**

Livestock keeping of 400,000 heads of small cattle

**Commercial products:**

Lamb carcass weighing up to 36 kg

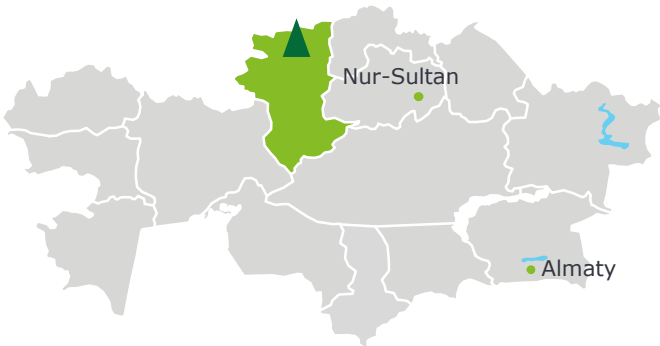
**Production process:**

- Fattening of small cattle ~300,000 heads per year
- Meat production ~11,000 tonnes per year

**Investment attractiveness of the Project**

Indicator	Results
Investment amount, US\$000	20,000
Project NPV, US\$ thousands	86,575
IRR, %	25.0%
EBITDA yield, %	40%
Payback period, years	7.8
Discounted payback period, years	9.4

**Project Location:  
Kostanay Oblast**



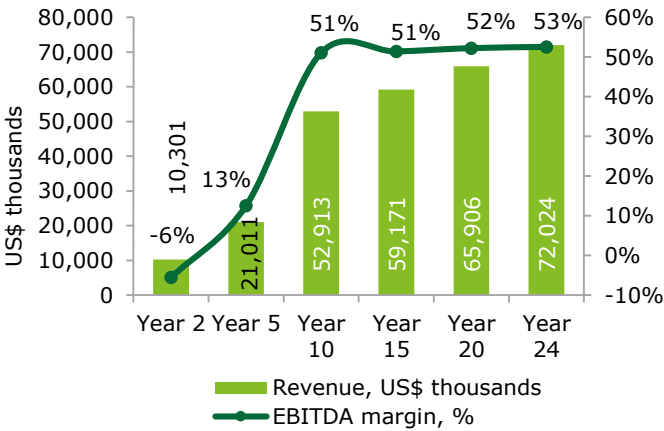
**Prerequisites for implementation of the Project:**

**Rising global demand for lamb.** According to forecasts, the world will see an increase in the overall level of mutton consumption. The average annual growth rate (CAGR) during 2019-2023 will be 2.12%.

**Price differential with neighboring countries.** The average price for lamb in the regions of Russia bordering Kazakhstan is higher than Central Kazakhstan by 21%. The average price in the Chinese market (US \$ 8.5/kg) is more than 2 times higher than the average price for mutton in the RK.

**Development of export supplies to foreign countries.** The volume of mutton exports from Kazakhstan are growing at a fast pace in recent years. The volume of exported lamb increased by almost seven times compared to 2017. This growth is due to the start of large deliveries to Iran, which has become the main buyer of Kazakhstan lamb. More than 10% of the total volume of exports are also sent to the Russian Federation. In 2018, lamb producers made the first shipment of lamb to China

**Project Profitability**



**Land plots**

Soil Type / Purpose	Area, ha		
	Current	Drawn up for rent	Total
Arable land	4,000		4,000
Pastures	40,000	150,000	190,000
Hayfields	2,000	50,000	52,000
Construction bases	178		178
<b>Total</b>	<b>46,178</b>	<b>200,000</b>	<b>246,178</b>



# Construction of a complex for breeding and incubating commercial sturgeon and beluga

## Agro-Industrial Complex

### Project overview:

Construction of a complex for breeding and incubating commercial sturgeon and beluga

### Project location:

Atyrau Oblast, Atyrau, Ural river, Sadok channel

### Initiator:

Caspian Eco-Tour LLP, specializing in the development of freshwater aquaculture and eco-tourism

### Products and capacities:

Commercial fish (sturgeon and beluga) - 300.0 tonnes

Food caviar - 2.0 tonnes

### Production process:

1. Keeping and feeding in a closed water installation (spawning of females, fertilization, sorting)
2. Maintenance and feeding in cage (hibernation, sorting, selling)

### Market assumptions

**Poctr 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

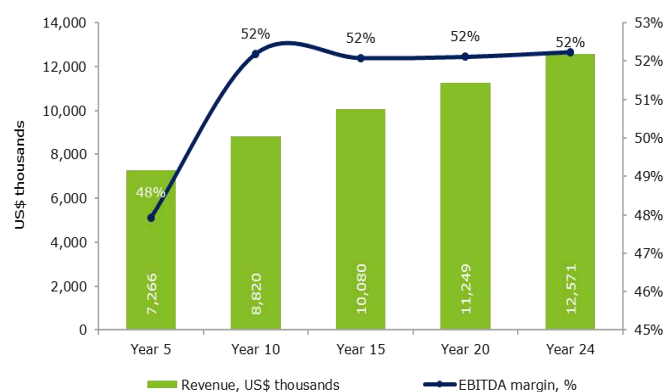
Indicator	Results
Investment, US\$ thousands	10,982
Project NPV, US\$ thousands	13,613
IRR, %	22.9%
EBITDA returns, %	52%
Payback period, amount of years from the start of production	6.7
Discounted payback period, amount of years from the start of production	9.1

### Project location:

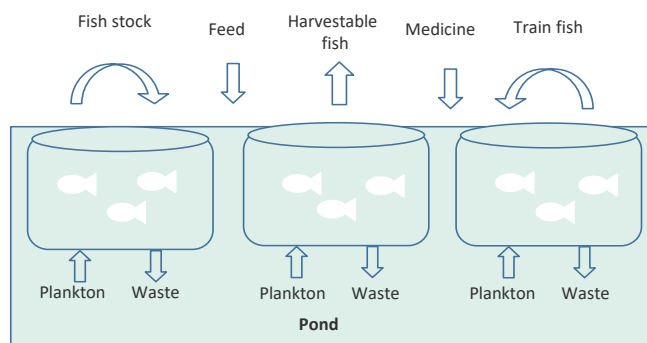
Atyrau Oblast



### Project profitability



### The scheme of the typical construction of the cage line



# Agriculture-industrial complex

## Construction of greenhouse complex in North Kazakhstan oblast

### 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.

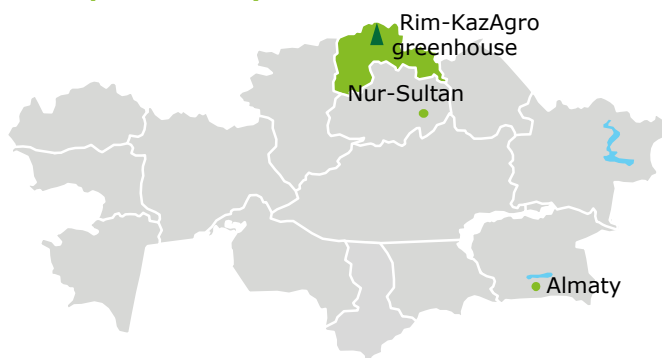
### Location:

North Kazakhstan oblast, Petropavlovsk city, Yaroslav Gashek st., 3

### Key investment indicators

Indicator	Result
Investment amount, \$US thousands	17,764
Project NPV, \$US thousands	9,738
IRR, %	15.4%
EBITDA margin, %	70%
Payback period, years	9.5
Discounted payback period, years	14.7

### Location of project implementation: Petropavlovsk city



### Market prerequisites

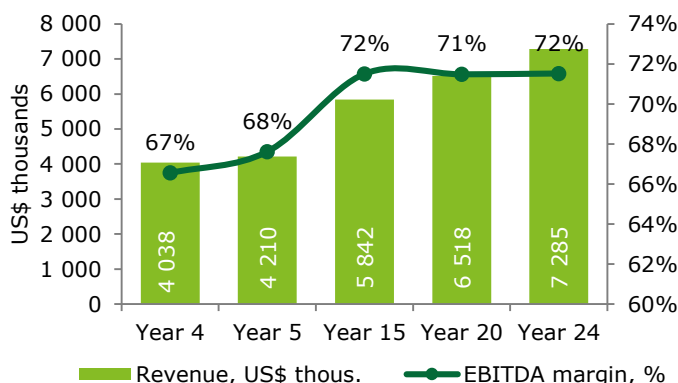
**Dependence of the country on imports** - Due to the climatic features of most regions of RK during the off-season there is a shortage of tomatoes and cucumbers. The deficit is covered by imports, which amounted to 65 thousand tons of tomatoes and 14.5 thousand tons of cucumbers in 2018.

**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.

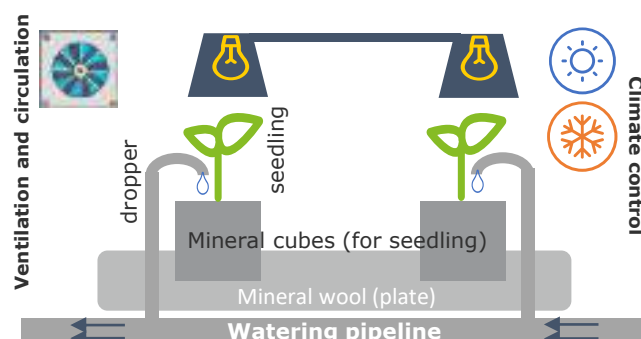
### Project profitability



### Technical process

#### Photo culture (electric illumination)

- compensates lack of sunlight
- improves yielding capacity and product quality



# Complex for the breeding and incubation of fish, the production of fish and related products

## Agro-Industrial Complex

### 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.

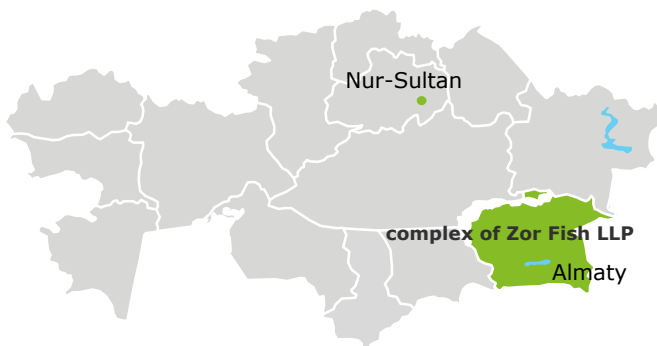
### Key investment indicators

Indicator	Results
Investment, US\$ thousands	18,716
Project NPV, US\$ thousands	23,739
IRR, %	23.38%
EBITDA returns, %	61.8%
Payback period, amount of years from the start of production	5.87
Discounted payback period, amount of years from the start of production	8.04

### Project profitability



### Project location: Almaty Oblast



### Land

Soil Type/Purpose	Area, sq. m
Building developments	13,786
Covering	10,887
Planting	43,569
Ponds	12,737
<b>Total</b>	<b>80,979</b>



## Construction of greenhouse in Pavlodar oblast

### 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:

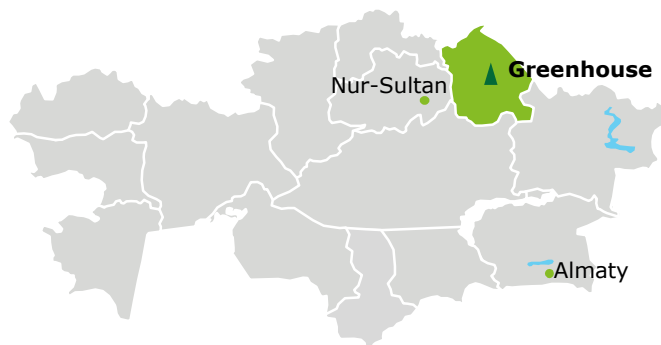
Pavlodar oblast, city of Ekibastuz

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

### Key investment indicators

Indicator	Result
Investment amount, \$US thousands	21,891
Project NPV, \$US thousands	12,769
IRR, %	15.7%
EBITDA margin, %	43%
Payback period, years	8.0
Discounted payback period, years	14.5

### 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.

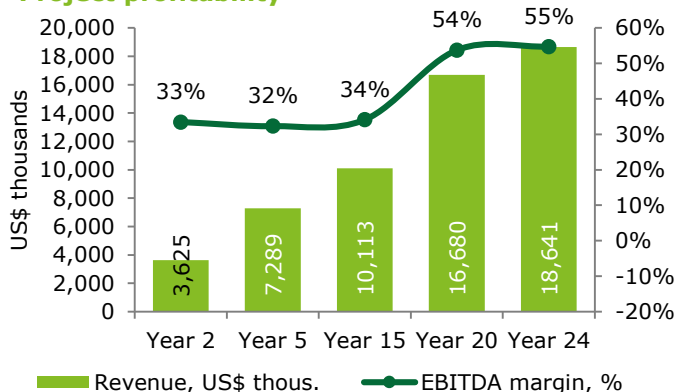
**Price differential with Russian Federation** - The average price for tomatoes and cucumbers in the regions of the Russia bordering the country is higher than average price in Kazakhstan by 33% and 24%.

#### 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.

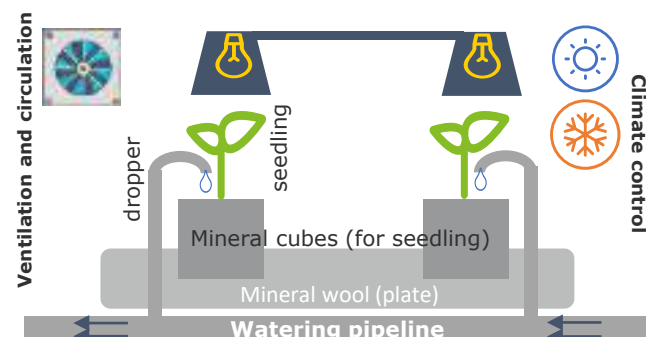
### Project profitability



### Technical process

#### Photo culture (electric illumination)

- compensates lack of sunlight
- improves yielding capacity and product quality





# Agro-Industrial Complex

## Organizing a full production cycle of pork meat

### About the Project

Creation in Akmola oblast of the full cycle production (cluster) – from breeding a special breed of pigs using Danish technology to the production and sale of pork meat.

### Objectives & Scope:

Creation of a livestock complex (cluster), which includes a pig complex and a meat processing plant;  
Increase of meat production on the local market and increased exports of meat products;

Implementation of the use of innovative equipment and technologies in the Republic of Kazakhstan.

### Initiator:

AIC Bavaria Product LLP

### Project location:

Akmola oblast, Astrakhan region, Jarsuatian rural district, Jaltyr village

### Principal products:

chilled or frozen pork meat

### Project's peak capacity:

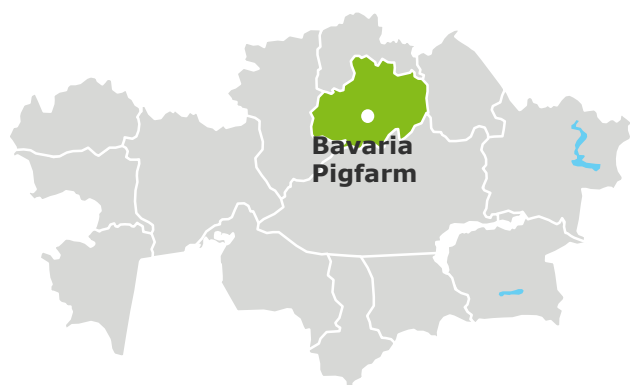
Breeding stock – 2,050 sows;

Pork meat production – 5,500 tonnes per year in slaughter weight

### Investment attractiveness of the Project

Indicator	Results
Investment amount, US\$ thous.	35,061
Project NPV, US\$ thous.	12,951
IRR, %	20.8%
EBITDA yield, %	29-37%
Payback period, years	6.6
Discounted payback period, years	10.7

### Project Location: Akmola oblast



### Prerequisites for implementation of the Project

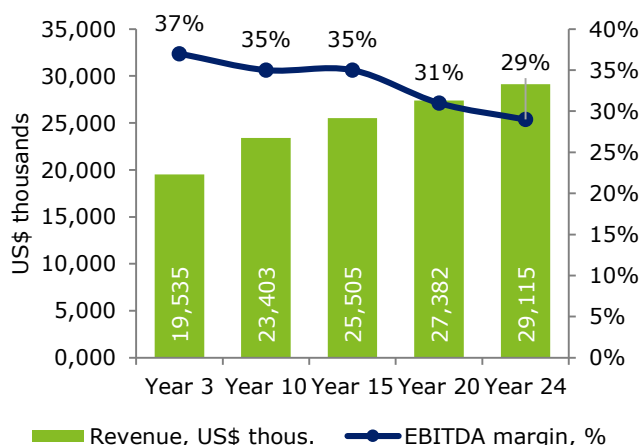
**Increase in pork imports to China** - Over the past 5 years, China's pork imports have more than doubled, and in 2018, they amounted to 1.1 million tonnes worth US\$ 2 billion. According to OECD forecasts, pork production in China will slightly lag behind consumption, and in the near future, China will import about 1.4 million tonnes of pork per year. This indicator will increase if the epidemic of African swine fever is not localized.

**Low cost of production** – The extensive and cheap fodder base for the Project - agricultural enterprises of northern Kazakhstan - will significantly reduce the cost of fattening and the maintenance of pigs. Also, the costs of manure disposal, water tariffs and employee wages are several times lower than at EU enterprises or other producers.

**Export of premium products** – China and Russia mainly import pork from countries in Europe and America, which forces suppliers to transport frozen meat. The geographical location of Kazakhstan allows for the supply of pork (by road) to both China and Russia in a chilled form, which will allow the Project to sell products at higher competitive prices.

**Geographical remoteness of the project implementation region from other pigfarms** – African swine fever has shown the vulnerability of the pig industry to epidemics and diseases. The factors protecting the Project's livestock from infection of this disease and other diseases are the remoteness of the Project's implementation site from other pig farms and households with infected pigs.

### Project Profitability



# Business plan for the organization of a genetic selection center in Almaty region

## About the Project

Creation of a genetic selection center with closed-loop technology - from breeding a special breed of pigs according to a Danish technology to selling pork meat.

### Initiator:

Hybrid breeding center Karatal LLP

### Project location:

Almaty Oblast, Karatal district, city of Ushtobe

### Principal products:

- pork (frozen and chilled);
- meat offal;
- gilts as genetic material.

### Project's peak capacity:

- Production of pork and meat offal – 13 thous. tonnes/ year;
- Number of sows – 5800 heads.

### Sales Markets:

Russia, China and the domestic market

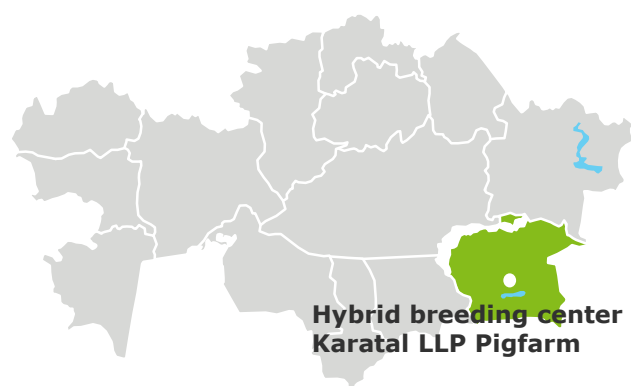
### Livestock Suppliers:

DanBred (Denmark)

## Investment attractiveness of the Project

Indicator	Results
Investment amount, US\$ thous.	26,811
Project NPV, US\$ thous.	34,662
IRR, %	31.7%
EBITDA yield, %	28.5%
Payback period, years	5.4
Discounted payback period, years	6.8

## Project Location: Almaty oblast



## Prerequisites for implementation of the Project

### Increase in pork imports to China

Over the past 5 years, China's pork imports have more than doubled, and in 2018, it amounted to 1.1 million tonnes worth US\$ 2 billion. According to OECD forecasts, pork production in China will slightly lag behind consumption, and in the near future, China will import about 1.4 million tonnes of pork per year.

### Low cost of production

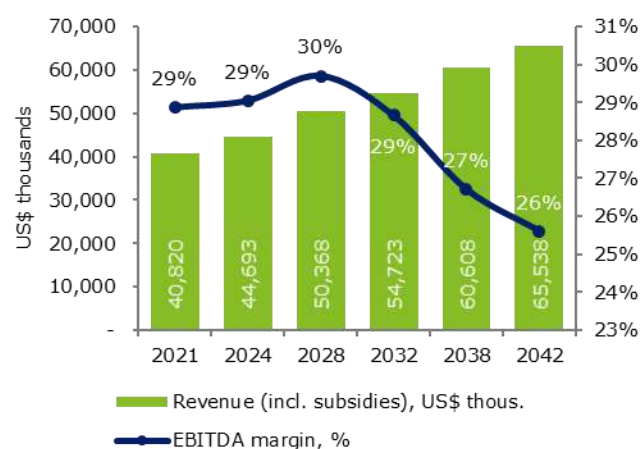
The extensive and cheap fodder base for the Project - agricultural enterprises in Almaty Oblast and other regions of Kazakhstan - will significantly reduce the cost of fattening and the maintenance of pigs. Also, the costs of manure disposal, water tariffs and employee wages are several times lower than at EU enterprises or other producers.

### Export of premium products

China and Russia mainly import pork from countries in Europe and America, which forces suppliers to transport frozen meat. Freezing negatively affects the quality and the price of meat. The geographical location of Kazakhstan allows for the supply of pork (by road) to both China and Russia in a chilled form, which will allow the Project to sell products at higher competitive prices.

**Geographical remoteness of the project implementation region from other pigfarms –** African swine fever has shown the vulnerability of the pig industry to epidemics and diseases. The factors protecting the Project's livestock from infection of this disease and other diseases are the remoteness of the Project's implementation site from other pig farms and households with infected pigs. Density of pig livestock in the region is very low, which reduces the chance of accidental direct or indirect contact.

## Project Profitability



# Construction of an automatic fish farm for the production of sturgeon caviar

### Project description:

Construction of an automatic fish farm using recirculating water system (RWS) with an annual output of 5,200 kg of sturgeon caviar.

### Project location:

Akmola Oblast, Tselinograd district, Koyandinsky rural district, Koyandy village.

The land plot (5 ha) was provided by the Akimat to the initiator for use free of charge.

**Project initiator:** Aqua Factoria LLP

### Product and output:

Black sturgeon caviar – 5.2 tonnes/year

Fish (freshly frozen and smoked) – 10.3 tonnes/year

### Production process:

Maintenance and feeding in RWS

- Transferring female fish into spawning mode
- Fertilization
- Sorting-out

### Prerequisites for Project implementation

#### Growing demand for fish and sturgeon caviar.

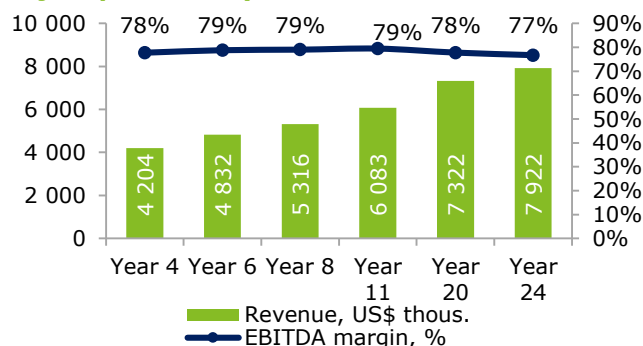
According to forecasts by the OECD and UN FAO, there will be an increase in the total level of fish consumption in the world. Average annual growth rate (CAGR) in 2019-2025 will be 1.8%. Thus, whilst in 2018 fish consumption per capita amounted to 20.3 kg per person, by 2027 consumption will reach the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

**Lack of competition in the region.** At present, in the Akmola region (specifically, in the vicinity of the city of Nur-Sultan) there is no production of sturgeon caviar. This fact suggests the existence of an unrealized potential to create a strategically profitable production of sturgeon caviar near the capital of the Republic of Kazakhstan - a large metropolis with a wealthier population.

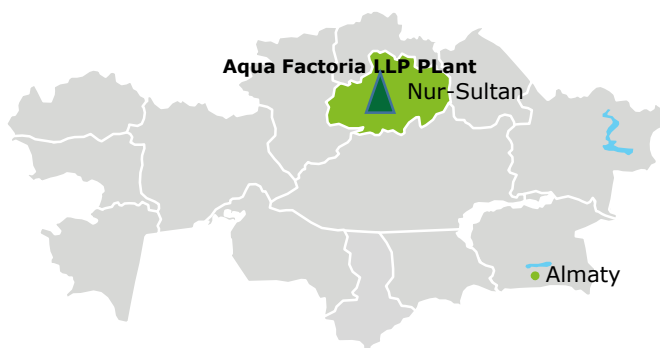
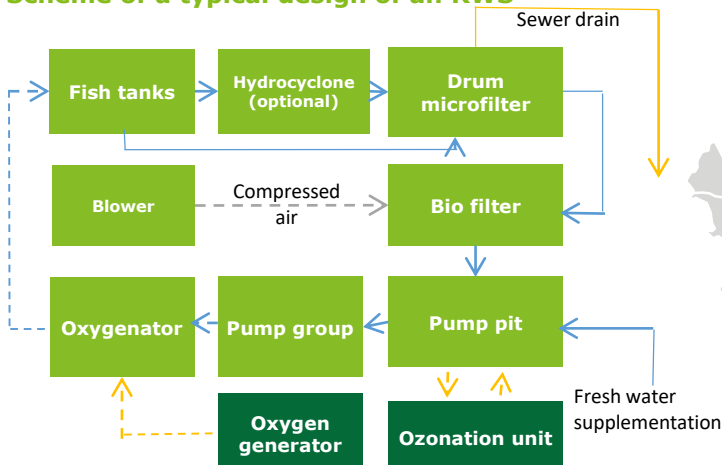
### Key investment indicators of the Project

Indicator	Results
Investment amount, thous. USD	6,513
Project NPV, thous. USD	19,856
IRR, %	36.47%
EBITDA margin, %	76%
Payback period, years	4.46
Discounted payback period, years	5.34

### Project profitability



### Scheme of a typical design of an RWS



## Expansion of greenhouse up to 40 ha in Almaty oblast

### 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:

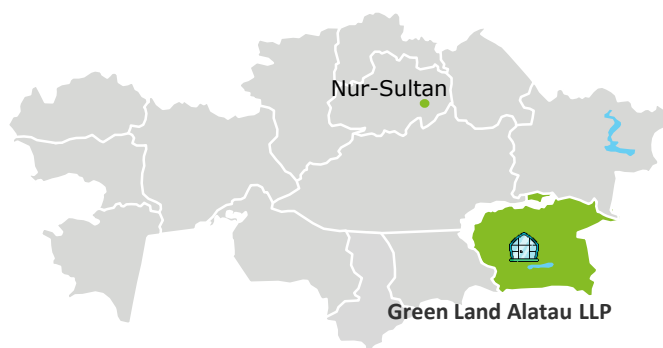
Almaty oblast, Kapshagay city, 65 km of Almaty – Ust-Kamenogorsk route

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

### Key investment indicators

Indicator	Result
Investment amount, \$US thousands	118,442
Project NPV, \$US thousands	123,422
IRR, %	25.7%
EBITDA margin, %	49.2%
Payback period, years	5.3
Discounted payback period, years	7.2

### 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.

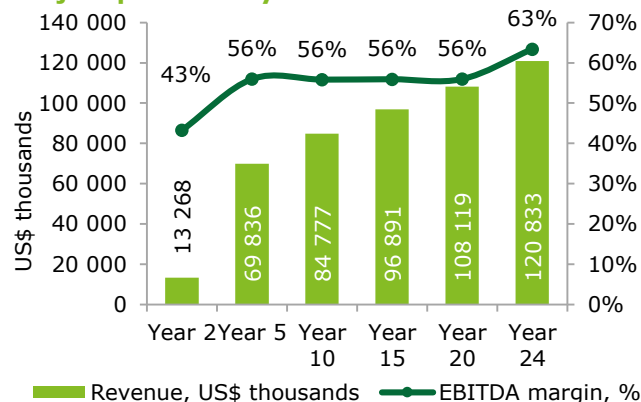
**Price differential with Russian Federation** - The average price for tomatoes and cucumbers in the regions of the Russia bordering the country is higher than average price in Kazakhstan by 33% and 24%.

#### 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.

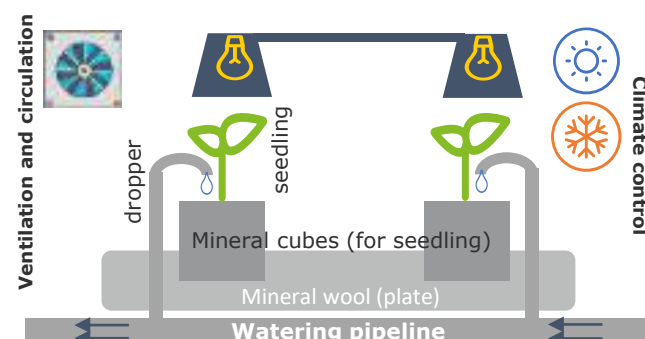
### Project profitability



### Technical process

#### Photo culture (electric illumination)

- compensates lack of sunlight
- improves yielding capacity and product quality





# Agro-Industrial Complex

## Expansion of intensive apple orchards in the Almaty region

### 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

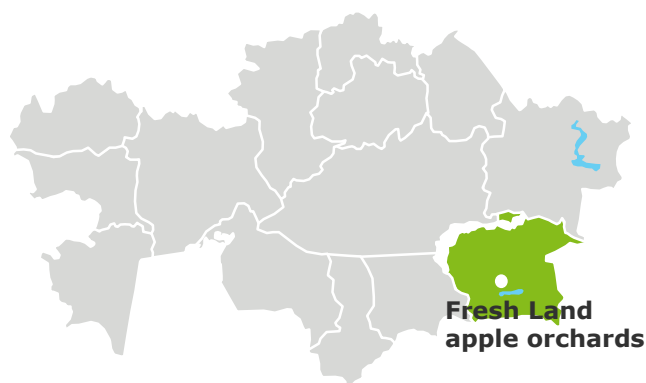
#### Seedling Suppliers:

Vivai Nischler D. Nischler Georg & Co. (Italy)

### Investment attractiveness of the Project

Indicator	Results
Investment amount, US\$ thous.	6,814
Project NPV, US\$ thous.	7,291
IRR, %	22.99%
EBITDA yield, %	58%
Payback period, years	7.2
Discounted payback period, years	9.5

### 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.

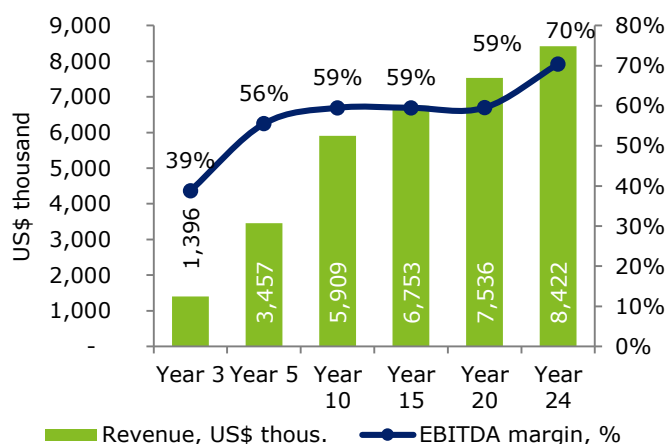
#### Price differential with neighboring countries

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



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

**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:

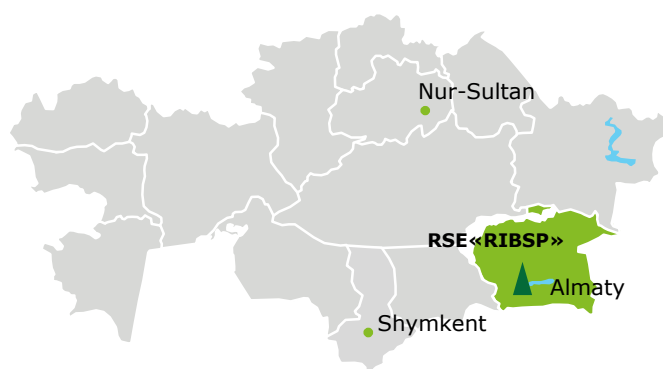
- Smallpox vaccine – 3,750 thousand doses;
- Avian influenza vaccine – 2,250 thousand doses;
- Cattle Nodular Dermatitis Vaccine – 3,000 thousand doses;
- Cattle Plague Vaccine – 2,250 thousand doses;
- Small Cattle Ecthyma Vaccine – 1 500 thousand doses;
- Animal Brucellosis Vaccine – 2,250 thousand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

#### Key investment indicators of the Project

Indicator	Results
Investment amount, thous. USD	10,171
Project NPV, thous. USD	8,603
IRR, %	22.4%
EBITDA margin, %	57%
Payback period, years	8.2
Discounted payback period, years	11.2

#### Project location:

Almaty Oblast, Zhambyl district, urban-type settlement Gvardeyski.



#### Prerequisites for Project implementation

##### Lack of production in accordance with GMP standards

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

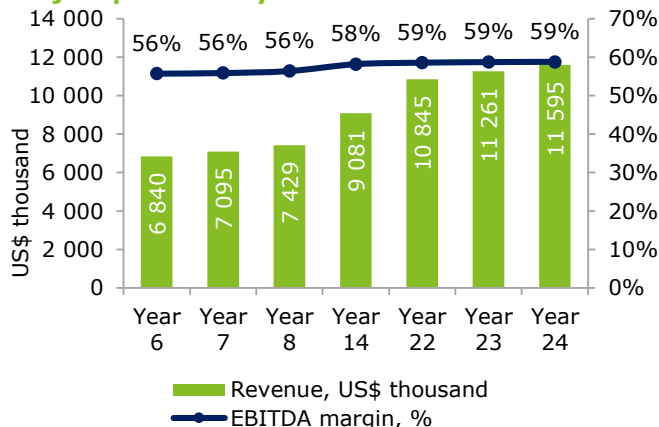
##### The growth of cattle, small cattle and poultry

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

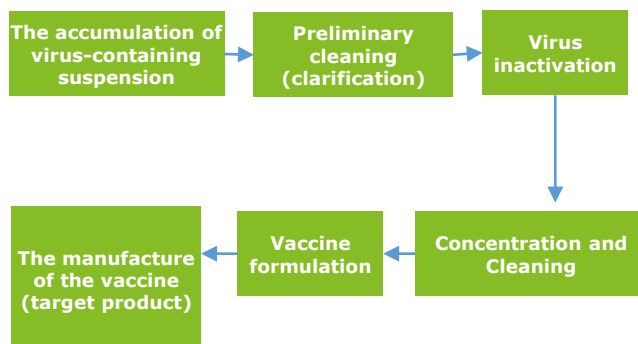
##### Import substitution

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

#### Project profitability



#### Biological product manufacturing technology



## Small cattle mixed farming in Aktobe region

### Description of the project:

Organization of a cattle breeding farm: fattening and slaughtering of small cattle with subsequent sale of sheep products.

### Aims of the project:

Creation of a steadily developing enterprise for the breeding of small cattle, which, as a matter of priority, develops the production of lamb with further development and deepening of processing. Providing the farm with its own feed base will allow supporting the production process regardless of price fluctuations in the feed market and, in general, will increase the sustainability of the enterprise.

**Initiator:** SalurbeyGroup LLP

**Maximum capacity:** 90,000 heads of breeding stock

**Output:** lamb, milk, skin, wool. It is planned to build a cannery, a workshop for the production of meat and bone meal and fat.

### Prerequisites for implementation of the Project

**Growing global demand for lamb.** According to forecasts by the OECD and the UN FAO, there will be an increase in the global level of consumption of mutton. The average annual growth rate in 2019-2023. will be 2.12%.

### Price differential with neighboring countries.

The average price of mutton in the regions of the Russian Federation bordering with the Republic of Kazakhstan is 21% higher than the average Kazakhstan prices. The average price in the PRC market (8.5 USD / kg) exceeds the average price of mutton in the Kazakhstan by more than 2 times.

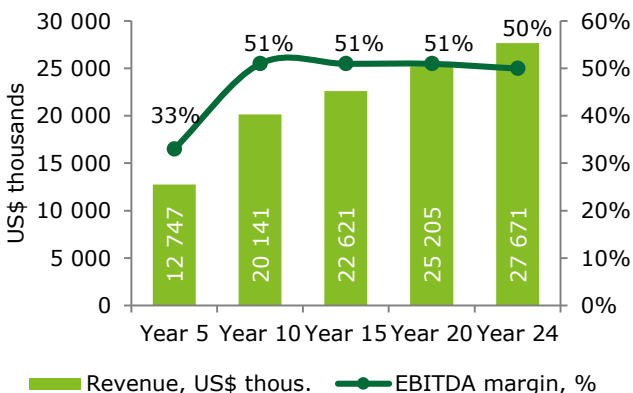
### Development of export to foreign countries.

Volumes of mutton export from Kazakhstan have been growing at a dynamic pace in recent years (7 times since 2017). This is due to the beginning of large deliveries to Iran, which is the main buyer of mutton from Kazakhstan. Over 10% of all exports go to the Russian Federation. In 2018, lamb producers made their first shipment to China.

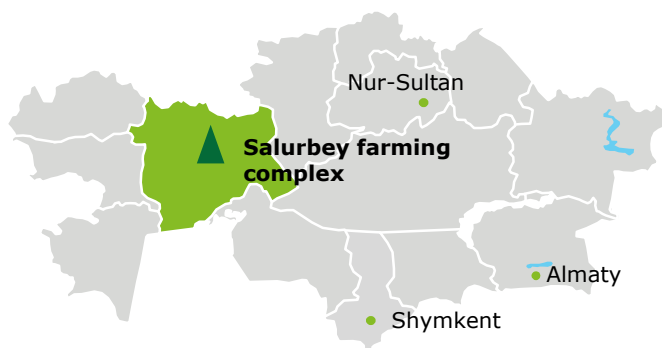
### Investment attractiveness of the Project

Indicator	Results
Investment amount, US\$ thous.	33 009
Project NPV, US\$ thous.	22 161
IRR, %	14,72%
EBITDA yield, %	45,98%
Payback period, years	9,69
Discounted payback period, years	15,5

### Project Profitability



### Project Location: Aktobe region



### Breed

- Merino breed - a breed of fine-fleece sheep that are bred to produce high-quality wool and meat.
- Romanovskaya breed - coarse breed of sheep of "fur coat" direction.

### Stead

Title	Area, ha
Farming complex area	100
herbs	4 950
Cereal	4 950
<b>Total</b>	<b>10 000</b>

# Organization of a comprehensive cattle breeding farm to expand the production of canned meat

## 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.

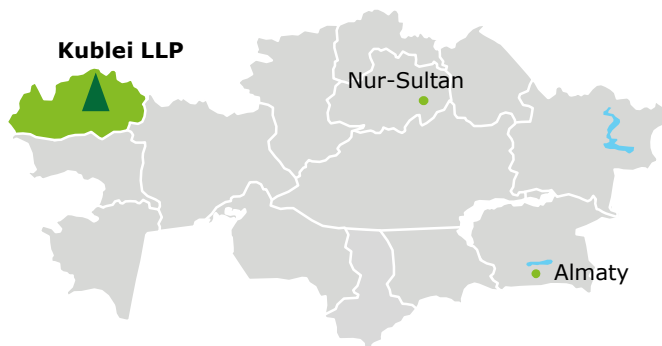
**Commercial products:** Beef and offal sent for further processing to the meat processing complex of Kublei LLP.

## Key investment indicators

Indicator	Results
Investment, USD thousands	7,474
Project NPV, USD thousands	15,731
IRR, %	35.6%
EBITDA returns, %	40%
Payback period	4.9
Discounted payback period	5.7

## 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.

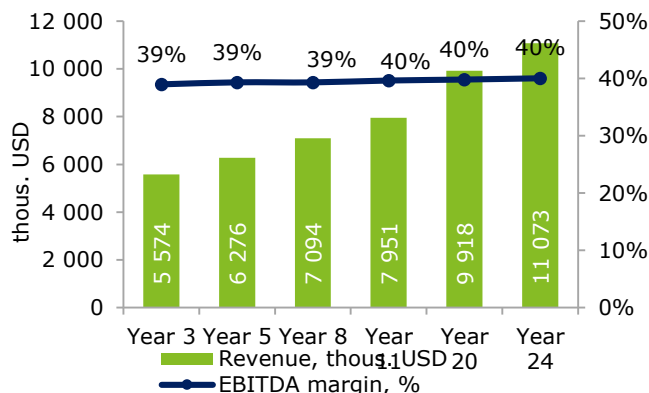
**Growth of demand for beef.** According to forecasts by the OECD and UN FAO, there will be an increase in the overall level of beef consumption in the world.

**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.

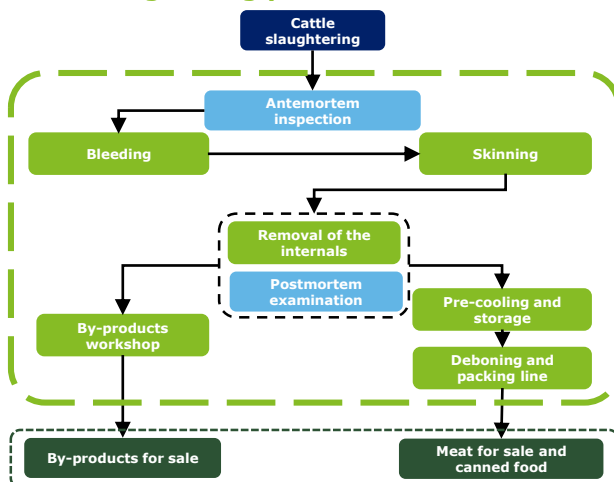
**Export development.** The volume of canned meat export from lamb and horse meat in 2018 amounted to 212 tonnes, which is 135.5% higher than the previous year.

**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





# Business plan for the reconstruction of the pig breeding farm in Almaty Oblast

## About the Project

Reconstruction of the pig breeding farm in Almaty Oblast with a completed production cycle including the reproduction of piglets, their nursery and fattening to commodity pigs based on a continuous process flow.

### Initiator:

Karaoy Livestock Breeding Farm LLP

### Project location:

Almaty Oblast, Ili District, Karaoy village

### Commercial products:

- Fresh and chilled pork;
- Pork by-products;

### Maximum project capacity:

- Breeding stock – 5,200 sows;
- Fattening – up to 100,000 young pigs per year;
- 7,234 and 2,311 tonnes of pork and by-products per year.

### Sales Markets:

Russia, China and the domestic market

## Investment attractiveness of the Project

Indicator	Results
Investment amount, US\$ thous.	28,289
Project NPV, US\$ thous.	16,632
IRR, %	28.1%
EBITDA yield, %	27%
Payback period, years	5.0
Discounted payback period, years	7.0

## Project Location: Almaty oblast



## Prerequisites for implementation of the Project

### Increase in pork imports to China

Over the past 5 years, China's pork imports have more than doubled, and in 2018, it amounted to 1.1 million tonnes worth US\$ 2 billion. According to OECD forecasts, pork production in China will slightly lag behind consumption, and in the near future, China will import about 1.4 million tonnes of pork per year.

### Low cost of production

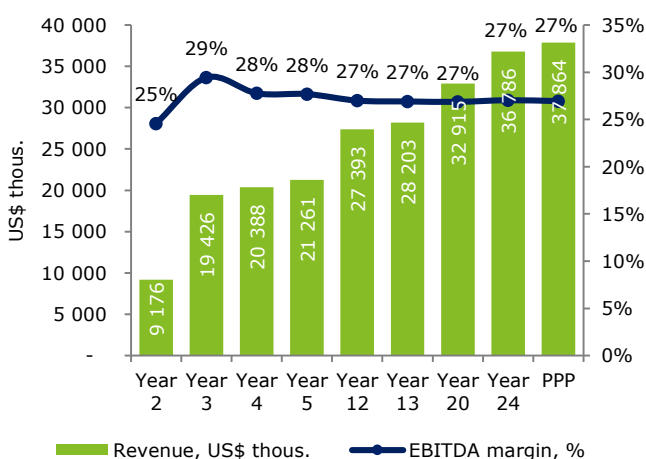
The extensive and cheap fodder base for the Project - agricultural enterprises in Almaty Oblast and other regions of Kazakhstan - will significantly reduce the cost of fattening and the maintenance of pigs. Also, the costs of manure disposal, water tariffs and employee wages are several times lower than at EU enterprises or other producers.

### Export of premium products

China and Russia mainly import pork from countries in Europe and America, which forces suppliers to transport frozen meat. Freezing negatively affects the quality and the price of meat. The geographical location of Kazakhstan allows for the supply of pork (by road) to both China and Russia in a chilled form, which will allow the Project to sell products at higher competitive prices.

**Geographical remoteness of the project implementation region from other pigfarms –** African swine fever has shown the vulnerability of the pig industry to epidemics and diseases. The factors protecting the Project's livestock from infection of this disease and other diseases are the remoteness of the Project's implementation site from other pig farms and households with infected pigs. Density of pig livestock in the region is very low, which reduces the chance of accidental direct or indirect contact.

## Project Profitability



### Project description:

Construction of water infrastructure for the regular irrigation section of Balatobe in the Urdzhar district of East Kazakhstan region. It is planned to install a circular irrigation system on a land area of 2,200 ha.

**Initiator:** URDZHAR AGRO COMPANY JSC

### Targets:

- Increasing crop yields while maintaining and improving soil fertility;
- Leading in grain and oilseed production volumes

### Project location:

East-Kazakhstan Oblast (EKO), Urdzhar region.

**Commercial products:** soybeans, corn, sunflower seeds.

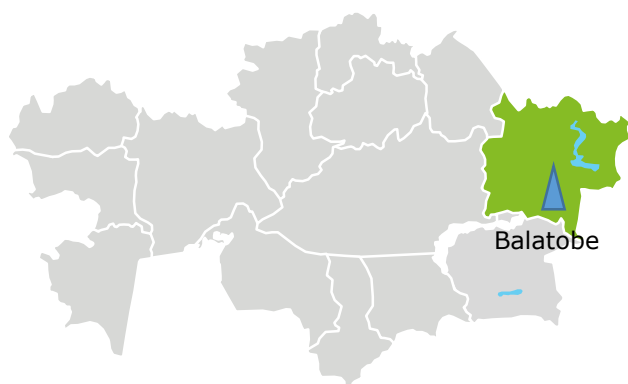
### Production capacity:

per year: corn - 18 thousand tons, sunflower - 2,800 tons, soybeans - 300 tons.

### Key investment indicators of the Project

Indicator	Results
Investment amount, thous. USD	7,421
Project NPV, thous. USD	16,291
IRR, %	37.1%
EBITDA margin, %	69.9%
Payback period, years	4.3
Discounted payback period, years	5.1

### Project location: North-Kazakhstan Oblast, Akmola Oblast



### Prerequisites for Project implementation

#### Productivity

The irrigation technique and technology has a decisive influence on the quality of regulation of the water regime of the soil, and, consequently, not only on crop yields, but also on the efficiency of the use of water, soil-climatic, material-technical and energy resources, as well as the ecological state of the environment.

#### Stable demand for corn and sunflower seeds in the domestic market

The growing demand for corn and sunflower seeds creates favorable conditions for growing these crops. Over the past 5 years, per capita consumption of corn and sunflower seeds has grown with an average annual growth rate of 4.6% and 7.9%. Most of the domestic demand is covered by the domestic production of these crops.

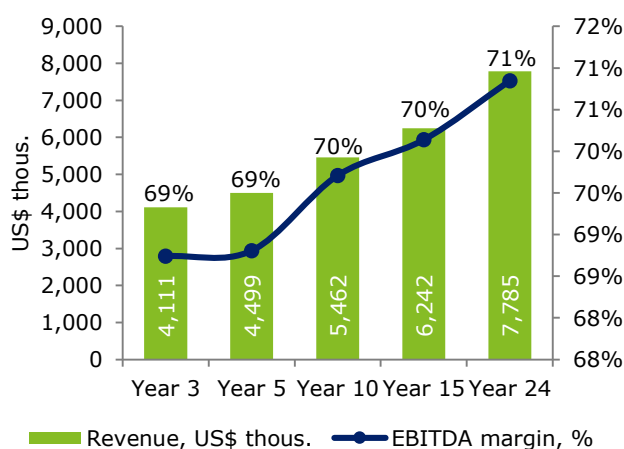
#### Export potential

The neighborhood with one of the largest corn importers - China - provides convenient access to the target large and large-scale sales market. China's imports in 2018 amounted to 3,521 thousand tons of corn. In addition, more than 93% of the corn export from Kazakhstan goes to Uzbekistan, whose import volumes have increased by 40% over the past year.

#### Price differential with neighboring countries

In the regions of the Russian Federation adjacent to Kazakhstan, the average price of a kilogram of sunflower seeds during the year varies depending on the region in the range of 0.25 - 0.4 US dollars, which is higher than the average price in Kazakhstan by 5% - 60%.

### Project profitability



# Production of flax oil

## Project description

The project plan is to construct an oil plant with a capacity of 20 thousand tonnes of linseed oil per year. It is planned to install 10 acceptance points, to build a railway deadlock. The initiator of project has in his ownership necessary territory for the plant. He also land area of 16 thousand ha used for growing flax and rape seeds. It is also planned to purchase flax from small farms of the North-Kazakhstan region, that is one of the leaders in production of flax seeds in Kazakhstan.

## Project location



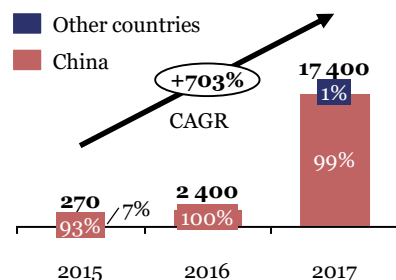
## Investment highlights

Upfront investment	\$20 MM
NPV	\$36 MM
IRR	33%
Payback period	5 years

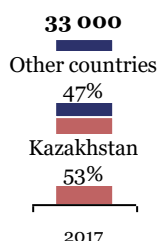
## Market analysis

Kazakhstan exports most produced flax oil to China. The amount of arable land is 831 thd ha in Kazakhstan. There is a potential of exporting product to Japan.

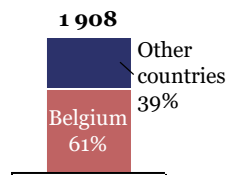
Flax oil export, tonnes



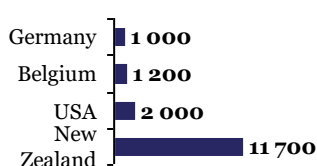
China's import volume, tonnes



Japan import, tonnes



Japan's oil import prices, USD/tonne



## Target Investor Mandate

- Offtake large volumes of oil
- Be a supplier of technologies
- Long-term investments

## Competitive advantage

I. High average oil yield from flax seeds in North Kazakhstan Region - 50% of the total mass. Usually the standard yield is 30-40%.

II. Kazakhstan has a cost advantage among other countries in exporting product to China.

China's oil import prices in 2017, USD/tonne



## Value proposition

This project allows to take advantage of **exporting product** having a **cost advantage** compared to other importers.

# Modernization of the starch plant for the production of citric acid

## Project description

The project plan is to modernize facility for deep processing of maize, with final product as citric acid. The planned capacity of processing citric acid is 10 000 tonnes per year. The company owns a land of 3 000 ha and currently processes maize to produce starch and molasses. Maize is mainly purchased from agricultural enterprises in Almaty region. Currently, the company has offtakes on existing product line with main consumers as Khamle and Rakhat.

## Project location



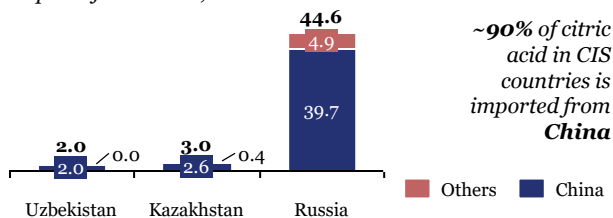
## Investment highlights

Upfront investment	\$22 MM
NPV	\$33 MM
IRR	31%
Payback period	6 years

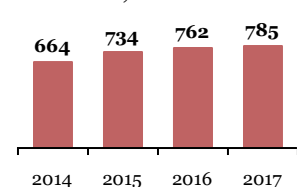
## Market analysis

The share of import of citric acid consumption in most CIS countries is ~90%. Raw material for citric acid is maize, which has annual increase in production of ~5% in Kazakhstan.

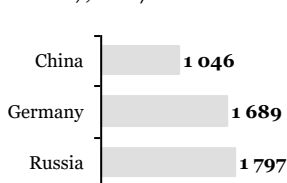
Import of citric acid, thd tonnes



Production of maize in Kazakhstan, thd tonnes



Import prices in Kazakhstan in 2017, USD/tonne



## Competitive advantage

Domestic price of citric acid will be **30% cheaper** in comparison with import price of China, which has a status of cheapest exporter of product to CIS countries.

The company already has offtakes with large Kazakhstan confectionary companies.

Import price vs domestic price in 2017, USD/tonne



## Value proposition

This project allows to take advantage of **import substitution** on a market, while having **cost competitive advantage**.

## Target Investor Mandate

- Supply of production technologies
- Access to external markets



# Expansion of a poultry meat production complex

## Project description

Alél 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.

## Project location



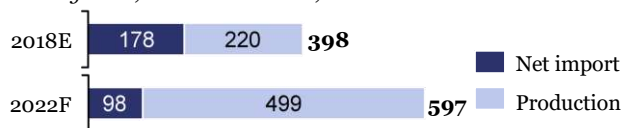
## Investment highlights

Upfront investment	\$329 MM
NPV	\$107 MM
IRR	20%
Payback period	8 years

## Market analysis

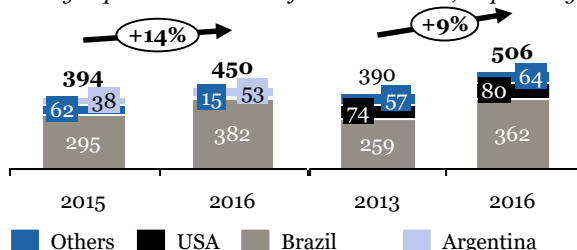
I. 50% of poultry meat consumed in Kazakhstan is imported. Also, a forecasted growth in consumption presents a case for safe-haven **hinter market**.

*Poultry meat, 2018E and 2022F, thd tonnes*



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*



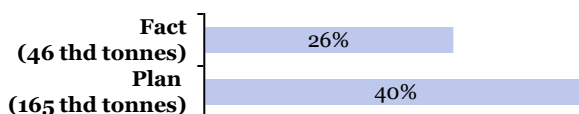
## Target Investor Mandate

- Access to external markets
- Supply of broiler technologies

## 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, %*



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

III. Availability of own agro brands: Alél, 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.

# 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



## Investment highlights

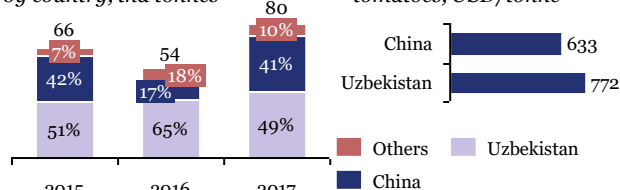
Upfront investment	\$26 MM
NPV	\$12 MM
IRR	18%
Payback period	8 years

## Market analysis

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

Tomatoes import to Kazakhstan by country, thd tonnes

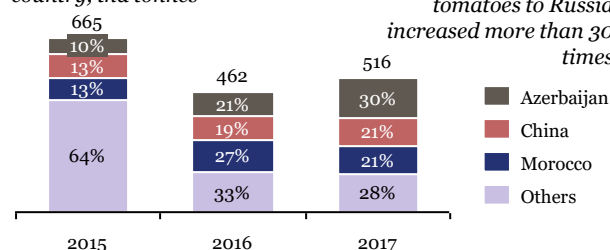
Average import prices of tomatoes, USD/tonne



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

Tomatoes import to Russia by country, thd tonnes

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



## 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



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

## 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.

# 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



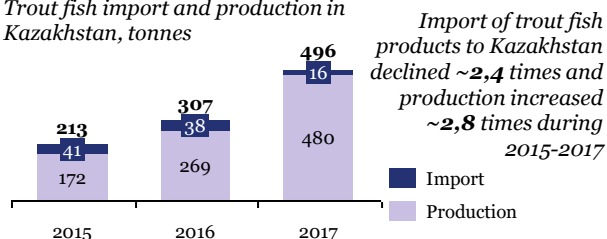
## Investment highlights

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

## Market analysis

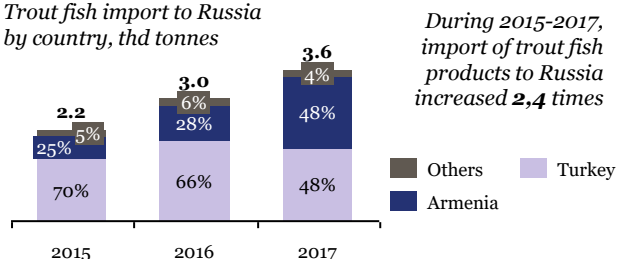
I. Main exporter of trout fish products to Kazakhstan is Russia with share ~98%.

Trout fish import and production in Kazakhstan, tonnes



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

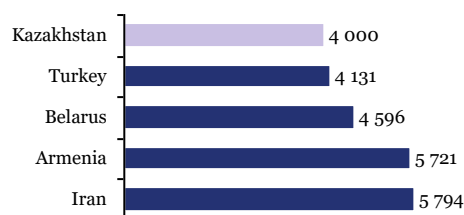
Trout fish import to Russia by country, thd tonnes



## 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.

## Target Investor Mandate

Long cheap financial resources

## 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**.

# Expansion of the turkey meat producing farm

## Project description

The project plans the expansion of turkey meat production plant to 20 thousand tonnes, creation of a breeding reproducer and modernization of the deep processing plant. Current production capacity is 9.5 thousand tonnes of turkey meat in live weight and 7.7 thousand tonnes in slaughter weight. The company produces more than 85 products from turkey meat: sausage, smoked and other delicacies. There is a land plot of more than 200 hectares.

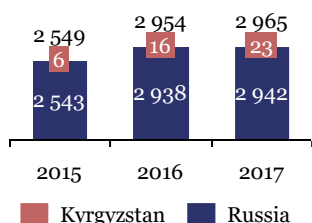
## Project location



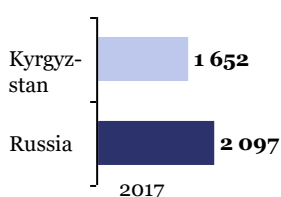
## Market analysis

Kazakhstan already exports turkey meat to Russian and Kyrgyzstan. Moreover there came up a need in substitution of imports for a turkey meat.

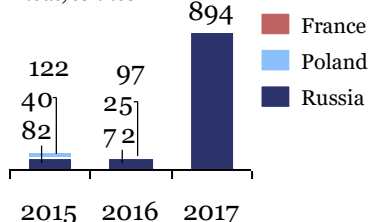
Kazakhstan's export of turkey meat, tonnes



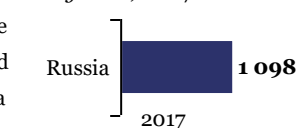
Kazakhstan's export price of turkey meat, USD/tonne



Kazakhstan's import of turkey meat, tonnes



Kazakhstan's import price of turkey meat, USD/tonne



## Investment highlights

Upfront investment	\$44 MM
NPV	\$49 MM
IRR	18%
Payback period	11 years

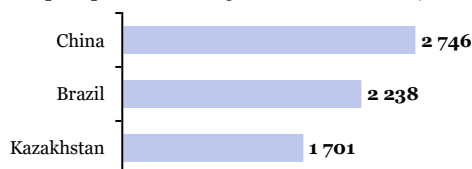
## Competitive advantage

The only company in Kazakhstan that grows turkeys and manufactures products from its meat in industrial scale.

Company has long term offtake contracts with 4 wholesale buyers: 2 in Kazakhstan, 1 in Russia and 1 in Kyrgyzstan.

Kazakhstan has the lowest price on product in Russian import market

Russia import price on turkey meat in 2017, USD/tonne



Kazakhstan has the cheapest import price in Russia among importers of turkey meat

## Target Investor Mandate

- Supply of technologies
- Access to external markets

## Value proposition

This project allows to **capitalize on existing industrial base** and take advantage of **expanding export volumes** in CIS countries.



# Construction of a complex for the production of baby food

## Project description

The project plan is the construction of a complex for the production of baby food with a capacity of 25 000 tonnes per year (20 000 tonnes of baby food on the base of milk and 5 000 tonnes on vegetables). The implementation of the project involves 3 stages: 1 - construction of a new plant for the production of baby food; 2 - construction of a dairy farm for 2,4 thousand heads; 3 - creation of an irrigation array for 5 000 ha for the development of the resource base (with expansion up to 10 000 ha).

## Project location



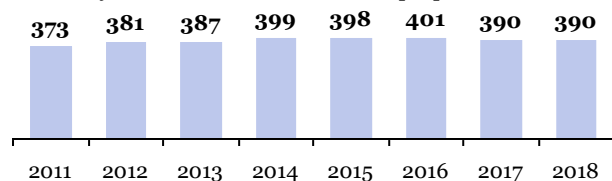
## Investment highlights

Upfront investment	\$17 MM
NPV	\$15 MM
IRR	28%
Payback period	5 years

## Market analysis

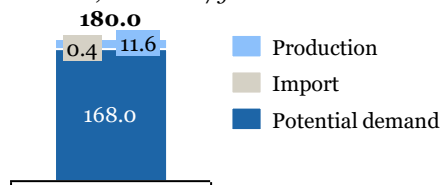
One of the factors in the demand for baby food is a steady increase in the birth rate.

*Number of newborns in Kazakhstan, thd people*



The demand for baby food based on milk and dairy products for children from 0 to 4 years reaches up to 180 thousand tonnes per year. Production in Kazakhstan is 11.5 thousand tonnes, which covers less than 7% of the demand.

*Import, production and demand for baby food based on milk in Kazakhstan, thd tonnes/year*



## Target Investor Mandate

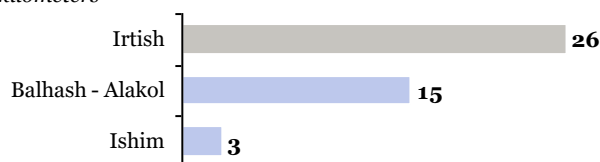
Competency to transfer technologies

## Competitive advantage

I. *Own resource base*: it is planned to build a farm with 2.4 thousand heads for the production of the highest quality own milk.

II. *High water flow*: Irtysh river basin has substantial amount of water and has average water flow of 9 bln m<sup>3</sup> a year. High quality milk can be achieved due to Irtysh river, which gives advantage in terms of water supply in comparison with other producers.

*Indicators of water resources availability in river basins, cubic kilometers*



## Value proposition

The project allows to capitalize on the growing demand for milk-based baby food products and to meet unsatisfied domestic demand for products.

# 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



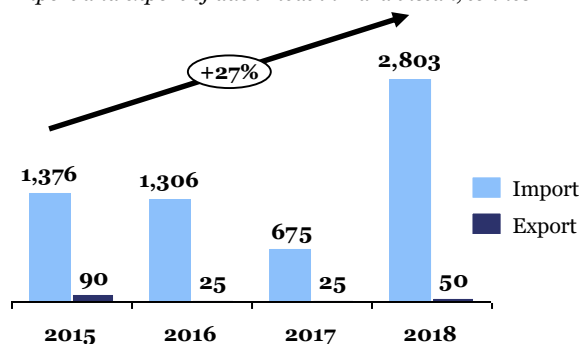
## Investment highlights

Upfront investment	\$26 MM
NPV	\$13 MM
IRR	17%
Payback period	9 years

## 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%), Russia (28%) and USA (14%). At the same time, Kazakhstan exported duck meat to: Russia (28,24 tonnes) and UAE (0,01 tonnes).

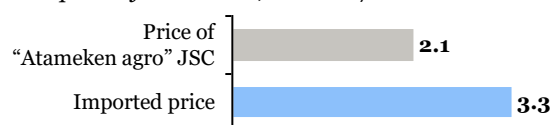
## Target Investor Mandate

Competency to transfer technologies

## Competitive advantage

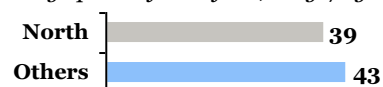
I. The sale price of duck meat, which JSC "Atameken agro" charges, is 35% lower than the price of imported duck meat.

Sale price of duck meat, thd USD/tonne



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



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.

# Production of sunflower oil

## Project description

The project plan is to build a modern oil extraction plant with a capacity of 310 thousand tonnes of sunflower seeds. As raw materials, sunflower seeds will be purchased from producers of the Kostanay region, with whom preliminary supply contracts have been concluded. The sales market for this project will be 2 own factories in Almaty and Karaganda, where it is planned to supply 80% of the produced sunflower oil. The remaining 20% of the production is planned to be exported to the markets of Uzbekistan and Kyrgyzstan.

## Project location



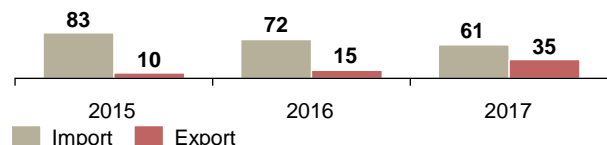
## Investment highlights

Upfront investment	\$114 MM
NPV	\$95 MM
IRR	33%
Payback period	6 years

## Market analysis

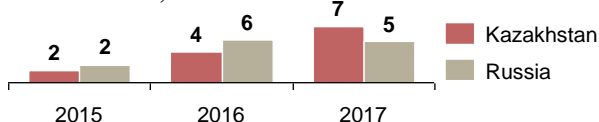
I. Russia accounts for more than 99% of total imports of sunflower oil. Eurasian Foods Corporation is a major consumer of Russian sunflower oil. But the price of exporters is much higher than the cost of production of the initiator.

*Import and export volumes of sunflower oil by Kazakhstan, thd tonnes*



II. There has been a steady increasing trend in import of sunflower oil by both Kyrgyzstan and Uzbekistan with the only competitor for Kazakhstan being Russia.

*Compound import volume of sunflower oil by Kyrgyzstan and Uzbekistan, thd tonnes*



## Target Investor Mandate

An investor should:

- Have an access to foreign markets
- Be a supplier of technologies
- Be able to provide long-term investment

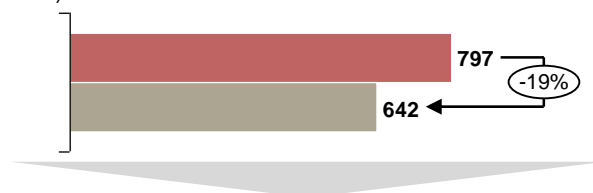
## Competitive advantage

I. Guaranteed market. 80% of the production of the produced sunflower oil is planned to be used at their enterprises for the further processing of more products.

II. Successful brand. The company has successful product lines of “3 Zhelaniya”, “Shedevr”, “Zlatye gory”, which are sold annually in volumes of more than 120 000 tonnes of products.

III. Import substitution. At the moment, the company buys crude sunflower oil from Russian producers.

*Import price and production cost of the initiator, USD/tonne*



## Value proposition

The project will allow the investor to fill the production deficit in Kazakhstan and to monetize the guaranteed sales market.

# Sugar beet plant expansion and automation

## Project description

The project plan is to upgrade sugar making equipment in a deep sugar beet processing plant. Capacity will increase from 150 kt of sugar beet to 380 kt p.a. Products will be sugar (12%) and beet pulp (88%). There is a 5-year agreement with offtakers from China to sell all volumes of beet pulp. Raw sugar beet is planned to be purchased from peasants of the southern Kazakhstan. The initiator owns about 500 ha.

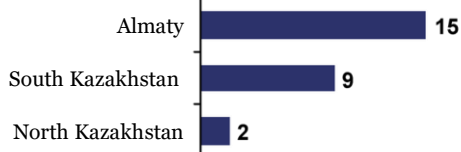
## Project location



## Market analysis

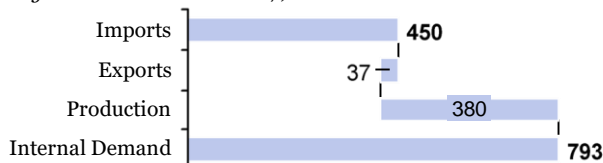
I. Currently the market is concentrated and one large player controls 99% of the market, which creates market entry for more efficient companies.

Sugar producing plants in Kazakhstan, 2017



II. Kazakhstan is highly dependent on imports: more than 50% of its sugar consumption is imported in a processed or raw form.

Sugar in Kazakhstan in 2017, thd tonnes



III. Sugar beet cultivation is attractive with **subsidies on fertilisers (up to 50%) and water (20-90%)**.

## Target Investor Mandate

- Competency to transfer technologies
- Established distribution in export markets

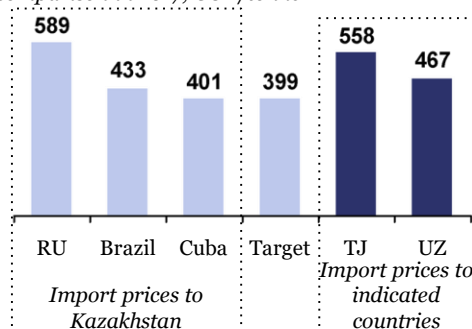
## Investment highlights

Upfront investment	\$51 MM
NPV	\$35 MM
IRR	18%
Payback period	10 years

## Competitive advantage

Kazakhstan supplies 22% and 13% of total imports of Uzbekistan and Tajikistan, respectively.

Prices comparison in 2017, USD/tonne



## Value proposition

This project allows to take advantage of a high unmet domestic **demand** for sugar and the **potential** to occupy share of less efficient suppliers importing to Central Asian countries.

## Important notice

Candidates interested in considering this investment opportunity must comply with the Kazakhstan Invest. Contact: **FirstName LastName**, Project Manager, +7 7172 917070, [lastname@kazakhstaninvest.kz](mailto:lastname@kazakhstaninvest.kz). The content of this document is property of Kazakhstan 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.



# Mining and metallurgical complex

# Development of Batalinskoye and Krasnoarmeyskoye copper ore deposits

KAZAKH INVEST  
Investment proposal  
2020

## Mining and smelting industry

### Project description

This investment project involves construction of an industrial complex for the extraction and beneficiation of copper ores at Bataly and Krasnoarmeysk deposits in Kostanay Oblast.

The project provides for the production of copper concentrate (copper rod-3) with a capacity of 150 thousand tonnes per year with subsequent processing at the Kazzinc copper plant and sale to end users.

The Project creates 31 permanent jobs.

**Location:** Bataly and Krasnoarmeysk deposits are located not far from each other in Denisov district of Kostanay Oblast.

**Initiator:** Mystau LLP is a joint venture of SEC Tobol JSC and Bataly Copper LLP.

**Produced products and capacity:** Copper concentrate (copper rod-3) with the volume of 150 thousand tons per a year.

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

### Key investment indicators of the Project

Indicator	Results
Project implementation period, years	17
Investment amount, US\$ thousands	298,600
Project NPV, US\$ thousands	163,693
IRR, %	22.5%
EBITDA margin, %	31-53%
Payback period, years	7.9
Discounted payback period, years	10.3

### Investment structure



Construction and assembly work

38%

**\$114.6 million**



Machinery and equipment

49%

**\$145 million**



Other capital expenses

13%

**\$39 million**

### Market conditions

#### Growing demand

Total refined copper production in 2019 amounted to 24.6 mln tonnes, which is 2% higher than in 2018. Stable production growth has been observed between 2015 and 2019. According to EMIS forecasts, refined copper consumption and production will grow between 2020 and 2029 with CAGR of 2.1%. From 2021, analysts are predicting a global copper deficit, which will result in an increase in prices for refined copper.

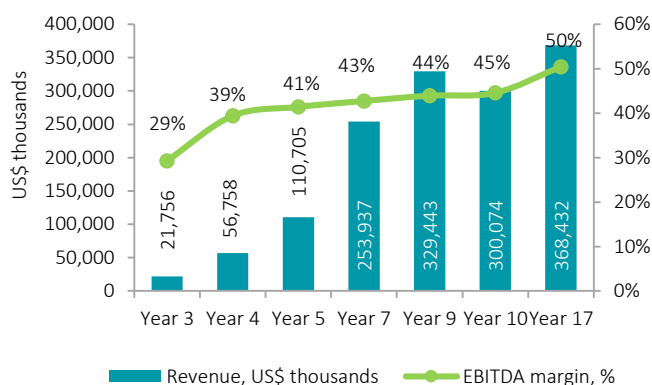
#### Price growth.

According to Bloomberg, there will be a medium- and long-term shortfall in copper supply. It is expected that copper prices will increase between 2021 (5.8 US\$ thous./ton) and 2024 (6.8 US\$ thous./ton).

#### Export potential.

Kazakhstan neighbors China, the world's largest importer of copper products, which provides a short transport shoulder for exports. In 2019, copper consumption in China was 34% higher than production. According to EMIS analysts, in the forecast period, copper consumption in China will grow quicker than production. As such, the copper deficit in the country will grow, and by 2029 domestic copper production will cover only 68% of consumption.

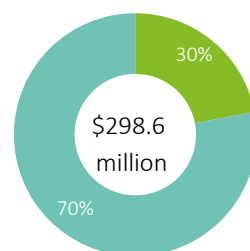
### Project profitability



### Financing structure

Participation of the Initiator  
30% (\$89.5 million)

Debt financing subject to collateral  
70% (\$209.1 million)



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

# Construction of a plant to produce aluminum foil in Pavlodar Special Economic Zone

## Mining and smelting complex

KAZAKH INVEST  
Investment proposal  
August 2020

### 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

Indicator	Results
Investment amount, US\$ thous.	19,098
Project NPV, US\$ thous.	38,208
IRR, %	28.9%
EBITDA margin, %	27.01%
Payback period, years	6.3
Discounted payback period, years	7.8

### Investment structure



Construction and assembly work

7%

\$1.4 million



Machinery and equipment

86%

\$16.3 million



Initial working capital

7%

\$1.4 million

### Market prerequisites:

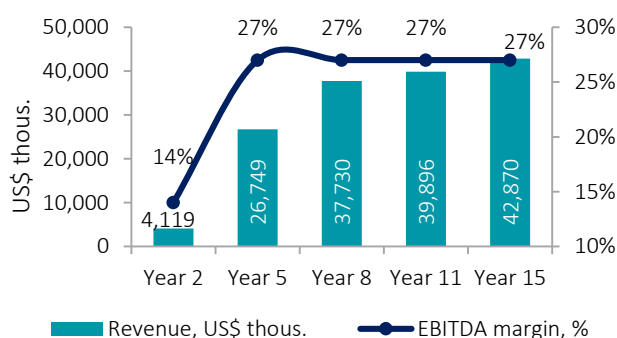
#### Availability of a raw material and cheap energy resources.

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

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

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

### Project profitability



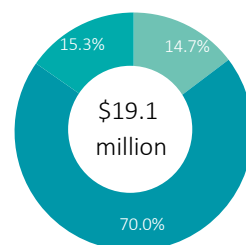
### Financing structure

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.

# Construction of a metallurgical plant in the industrial zone of Aktope

## Mining and smelting complex

KAZAKH INVEST  
Investment proposal  
August 2020

### Project description:

Construction of a metallurgical plant for the production of rectangular ingots from high-alloy steel. Number of jobs created - 379.

### Location:

Kazakhstan, Aktope Oblast, Aktope city, industrial zone, 724.

### Initiator:

Aktope Metallurgical Plant LLP.

### Commercial products and capacities:

rectangular ingots from high-alloy steel - 170 thous. tons p.a.

### Sales markets:

Kazakhstan.

### Manufacturing process:

smelting steel scrap (raw material) - primary processing of steel scrap by the 30T electric furnace - refinement by the LF 35T furnace - refinement by the VD 35 T furnace - three-piece continuous casting machine - automatic gas cutting - steel rolling heating furnace - transfer of steel ingots into the warehouse.

### Market prerequisites:

**Absence of similar producers in Kazakhstan.** The absence of direct competitors on the market will make it possible to gain a large market share and reduce import dependence on steel ingots.

**Stable demand for products.** Steel ingots are the main material used by enterprises manufacturing finished steel products.

**Plentiful raw materials.** About 5 million tons of scrap metal is generated in Kazakhstan annually, while the Project requires only about 200 thousand tons per year.

**Beneficial Project location.** The operation of the plant on the industrial zone of Aktope provides a number of benefits. Aktope Oblast has historically been an industrial hub. A large number of industrial enterprises operate here, which can become potential consumers of the Company's products.

### Key investment indicators

Indicator	Results
Investment amount, US\$ thous.	32,469
Project NPV, US\$ thous.	173,016
IRR, %	33.6%
EBITDA margin, %	27.8%
Payback period, years	7.5
Discounted payback period, years	9.0

### Investment structure



Construction and assembly work

10%

\$3.3 million



Machinery and equipment

83%

\$26.9 million

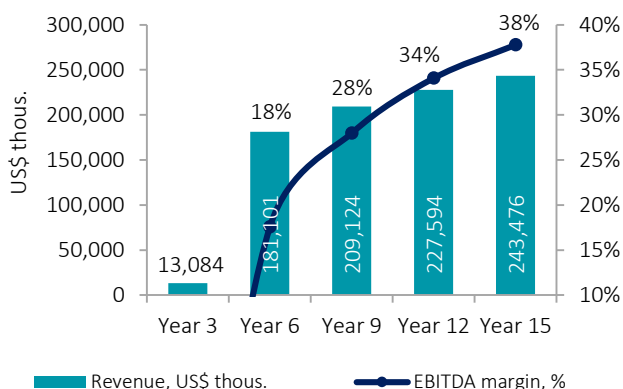


Initial working capital

7%

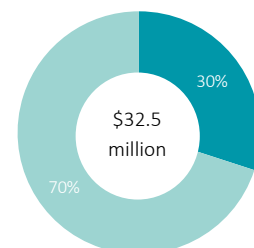
\$2.2 million

### Project profitability



### Financing structure

- Equity  
30% (\$9.7 million)
- Debt financing subject to collateral  
70% (\$22.7 million)



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



# Construction of a mining and processing plant for the extraction and processing of lithium in the East Kazakhstan region

## Mining and metallurgical complex

KAZAKH INVEST  
Investment proposal  
November 2020

### 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

Indicator	Results
Investment amount, US\$ thous.	102,040
Project NPV, US\$ thous.	64,079
IRR, %	24.2%
EBITDA margin, %	40.1%
Payback period, years	9.3
Discounted payback period, years	10.0

### 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.

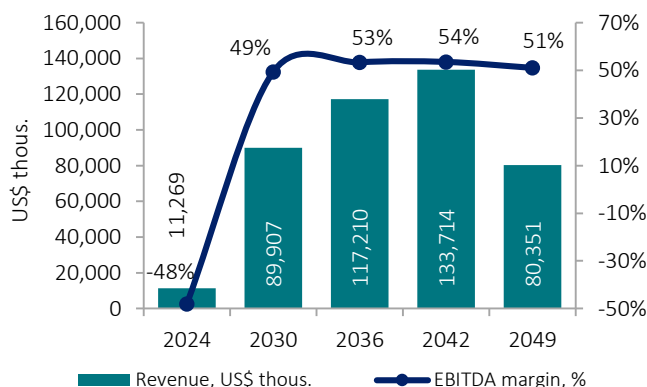
#### Increased demand for lithium.

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.

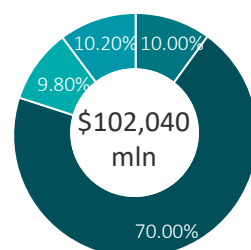
The company has its own funds in the amount of 3-5 mln US dollars for exploration work, statement of reserves to the state balance sheet and transfer of these reserves according to JORC (Australian Code of Reporting on Exploration Results, Mineral Resources and Ore Reserves).

### Project profitability



### 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.

# Construction of a jewellery manufacturing plant

KAZAKH INVEST  
Investment proposal  
November 2020

## Mining and smelting enterprise

### Project idea:

Construction of a plant with a total area of 9 thousand sq. m, on the territory of the SEZ "Astana – noviy gorod", with a capacity of 6 thousand kg of jewelry per year.

Successful implementation of the Project will create an effective business for the production of jewellery, replace foreign products imported to the domestic market with a Kazakh product of high quality at an affordable price, as well as create about 300 new job places in Nur-Sultan.

### Project location:

SEZ "Astana – noviy gorod", Nur-Sultan.

### Project Initiator:

JSC SEZ Astana-Technopolis together with Altınbaş Holding

### Production capacity :

It is planned to reach full capacity of 6,000 kg per year in the third year from the date of production launch. The list of manufactured products is 100% gold jewellery.

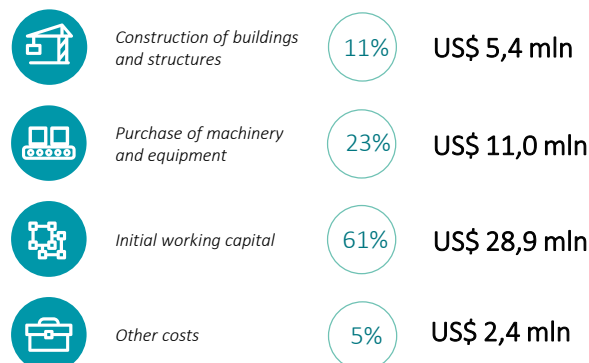
### Sales market:

- Domestic market of Kazakhstan (55% of finished products);
- Exports to near-abroad countries, including Uzbekistan, Kyrgyzstan, Russia, etc. (45%).

### Investment attractiveness of the Project

Indicator	Results
Investment amount, US\$ thousand	47,736
Project NPV, US\$ thousand	33,610
IRR, %	25.8%
EBITDA margin, %	10%
Payback period, years	6.7
Discounted payback period, years	9.5

### Investment structure



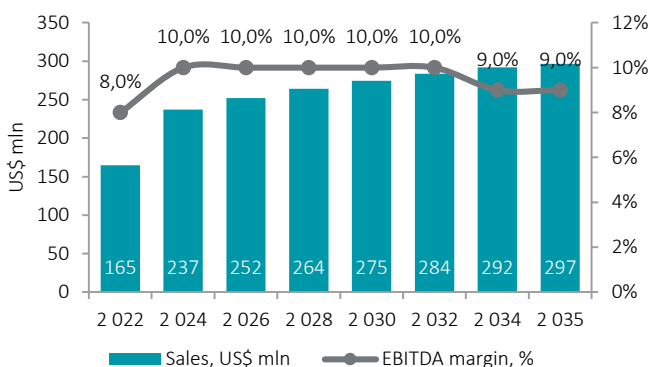
### Prerequisites for implementation of the Project

**Lack of enterprises with similar production capabilities in the territory of the Republic of Kazakhstan.** At the moment, there are no enterprises on the market of the Republic of Kazakhstan that produce products of similar quality using advanced methods and technologies. In this regard, the main share of demand in the domestic market is covered by imports.

**Advantageous location.** The location of the Project is planned on the territory of SEZ "Astana – noviy gorod" in Nur-Sultan. This location has a number of advantages: government preferences, availability of developed infrastructure, proximity to labour resources and reduced utilities expenses. These factors will allow investors to achieve a lower, competitive production cost.

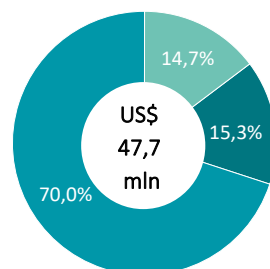
**Significant industry experience of the company.** The initiator is one of the largest jewellery manufacturers in Turkey with over 45 years of experience in the industry. The company has rich experience in efficient production and marketing of products.

### Project's profitability



### Financing structure

- Initiator equity  
15.3% (US\$7,3 mln)
- Participation of funds (KIDF, KCM, SKI)  
14.7% (US\$7,0 mln)
- Debt financing subject to collateral  
70% (US\$33,4 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.

# Development of Alaigyr lead-silver deposit

## Mining and smelting industry

### Project overview:

This investment project provides for the development of Alaigyr lead-silver deposit.

Implementation of the Project will help develop the technologically advanced sub-sector of the non-ferrous industry and reduce imports of polymetallic products.

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

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

### Capacity:

Concentrate containing:

- Lead - about 30 thousand tonnes per year
- Silver - about 13 thousand kilograms per year

**Sales market:** Domestic market, KazZinc LLP

### Market assumptions

#### Growing demand.

According to the analytical agency International Lead and Zinc Study Group, the volume of global lead consumption in 2019 amounted to 12,174 thousand tons, which is 8% more than in 2015. Global silver consumption was 992 mln ounces in 2019, which 3% more than in 2017. Thus, the demand for lead and silver demonstrates historical growth.

#### Experienced team

The management team of the Company has a successful track record of implementing similar projects in the mining and metallurgical sector.

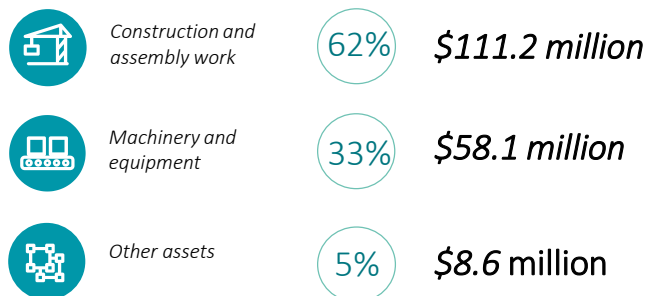
#### Import substitution

Despite the observed steady growth in the production of lead and lead ores over the past few years, Kazakhstan imports lead ores and concentrates. In 2020, the total volume of imported lead ore amounted to 132 thousand tons.

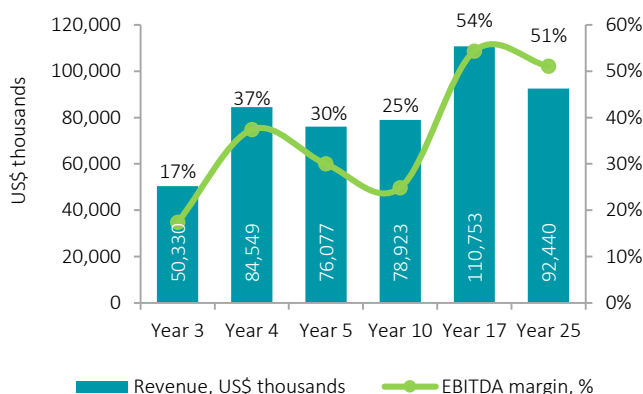
### Key investment data

Index	Results
Project implementation period, years	25
Investment, US\$ thousands	177,962
Project NPV, US\$ thousands	49,002
IRR, %	19.9%
EBITDA return, %	43%
Payback period, years	7.3
Discounted payback period, years	12.5

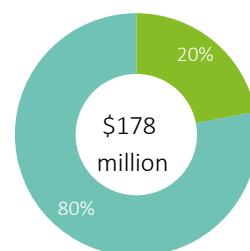
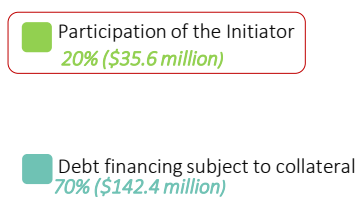
### Investment structure



### 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.

# Kogadyr-6 gold ore deposits

## Mining and smelting industry

### Project overview

The Project provides for the mining of gold ore at Kogadyr-6 deposit in Dzhambul Oblast and the increase of processing capacity through the construction of a gold recovery plant (GRP).

According to SRK Consulting (JORC methodology), reserves of Kogadyr-6 deposit amount to 39.5 tons of gold.

The project stipulates open-pit mining of gold-bearing ores with further processing by flotation and direct cyanidation (CIL).

**Location:** Kazakhstan, Dzhambul Oblast, Kordai district, Kogadyr

**Initiator:** Central Asia Gold Corp. LLP

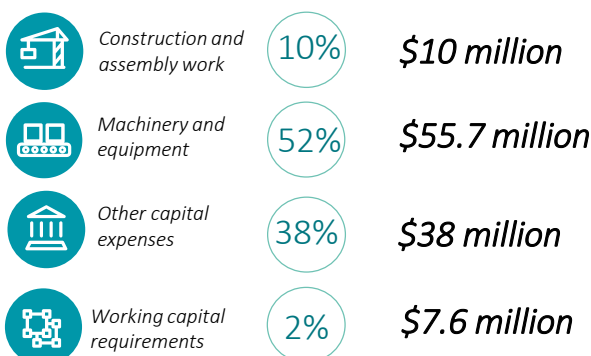
**Capacity:** Processing of 1.6 million tons of ore per a year with production of 1.5 tons of gold

**Selling market:** National Bank of the Republic of Kazakhstan purchasing gold at LBMA prices

### Key investment indicators

Indicator	Result
Investment amount, US\$ thousands	111,362
Project NPV, US\$ thousands	163,521
IRR	53.9%
EBITDA margin	42%
Payback period, years	3.5
Discounted payback period, years	3.9

### Investment structure



### Market prerequisites

#### Sales channels

In Kazakhstan, gold consumption is mainly formed for the purposes of replenishing the country's foreign currency reserve as a result of processing by three refineries: Kazzinc in Ust-Kamenogorsk, Kazakhmys in Balkhash and Tau-Ken-Altyn in Nur-Sultan.

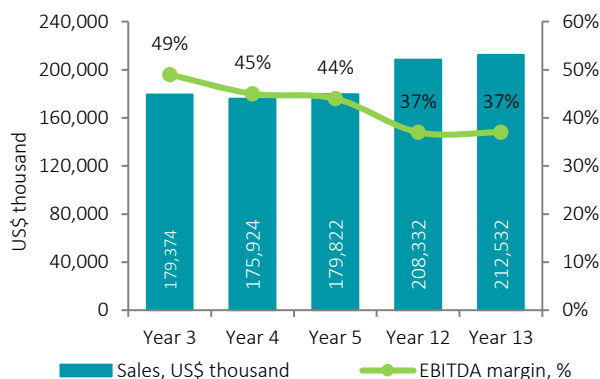
#### Import substitution

Domestic production capacity cannot cover the demand for gold. In 2020, \$334 million worth of metal was imported.

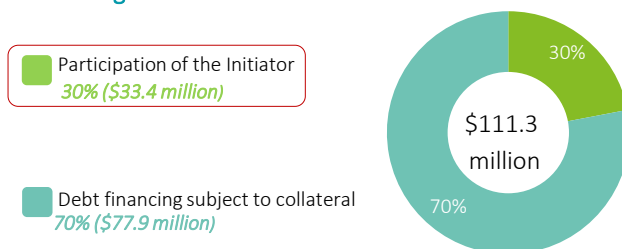
#### Steady high demand

Gold is in steady demand throughout the world. It is used in engineering in the form of alloys with other metals, in the aerospace industry, in radio equipment, electronics, medicine, and to make jewelry. It is also the world's main currency metal.

### 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.



# Construction of the mining and metallurgical facility to mine and process tin ores

KAZAKH INVEST  
Investment proposal  
2020

## Mining and smelting industry

### Project overview

construction of the mining and metallurgical facility to process 2 million tons of ore at the Syrymbet deposit. Ore processing capacity will reach 2 million tons of ore per year.

**Location:** North-Kazakhstan Oblast, Aiyrtau district

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

#### Production:

*Main products:*

1) Tin concentrate - an average of 2,400 tons of tin in concentrate per year; 2) Tin sublimates - an average of 5,000 tons of tin in concentrate per year.

*By-products:*

1) Copper concentrate - an average of 2,600 tons of copper in concentrate per year; 2) Fluorite concentrate - an average of 178,414 tons of fluorite in concentrate per year

**Sales market:** Kazakhstan, China, Russia

### Key investment indicators

Indicator	Result
Project implementation period, years	15
Investment, US\$ thousands	289,314
Project NPV, US\$ thousands	241,401
Project NPV, US\$ thousands (without accounting for tax preferences)	167,854
IRR, %	49.6%
EBITDA return, %	39%
Payback period, years	5.3
Discounted payback period, years	5.8

### Investment structure



Construction and assembly work

61%

**\$182,3 million**



Machinery and equipment

38%

**\$107 million**

### 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 JORC Code.

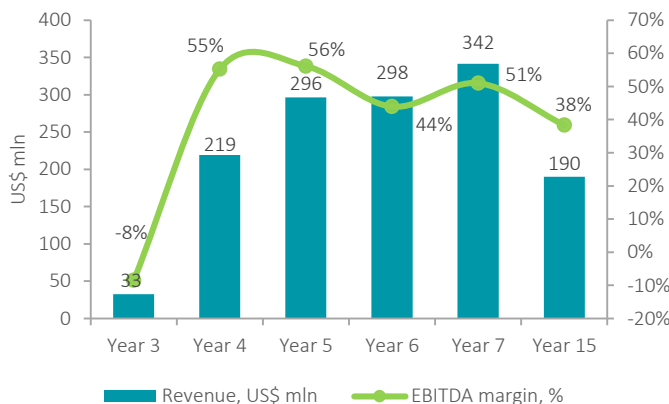
#### Import substitution and potential export

Tin is not produced in Kazakhstan, and the country is totally dependent on imports. Tin is imported from Indonesia, Russia, Belgium, Poland and China. In 2019, China imported \$67.7 million worth of tin products.

#### 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. According to Thomson Reuters, global tin consumption will be 362 million tons by 2021.

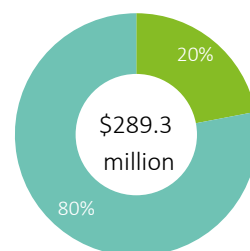
### Project profitability



### Financing structure

Participation of the Initiator  
20% (\$57.8 million)

Debt financing subject to collateral  
70% (\$231.4 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.

# Tokhtar, South Tokhtar and STB gold ore deposits

## Mining and smelting industry

### Project overview

The Project provides for the mining of approved gold reserves at Tokhtar, South-Tokhtar and South-Tokhtar-Barambay deposits and their further processing.

According to Kazakhstan State Commission on Mineral Reserves, gold reserves of Tokhtar, South-Tokhtar and South-Tokhtar-Barambay deposits amount to 48,385 kilograms.

**Location:** Kazakhstan, Kostanai Oblast, Zhitikara

**Initiator:** Tokhtar Mining Company LLP was founded in 2008. The company's main activity is extraction of precious metals and ores of rare metals. The company has a mineral beneficiation plant for processing of oxidized ores, up to 500 kg per year. To this date, estimation of gold reserves in accordance with the international JORC 2012 Code is in process. One of the intermediate results is an increase of the Yuzhno-Tokhtarskoye deposit by 900 kg.

**Capacity:** Cathodic gold with the volume of 450,000 tons per a year

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

### Key investment indicators

Indicator	Result
Investment amount, US\$ thousands	322,034
Project NPV, US\$ thousands	260,341
IRR	50.3%
EBITDA margin	51%
Payback period, years	3.3
Discounted payback period, years	3.8

### Investment structure



Construction and  
assembly work

61%

\$196.4 million



Machinery and  
equipment

38%

\$121.6 million



Working capital  
requirements

1%

\$4 million

### Market prerequisites

#### Sales channels

In Kazakhstan, gold consumption is mainly formed for the purposes of replenishing the country's foreign currency reserve as a result of processing by three refineries: Kazzinc in Ust-Kamenogorsk, Kazakhmys in Balkhash and Tau-Ken-Altyn in Nur-Sultan. According to experts, by 2020 refining will reach up to 80-90 tons.

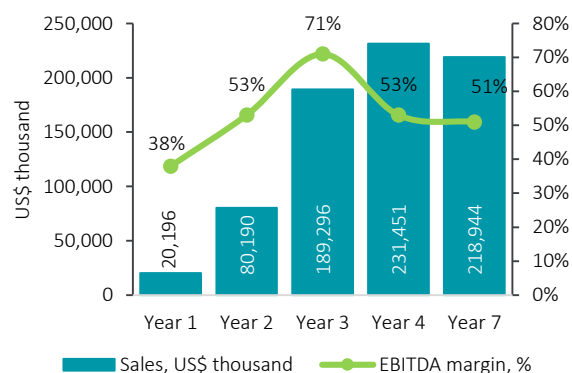
#### Import substitution

Domestic production capacity cannot cover the demand for gold. In 2020, \$334 million worth of metal was imported.

#### Steady high demand

Gold is in steady demand throughout the world. It is used in engineering in the form of alloys with other metals, in the aerospace industry, in radio equipment, electronics, medicine, and to make jewelry. It is also the world's main currency metal.

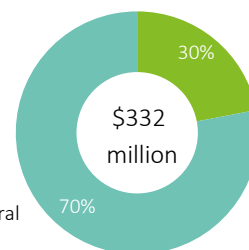
### Project profitability



### Financing structure

Participation of the Initiator  
30% (\$96.6 million)

Debt financing subject to collateral  
70% (\$235.4 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.

## Mining and smelting industry

## 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% CaF<sub>2</sub>);
- 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

**Market conditions:****Rich resource base**

The Kulan-Ketpes 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 fluorspar imports (9-10%) provide substantial geographical pricing advantage on the Russian fluorspar market.

**Growing demand and production volume contraction**

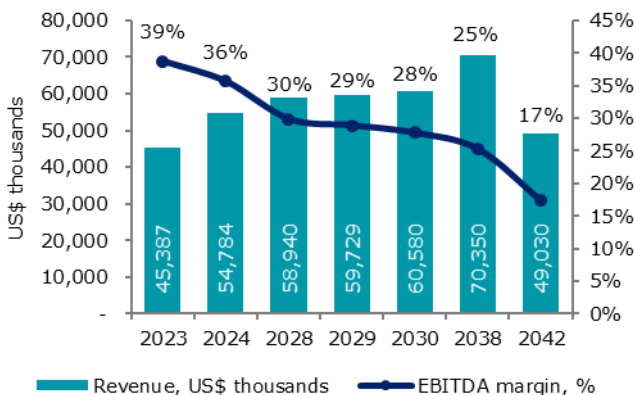
Due to increasing operational and transport costs, a principal Russian fluorspar manufacturer halted fluorspar production.

**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.

**Key financial measures**

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

**Project location: Muyunkum district, Jambyl Region****Project Profitability****Deposit reserves, category C1+C2**

Measure	Ore, thous. tons	Fluorspar, thous. tons	Content, %
Vein deposits	5,764	1,667	28.92%
Stratified deposits	5,946	1,264	21.26%
<b>Total</b>	<b>11,710</b>	<b>2,931</b>	<b>25.02%</b>

## Construction of a mining and metallurgical complex on Besshoky Square in the Karaganda region

### 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

### 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%).

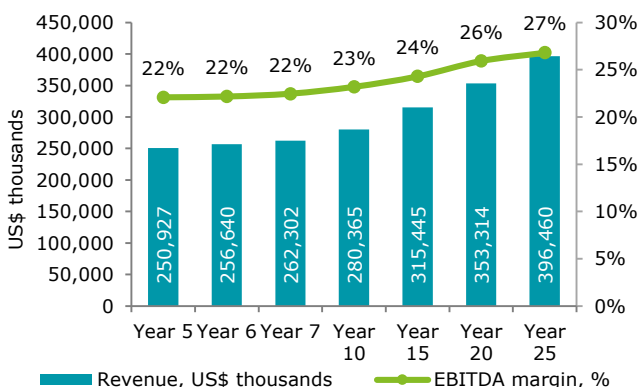
### Key investment indicators

Indicator	Results
Amount of investments, US\$ thousands	210,000
Project NPV, US\$ thousands	116,747
IRR, %	21.2%
EBITDA margin, %	14-28%
Payback period, years	8.5
Discounted payback period, years	11.7

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



### Project profitability



### Field reserves by JORC (2012)

Field	Ore, mln tons	Copper, ths tons	Cu, %
<b>East Besshoky</b>			
Measured	9.64	74.58	0.77
Indicated	19.09	116.93	0.61
<b>South Besshoky</b>			
Measured	44.36	164.52	0.37
Indicated	147.32	527.03	0.36
<b>Kaindyshoky</b>			
Measured	-	-	-
Indicated	37.87	143.52	0.38



## Mining and metallurgical complex

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

## Project description:

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

**Product:** intermediate pig iron.

## Production process:

*Mining* – open-pit;

*Processing* – ROMELT, liquid phase recovery with energetic coals.

**Initiator:** Technogran Aktobe LLC.

**Location:** Mangystau district, Mangystau Oblast

**Consumer markets:** China, Russia

## Annual production capacity:

250 thousand tonnes of pig iron.

## 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.

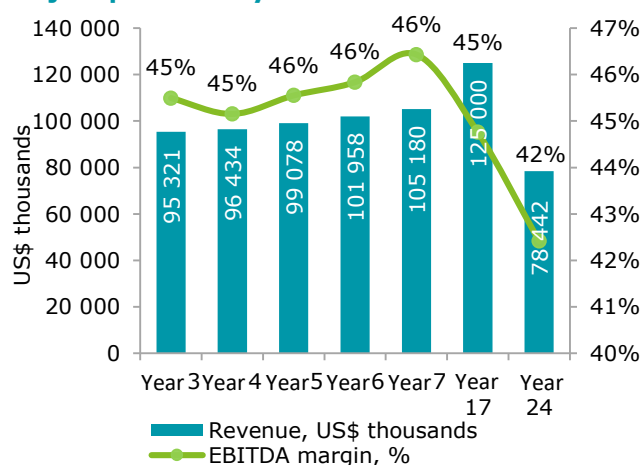
## Key investment indicators

Indicator	Results
Amount of investments, US\$ thousands	179,220
Project NPV, US\$ thousands	77,054
IRR, %	21.9%
EBITDA margin, %	45%
Payback period, years	6.5
Discounted payback period, years	9.5

## Project location: Mangystau district, Mangystau Oblast



## Project profitability



# 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

Indicator	Results
Amount of investments, US\$ thousands	14,123
Project NPV, US\$ thousands	14,999
IRR, %	32.5%
EBITDA margin, %	34-41%
Payback period, years	5.0
Discounted payback period, years	6.1

## Project location: Mangystau district, Mangystau Oblast



## Project implementation assumptions:

### Existence of a rich resource base.

The Aurtas deposit, located in Mangystau 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.

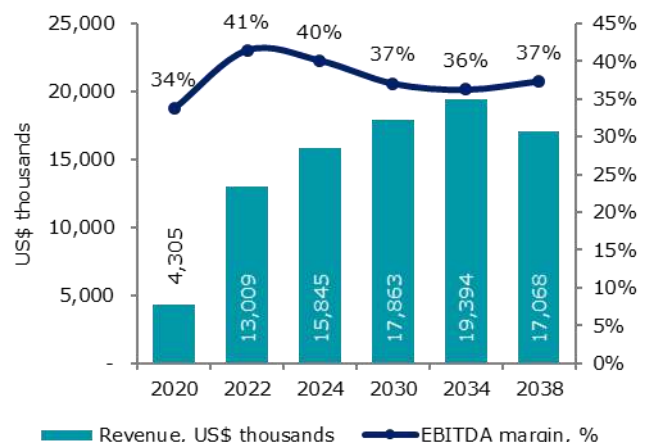
### Development of the oil and gas industry of Kazakhstan.

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



## Mining and smelting industry

## Extraction and processing of gold-bearing ores at Shoyimbai deposit

**Project overview:**

Extraction and processing of gold-bearing ores at the Shoyimbai deposit (the "Project")

**Commercial product:** Gravity concentrate, later supplied to the smelting and refining factories of the country.

**Output capacity:** processing over 130 thousand tonnes of gold-bearing ores per year

**Project implementation period:** 12 years

**Initiator:**

CaspianGeoConsultingServices LLP, a subsidiary of KM GOLD JSC, carries out exploration of precious metals and their extraction. The company plans to build its own modular processing plant.

**Project implementation location:** Karagandy region

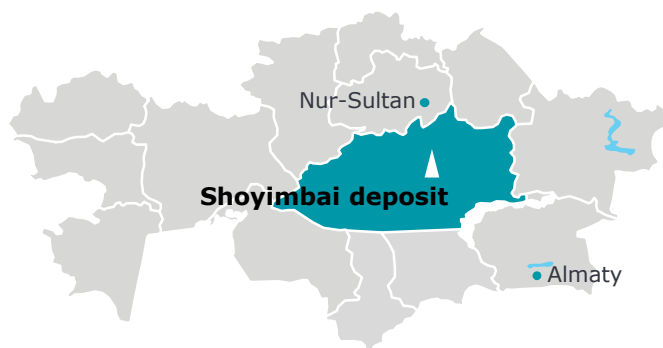
**Potential markets:** Kazakhstan

**Key investment indicators**

Index	Results
Project implementation period, years	12
incl. investment stage, years	3
operational stage, years	10
Investment amount, US\$ thousands	11 000
Project NPV, US\$ thousands	6 139
IRR, %	36,7%
EBITDA margin, %	47%
Payback period, years	4,7
Discounted payback period, years	5,6

**Project location:**

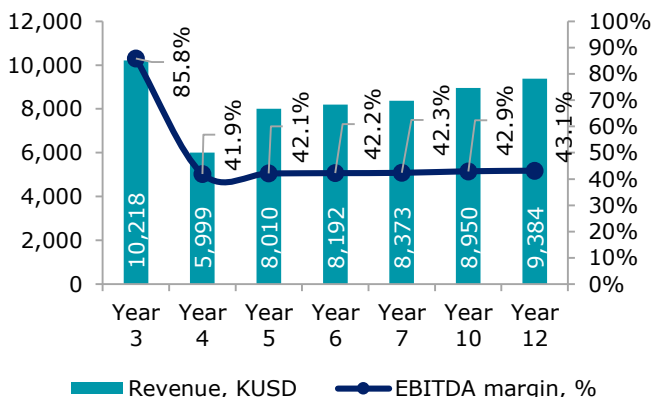
Karagandy region

**Market assumptions:**

**Availability of supply sources** – 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.

**Import substitution** – Domestic production facilities cannot meet the demand for gold. Despite the decline in imports during the period from 2013 to 2017, in 2018, 210 thousand tons of metal were imported.

**Stable high demand** – Gold is in stable demand in the world. It is used in technology in the form of alloys with other metals, in the aviation and space industry, in radio equipment, electronics, medicine, as well as for manufacturing jewelry. It also plays the role of the main currency metal.

**Project profitability****Shoyimbay field reserves**

	Reserves			
	C1	C2	P1	P2
Gold	426 kg (14 g/t)	3,42 t (6 g/t)	30 t (2,5 g/t)	109 t (2,5 g/t)

**Processing volumes**

	Phase 1	Phase 2
Processing volumes	30 000 kg	1 166 667 kg
Gold content	14,09 g/t	2,50 g/t

## Commercial development of the Zhaissan copper deposit

### 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 Shatyrykul 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.

### 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.

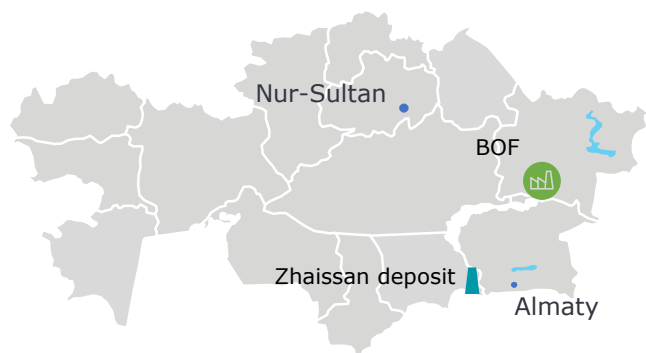
**Price stabilization.** World prices for the refined copper currently show a moderate upward trend. According to Bloomberg, a moderate rise in prices for the refined copper with the subsequent price stabilization is expected in the medium term: 2019 – US\$ 6,038.5, 2020 – US\$ 5,961, 2021 – US\$ 6,011, 2022 – US\$ 6,054.5, 2023 – US\$ 6,087 per tonne.

**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.

### Key investment indicators

Index	Results
Investment, US\$ thousands	118,436
Project NPV, US\$ thousands	111,287
IRR, %	27.4%
EBITDA return, %	60%
Payback period, years	10.2
Discounted payback period, years	11.4

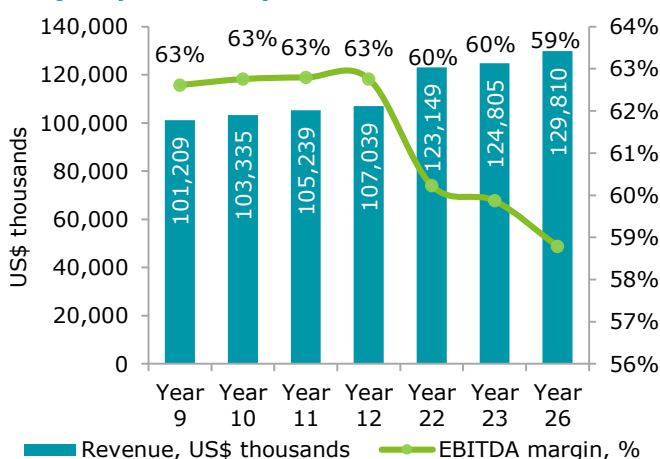
### Project location: Shu district, Zhambyl Oblast



### Deposit reserves

Index	Unit	Reserves
<b>Zhaissan</b>		On-balance reserves
Copper (C1)	thousands of tons	205.6
Copper (C2)	thousands of tons	96.1
Molybdenum (C1)	tons	908
Silver (C2)	tons	35.2

### Project profitability





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

### Project overview:

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

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

### Production process:

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

**Initiator:** Kazakhmys Barlau LLP.

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

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

### 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

Indicator	Results
Amount of investments, US\$ thousands	13,378
Project NPV, US\$ thousands	30,009
IRR, %	42.2%
EBITDA margin, %	28%
Payback period, years	3.8
Discounted payback period, years	4.4

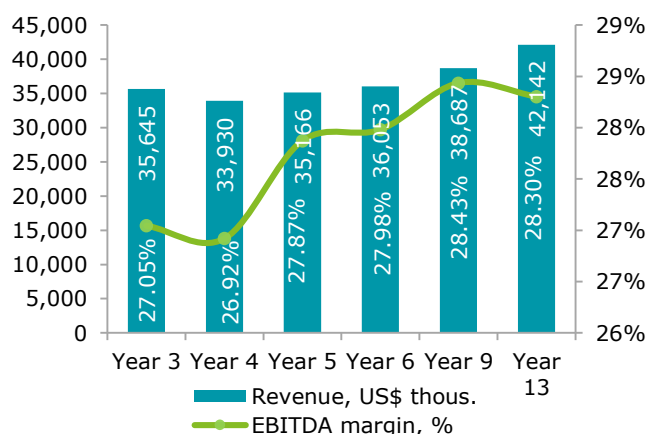
### Project location: East Kazakhstan Oblast, Glubokovsky district



### Deposit reserves, thousand tonnes

Ore/metal	On-balance reserves by category				
	A	B	C1	A+B+C1	C2
<b>Ore</b>	15	951.3	3,498.3	4,464.6	8,027
Copper	0.5	16.9	26.2	43.6	33.1
Lead	0.1	19.3	31.3	50.7	64.2
Zinc	0.8	65.1	136.5	202.4	287.7
<b>Ore</b>	-	-	1,398.6	1,398.6	11,102.0
Gold, kg	-	-	1,679.4	1 679.4	4,605.0
Silver, tons	-	-	55.9	55.9	555.1

### Project profitability



### Construction of a mining and processing complex and industrial development of Aidarly copper deposit

#### 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

Index	Results
Investment, US\$ thousands	1,474,770
Project NPV, US\$ thousands	104,605
MIRR, %	8.2%
EBITDA return, %	29%
Payback period, years	18.3
Discounted payback period, years	21.0

#### 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.

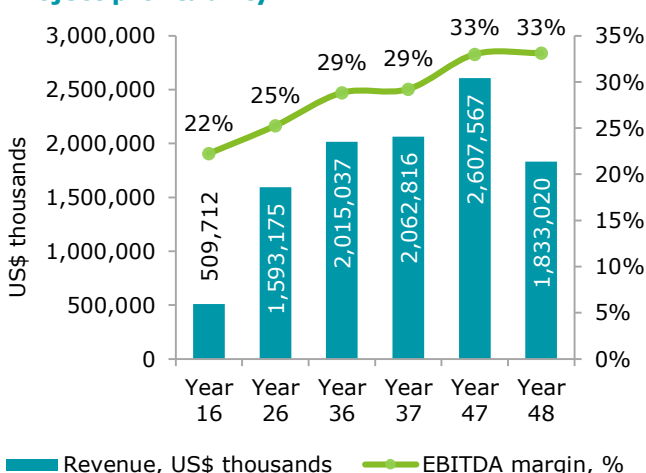
**Price stabilization.** World prices for the refined copper currently show a moderate upward trend. According to Bloomberg, a moderate rise in prices for the refined copper with the subsequent price stabilization is expected in the medium term: 2019 – US\$ 6,038.5, 2020 – US\$ 5,961, 2021 – US\$ 6,011, 2022 – US\$ 6,054.5, 2023 – US\$ 6,087 per tonne.

**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 stripes or strips of copper".

#### Deposit reserves, thousand tonnes

Index	On-balance reserves in the pit contour			
	Oxide ores		Sulphide ores	
	C1	B	C1	C2
<b>Reserves</b>				
Ore	5,878	317,849	1,205,889	
Copper	20.5	1,220/0	4,630	
Molybdenum, tonnes			154,278	
Gold, kg				14,141
Silver, tonnes			2,170.4	

#### Project profitability



## Construction of a mining and metallurgical complex on Besshoky Square in the Karaganda region

### 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

### 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%).

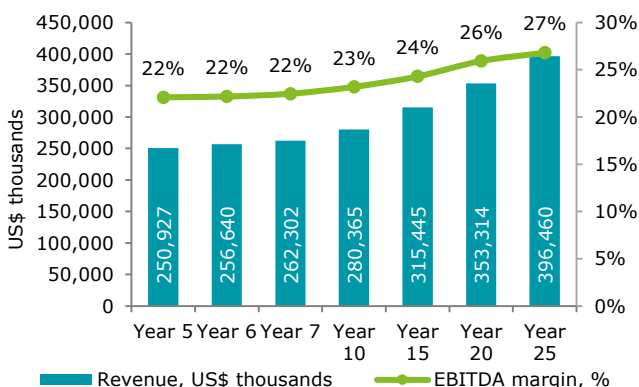
### Key investment indicators

Indicator	Results
Amount of investments, US\$ thousands	210,000
Project NPV, US\$ thousands	116,747
IRR, %	21.2%
EBITDA margin, %	14-28%
Payback period, years	8.5
Discounted payback period, years	11.7

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



### Project profitability



### Field reserves by JORC (2012)

Field	Ore, mln tons	Copper, ths tons	Cu, %
<b>East Besshoky</b>			
Measured	9.64	74.58	0.77
Indicated	19.09	116.93	0.61
<b>South Besshoky</b>			
Measured	44.36	164.52	0.37
Indicated	147.32	527.03	0.36
<b>Kaindyshoky</b>			
Measured	-	-	-
Indicated	37.87	143.52	0.38



## Mining and smelting industry

# Extraction and processing of nickel-cobalt ore deposit Bogetkol

### Project Description

This investment project provides for the extraction and processing of nickel-cobalt ores from the Bugetkol deposit in the Aktoke 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

Indicators	Results
Investment amount, thous. USD	574,743
Project NPV, thous. USD	384,347
IRR, %	35.5%
EBITDA margin, %	58-61%
Payback period, years	4.2
Discounted payback period, years	4.9

### Project location:

Aytekebi district, Aktoke 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.

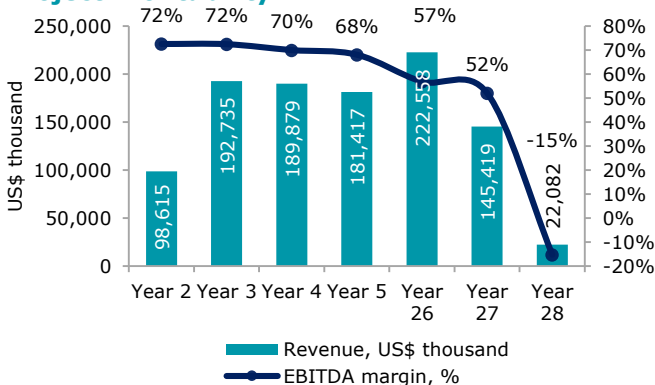
**Export potential.** The country's domestic demand for cobalt and nickel is low, so it is possible to cover it with excess. nickel-cobalt ore reserves in Kazakhstan allow the export of this mineral in significant quantities to China, South Korea, Russia, Japan and Ukraine. China is the main importer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



### Field Reserves

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



## Construction of a mining and processing plant for the production of manganese concentrate

### 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.

### Key investment indicators of the Project

Indicator	Results
Investment amount, US\$ thous.	10,114
Project NPV, US\$ thous.	5,651
IRR, %	24.04%
EBITDA yield, %	75.2%
Payback period, years	6.48
Discounted payback period, years	8.22

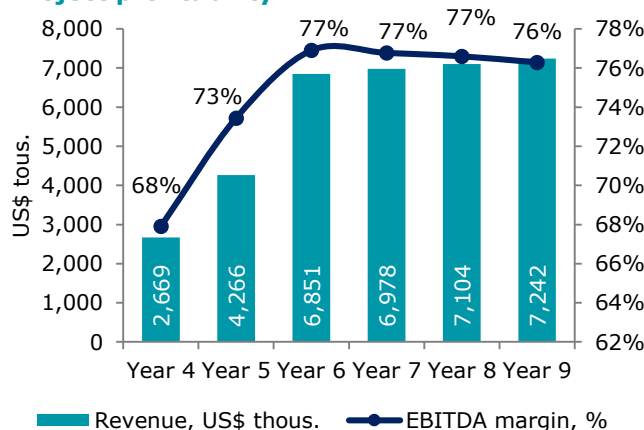
### Deposit reserves

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.

### Project location: Alakol district, Almaty Oblast



### Project profitability



# 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

### 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 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.

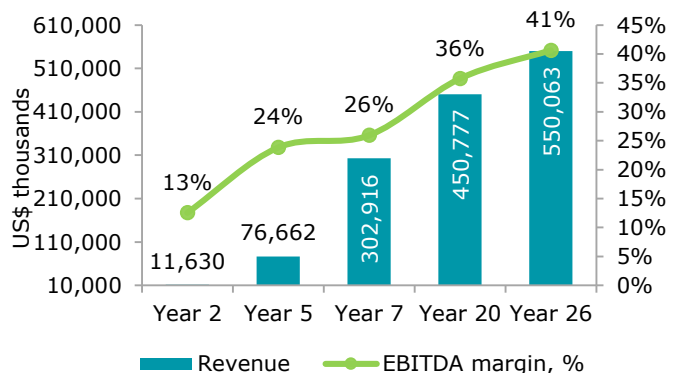
### Key investment data

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

### Project location: Kostanai Oblast



### Project economics



### Drozhilov field reserves

	Reser- ves, mln tonnes	Metals, thousand tonnes			Content, %		
		Mo	W	Li	Mo	W	Li
<b>Pro- ven</b>	140	263	64.3		0.19	0.05	
<b>Calcu- lated</b>	131	78	88.3	121	0.06	0.03	0.45
<b>Esti- mated</b>	300	150	150	-	0.05	0.05	

# Mining and metallurgical complex

## Construction of Tymbai 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 Tymbai 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

Indicator	Result
Project implementation period, years	29
incl. investment stage, years	7
operating stage, years	26
Investment amount, \$US thousands	2,585,904
Project NPV, \$US thousands	5,465,840
IRR, %	46.4%
EBITDA margin, %	57%
Payback period, years	7.5
Discounted payback period, years	8.1

### Location of project implementation: Kordai district of Zhambyl region; SEZ Pavlodar

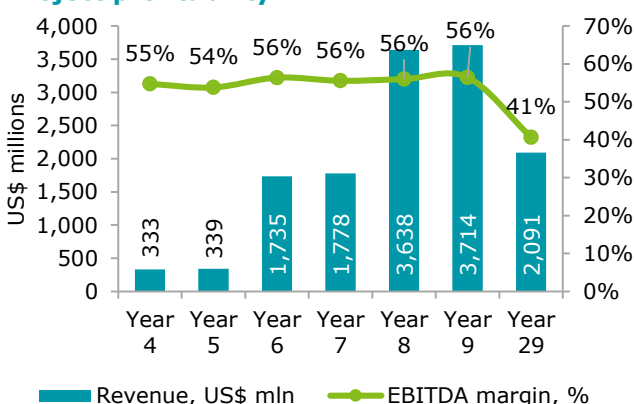


### Market prerequisites:

**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.

### Project profitability



### Ore field reserves

Name of the ore deposit	Industrial reserves (mln tonnes)		Prognosed resources (mln tonnes)	
	C1	C2	P1	P2
Tymbai	226			
Sarysai	100	60	44	
Akdala (South)	70	40	20	
Akdala (North)	-	-	30	229
Akterek	-	-	10	47
<b>Total:</b>	<b>396</b>	<b>100</b>	<b>104</b>	<b>276</b>
<b>Total C1+C2+P1+P2</b>	<b>876</b>			



# Mining and metallurgical complex

## Development of iron ore deposits in Chumekskaya field in the East Kazakhstan Oblast

### Project description:

The project involves completion of exploration works at the Chumekskaya iron ore field in East Kazakhstan Oblast, with subsequent extraction and sale of iron-bearing ores.

### Commercial product and annual volume of production:

iron ore – 5,691 thousands tonnes

Based on preliminary research data, the given ore deposits stand out for the high quality and compliance with the most stringent technological requirements of metallurgical enterprises. This means that there is no need for additional technological processing. After extraction and ore-preparation, the ore will be ready for sale.

**Initiator:** Lacus Mining LLP

**Location:** Kurchumsky district, East Kazakhstan Oblast

**Consumer market:** ferrous metal processing plants of China and Kazakhstan.

### Key investment indicators

Index	Results
Project implementation period, years	36
Including the investment stage, years	6
Operational stage, years	30
Investment, US\$ thousands	816,792
Project NPV, US\$ thousands	242,629
IRR, %	19.2%
EBITDA returns, %	54%
Payback period, years	9.9
Discounted payback period, years	14.0

### Project location: Kurchumsky district, East Kazakhstan Oblast



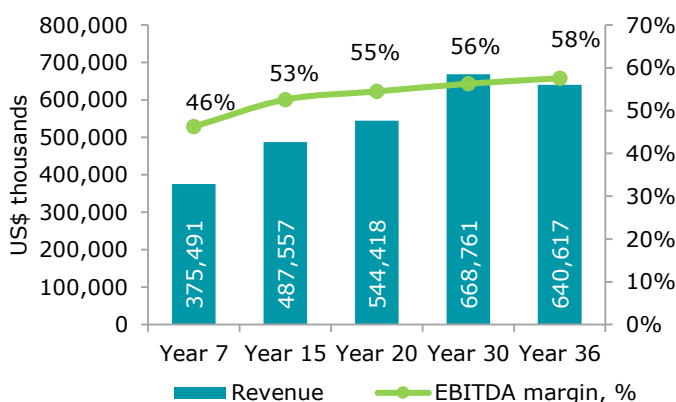
### Market assumptions:

**High demand.** Demand for iron ore, primarily due to the demand for steel, directly reflects the development trends of the world economy. According to estimates from

The Economist Intelligence Unit («EIU»), in the foreseeable future, steel production will grow by 4% in 2019 amounting to 1692 million tonnes.

**Export potential.** Since the production of iron ore in the country fully provides domestic demand for this product, the main share of pellets and concentrate, produced in the republic, is supplied beyond its limits. At the same time, the key sales markets (90%-99% are in Russia and China. Being the largest producers of iron ore, China and Russia are also considered as the world's largest consumers and imports, since these countries occupy a leading position in the production of steel all over the world. In 2017 total annual imports of iron ore of China and Russia amounted to 1084 million tonnes.

### Project Profitability



### Proprietary estimation of field reserves

Type of reserves	Ore, million tonnes	Iron content, %
Martite, magnetite ores	179	62.5
Disseminated mineralization	317	62.5

Reserves were estimated according to National Recourses Committee standards on the basis of geophysical works carried out in 2017 and historical exploration data from 1965. A report on geophysical works at Chumekskoye field was prepared by ITSETI LLP (TOO ИЦЭТИ) in November 2017.





Mining and metallurgical complex

# Construction of hydrometallurgical plant for cathode copper production

## Project description:

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

**Product:** cathode copper (pure copper of no less than 99,99%).

**Capacity:** 5000 tonnes of cathode copper per year.

**Production process:**

extraction – open-pit;

processing – flotation and heap leaching, and SX-EW.

**Initiator:** AK Minerals LLP – the owner of the exclusive copper processing right at Ai-Karaaul.

**Location:** East-Kazakhstan Oblast. The Plant will be located in Urjar District, 40 km. away from Ayagoz town, and relatively close to the Ai-Karaaul deposit.

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

## 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.

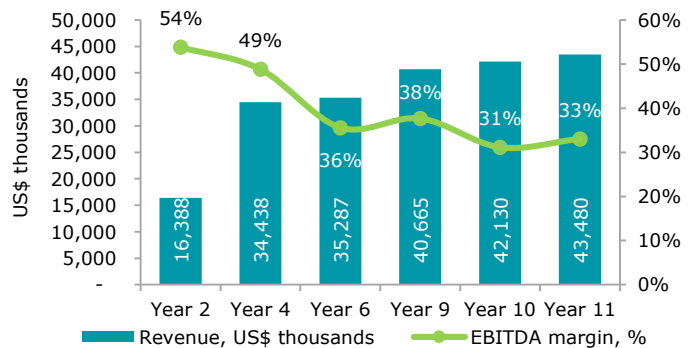
**Price growth.** Global market prices for refined copper demonstrate increasing dynamics related to increased demand for that product as a result of global economic stabilization. According to the forecasts, a moderate increase in copper prices is expected during the following years: 2020 – US\$ 6997,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

## Key investment indicators of the Project

Indicator	Results
Project implementation period, years	11
<i>Incl. Investment stage, years</i>	<i>1</i>
<i>Operational stage, years</i>	<i>10</i>
Investment, US\$ thousands	25,643
Project NPV, US\$ thousands	24,396
IRR, %	45,6%
EBITDA returns, %	41%
Payback period, years	3.9
Discounted payback period, years	4.4

## Project profitability



## Project location: East-Kazakhstan Oblast



## Ai-Karaaul deposit reserves (The Report of Interregional Commission on reserves "Vostkazedra")

Indicator	Open-pit mining		Under-ground mining
	Oxide ore	Sulphide ores	Sulphide ores
Copper, thousand tonnes	17.79	23.75	16.92
Copper content, %	1.48	1.89	1.56
Silver, tonnes	2.6	8.8	6.9
Content, g/tonne	2.21	7.01	6.42

# 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

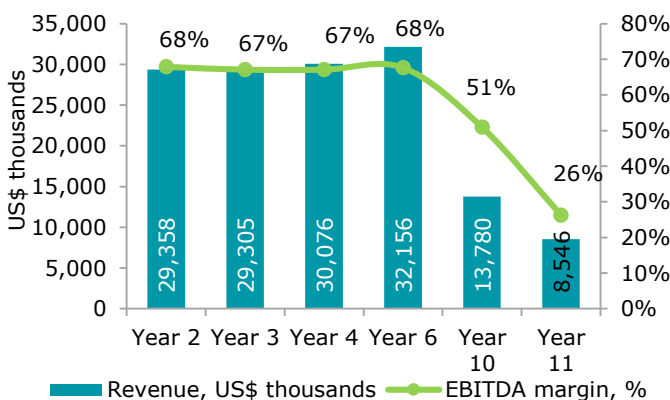
Index	Results
Project implementation period, years	11
<i>incl. investment stage, years</i>	1
<i>operational stage, years</i>	10
Investment, US\$ thousands	41,775
Project NPV, US\$ thousands	34,852
IRR, %	41.7%
EBITDA returns, %	60.1%
Payback period, years	3.6
Discounted payback period, years	4.2

## Project location:

Turkestan Oblast, Suzaksky district



## Project profitability



## Kumysti field reserves

Name of the deposit (ore occurrence)	Gold reserves, kg.	Silver reserves, kg.	Category
Mynshukur (alluvial)	309.8	619.6	C1
Altyntau (hard-rock)	320	960	P1
Terbakty (hard-rock)	770	2,310	P2
Aktobe (hard-rock)	2,000	6,000	P2
Shovan (hard-rock)	359	2,154	C1+C2
Zholbarysty (hard-rock)	835	5,010	C1+C2
Kelinshektay (hard-rock)	2,205	13,230	C1+C2
Verhne-Kumysti (hard-rock)	879.4	5,276.4	C1+C2
Nizhne-Kumysti (hard-rock)	875.3	5,251.8	C1+C2

# Mining and metallurgical complex

## Development of South Zhaur tungsten ore deposit

### 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.

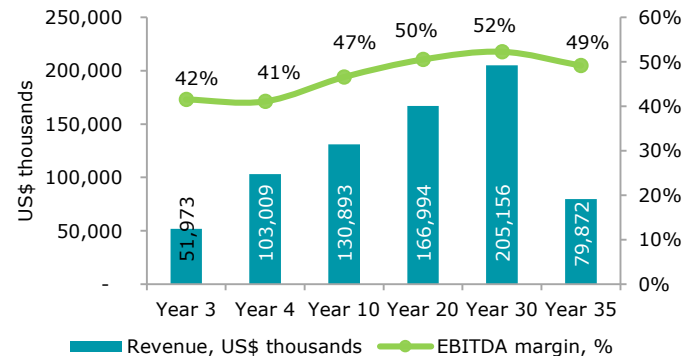
**Metal price growth** – The lack of readily available financing and low metal content in the ore deposits are the main reasons for the limited supply of metal in the market, which in the future, may serve as an incentive for further price increases for tungsten and molybdenum.

**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

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

### Project profitability



### Project location: Karaganda Oblast



### South Zhaur deposit reserves (JORC)

Indicator	Balance reserves by C2 category	
	Quantity, tonnes	Composition, %
Ore	122,189,700	
Tungsten trioxide	198,953	0.163
Molybdenum	13,062	0.010
Bismuth	6,408	0.005



## Development of gold and lead deposits at the Mayatas field in Karaganda Oblast

### Project overview:

The project considers additional exploration and construction of an industrial plant for extraction and beneficiation of gold and polymetallic ores at Mayatas ore field in Kostanay Oblast.

### Commercial products and average annual output:

Processing of 700 thousand tonnes of ore per year (containing gold and lead). Concentrates are planned to be processed at the production facilities of Kazzinc LLP (and at other plants) with subsequent sale of the final product in the domestic and foreign markets.

**Initiator:** Mayatas LLP (100% subsidiary organization of KazLead LLP).

**Project implementation location:** Arkalyk district, Kostanay region

### Market assumptions:

**High and stable demand.** Global gold consumption level remains stable and high. It is widely used in various technologies and jewelry, and it is used as a currency back-up. Also, according to industry forecasts, global lead consumption will exceed production volumes by 10,000 tonnes in 2019 because of constant supply cuts.

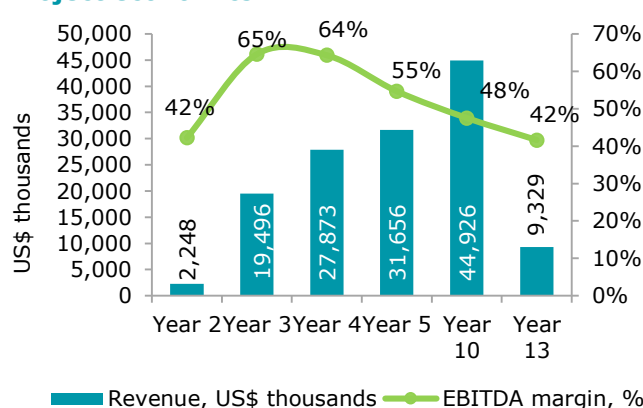
**Import substitution.** Industry analysis shows that the production capacity in Kazakhstan does not cover the domestic demand for gold. Average annual growth in imports of gold ore in the period from 2010 to 2014 was equal to 93%. Also, despite the observed stable growth in the volumes of lead and lead ore production over the past few years in Kazakhstan, the level of market demand covered by domestic production was only equal to 46%.

**Export potential.** Today, China is the main importer of lead ores and concentrates from Kazakhstan. In 2016, China has imported a record amount of metal from Kazakhstan – 51,595 tonnes.

### Key investment indicators

Index	Results
Project implementation period, years	13
incl. the investment stage, years	3
operational stage, years	10
Investment, US\$ thousands	21,581
Project NPV, US\$ thousands	57,910
IRR, %	93.9%
EBITDA returns, %	52%
Payback period, years	3.8
Discounted payback period, years	3.9

### Project economics



### Project location: Arkalyk district, Kostanay region



### Mayatas field reserves

Fields	Ore	Content	Metal quantity
Gold			
Uvalnoye	6,800 thousand tonnes	1.18 g./tonne	8,024 kg.
Yuzhnoye			
Daykovskoye			
Other			
Lead			
Zarechnoye	5,426 thousand tonnes	1.8%	97,770 tonnes



# Mining and metallurgical complex

## Expansion of mining and processing of copper-nickel ores of the Maksut deposit

### Project description

expansion of mining and processing plant of copper-nickel ores of the Maksut deposit in the East Kazakhstan oblast (Project).

### Project goal

increase in mining and processing of copper-nickel ores of the Maksut deposit beneficiation plant from 400 thousand tonnes **to 1.4 million tonnes of ore per year**

### Project initiator

mining company BAST JSC, developing the copper-nickel ores of the Maksut deposit.

### Products and average annual production after expansion:

- 21% copper concentrate - 24.3 thousand tonnes
- 4% nickel concentrate - 57.8 thousand tonnes

### Processing capacity after expansion:

1.4 million tonnes of ore per year

### Project location:

Abay district, East Kazakhstan oblast

### Market prerequisites:

**Availability of raw materials** – The estimated reserves of the Maksut deposit according to the JORC 2012 Code are 26.8 million tonnes of ore with a copper content of 0.44% and nickel of 0.35%

**Growing demand** – Demand for refined copper is expected to grow by 2.99% in 2018 and by 2.15% in 2019. According to the World Bureau of Metal Statistics in 2017, the shortage of refined nickel on the world market amounted to about 96 thousand tonnes.

**Rising metal prices** – According to the forecast data of the World Bank, it is expected of rising of the price of copper (2018 – US\$ 6,800; 2021 – US\$ 6,849). As of from 2018 to 2022 the average nickel price per year will increase by 3%.

**Availability of customers** – The mining and processing complex Maksut is an operating enterprise which produces copper and nickel concentrates. Concentrates are successfully in great demand in China, Russia, Uzbekistan. The company has long-term contracts for the sale of concentrates.

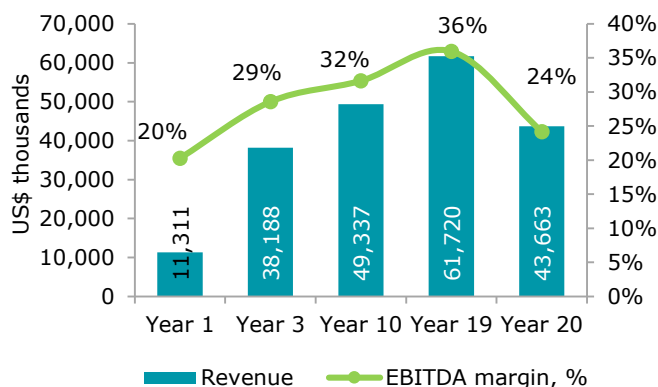
### Key investment indicators of the Project

Indicator	Results
Project implementation period, years	20
<i>incl. investment stage, years</i>	2
<i>operational stage, years</i>	18
Investment amount, US\$ thousands	24,979
Project NPV, US\$ thousands	43,749
IRR, %	41.3%
EBITDA margin, %	30%
Payback period, years	4.0
Discounted payback period, years	4.8

### Project Location: Abay District, East Kazakhstan oblast



### Project Profitability



### Mineral Resource Report of the Maksut deposit in accordance with the JORC Code as of July 27, 2017

Resource category	Tonnage	Avg. Cu content, %	Avg. Ni content, %
Indicated	26.8 mln	0.44	0.35
Probable	16.7 mln	0.38	0.28
<b>Bcero</b>	<b>43.5 mln</b>	<b>0.41</b>	<b>0.33</b>

# Mining and metallurgical complex

## Extraction and processing of coking coal from Samarskoye deposit

### Project description

This investment project (the "Project") involves construction of a complex for extracting and processing of coking coal from Samarskoye deposit in Karaganda Oblast.

### Project initiator

Valdisere Mining LLP

### Production and average annual output:

- concentrate of "gas fat" and "fat" types of coking coals (semi-soft coking coals) - 2686 thousand tonnes
- concentrate of grade "coking fat" and "coking" coking coals (hard coking coal) - 1133 thousand tons
- energy coal - 955 thousand tons
- By-product (low quality coal) - 637 thousand tons

**Project location:** Nurinsky district, Karaganda Oblast

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

### Market prerequisites:

**Potential for exporting** – In Russia there is a shortage of "K" type high quality coal (20% of the planned output at Samarskoye deposit). In China, a policy is being implemented to reduce coal production. These factors suggest an existence of opportunity for exporting to those markets.

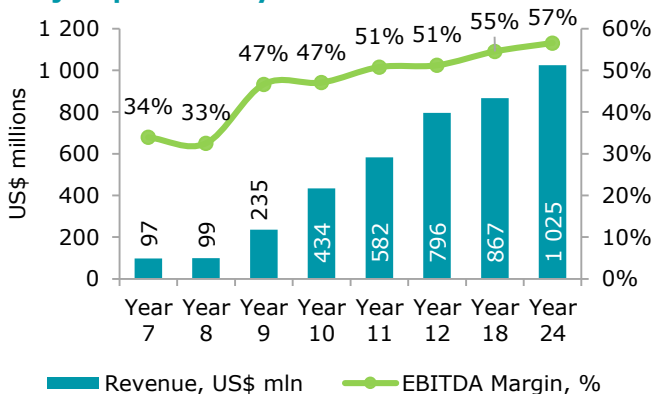
**Constantly growing prices.** Recently, the market has seen an increase in prices for both coal and products processed from it (namely a coal coke as a result of higher prices for coking coal). In the period of 2013-2017, the average increase in producer prices for coal and brown coal was 12% and 5%, respectively.

**High market demand.** Constantly developing industrial sector dictates the need for ever-increasing supply of quality raw materials for the production of coke.

### Key investment indicators

Indicator	Result
Investment amount, US\$ thous.	438,276
Project NPV, US\$ thous.	590,665
IRR, %	31.08%
EBITDA margin, %	55%
Payback period, years	6.32
Discounted payback period, years	7.51

### Project profitability

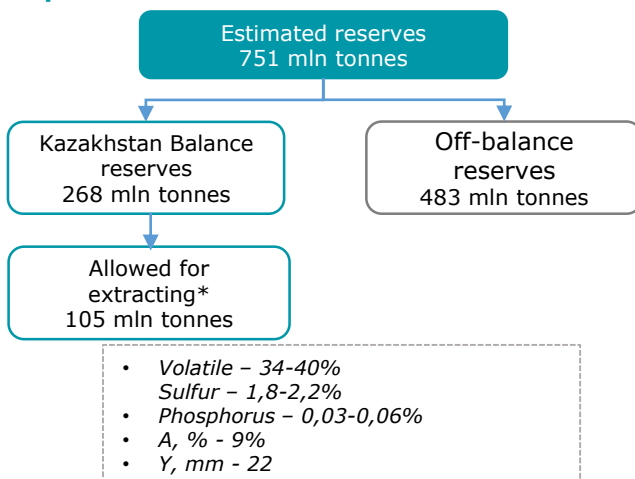


### Project location: Nurinsky district, Karaganda Oblast



\*permission for extracting the rest of balance reserves can be obtained without difficulties

### Deposit resources



# Mining and metallurgical complex

## Steel production at the Velikhovskoye deposit in Aktope 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 Aktope region.

### Raw materials:

Low alloy construction steel, carbon construction steel, quality carbon construction steel

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

**Location:** Kargalinsky district, Aktope oblast

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

### Market assumptions:

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

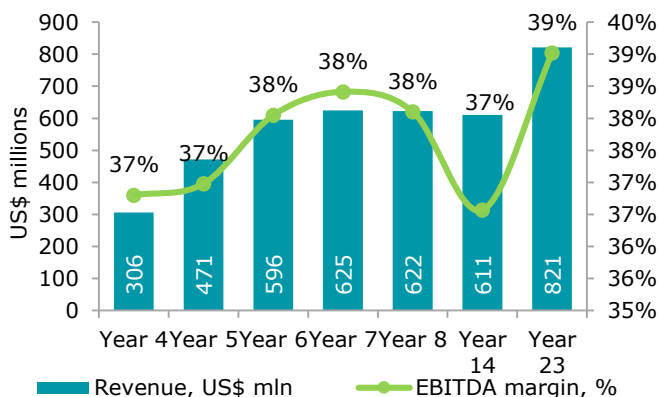
**Further growth in demand for steel.** According to the forecasts of the International Steel Association, the global volume of demand for steel and steel products will increase by 1.8% and 0.7% in 2018 and 2019 respectively.

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

### Key investment indicators

Index	Results
Investment, US\$ thousands	550,727
Project NPV, US\$ thousands	421,198
IRR, %	25.9%
EBITDA returns, %	38%
Payback period, years	6.8
Discounted payback period, years	8.8

### Project Profitability



### Project location: Kargalinsky district, Aktope Oblast



### Estimation of resources according to JORC

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

Report on the Mineral Resources of the Velikhovskoye South deposit in accordance with the JORC Code for February 2, 2012



## 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 Mangystau region. Copper concentrate is planned to be processed into cathode copper at the copper plant KazZink, with its subsequent sale as a final product.

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

**Project initiator:** Tekhnogran Aktobe LLP

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

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

### Market assumptions:

**Large copper reserves.** Kazakhstan is ranked 6<sup>th</sup> in the world for copper reserves, which is 4.7% of world reserves or 36.6 million tonnes in volume terms.

**High demand.** Demand for the refined copper is forecasted to increase by 2.99% and 2.15% in 2018 and 2019, respectively.

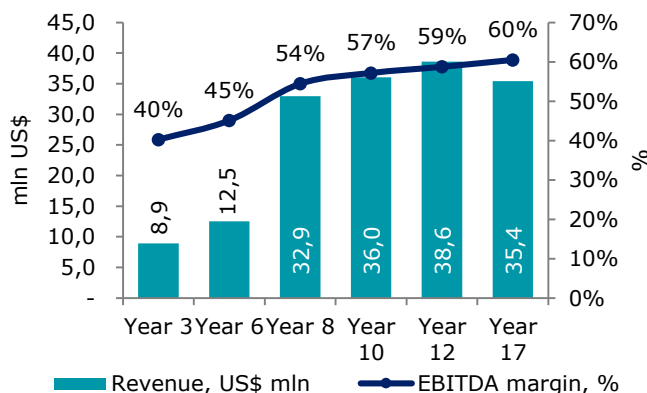
**Rise in prices.** According to the World Bank's forecast, the moderate rise in prices for copper is expected.

**Export potential.** Trade deficit in considered copper products indicates potential for import substitution. Moreover, Kazakhstan has the opportunity to boost export to the People's Republic of China and neighbouring countries.

### Key investment data

Index	Results
Project implementation period, years	17
including the investment stage, years	4
Operational stage, years	13
Investment, US\$ thousands	23,000
Project NPV, US\$ thousands	29,435
IRR, %	29.5%
EBITDA returns, %	39-61%
Payback period, years	7.4
Discounted payback period, years	8.7

### Project economics



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



### Reserves of Project's deposits

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



# Mining and smelting industry

## Development of the zinc-copper Alexanderovskoye deposit in East Kazakhstan Oblast

### 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.

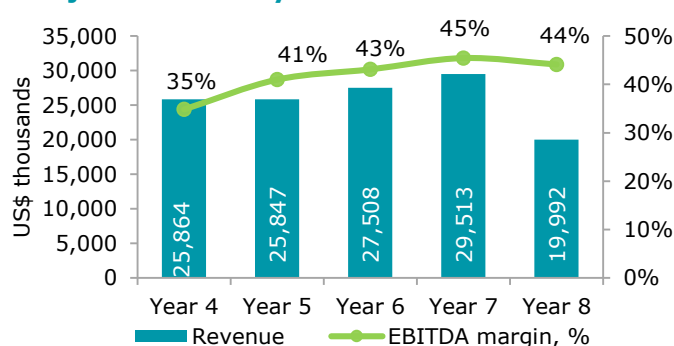
In China (the largest consumer of zinc), the demand for refined zinc is expected to grow from 6,596 thousand tonnes in 2018 to 7,257 thousand tonnes in 2020. Kazakhstan, unlike Peru and Australia, has a convenient geographical location for exporting products to China.

Kazakhstan is also the main exporter of zinc concentrates to Russia.

### Key investment indicators

Indicator	Result
Project implementation period, years	8
incl. investment stage, years	3
operational stage, years	5
Investment, US\$ thousands	15,620
Project NPV, US\$ thousands	11,997
IRR, %	49.1%
EBITDA returns, %	42%
Payback period, years	4.7
Discounted payback period, years	5.1

### Project Profitability



### Project location: Kurshim district, East Kazakhstan Oblast



### Alexanderovskoye deposit reserves

Indicators	Category	Ед. изм.	Calculation of reserves
Sulphide zinc-copper ore	C <sub>1</sub> -C <sub>2</sub>	thousand tonnes	13,000
Zinc content		%	3.83
Copper content		%	0.34
Calculation of zinc reserves		tonnes	49,799
Calculation of copper reserves		tonnes	4,394

\* Initiator's proprietary calculations in 2018, based on drilling results

# Mining and metallurgical complex

## Extraction and processing of cobalt-nickel ore deposit Shevchenkovo

### Project Description

Extraction and processing of cobalt-nickel ores from Shevchenkovo 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., Shevchenkovo 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

### 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.

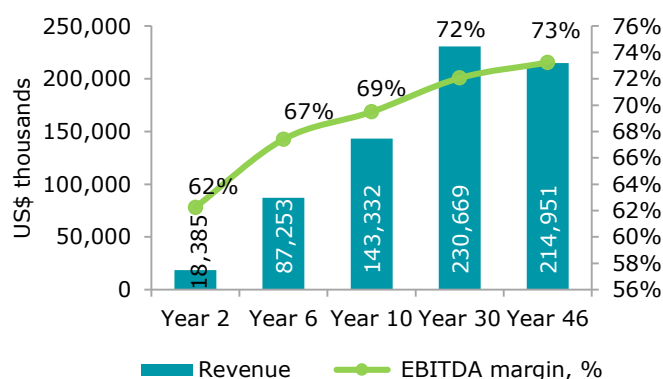
**Rising demand for metals** – Development of industries (e.g. production of electronic devices, medical equipment and electric vehicles), that use nickel batteries, will provide long-term demand for the metal. According to WMBS, in 2017, the deficit of refined nickel on the world market amounted to 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.

### Key Investment indicators

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

### Project Profitability



### Project location:

Kostanay Oblast, 50 kms to the South-West from the town of Zhetikara



### Ore field description

Explored reserves of C1 and C2 categories

Indicator	Amount, tonnes
Ore	104.4 million
<i>Proven</i>	21.4 million
<i>Possible</i>	83 million
Nickel	825 thousand (0.79%)
Cobalt	47 thousand (0.045%)

- Ore extraction on Shevchenkovo 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.

## 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.

### Key investment indicators

Indicator	Results
Amount of investments, US\$ thousands	497,047
Project NPV, US\$ thousands	653,709
IRR, %	55.2%
EBITDA margin, %	66%
Payback period, years	5.1
Discounted payback period, years	5.5

### Project location: Shalkar district, Aktobe Oblast



### 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.

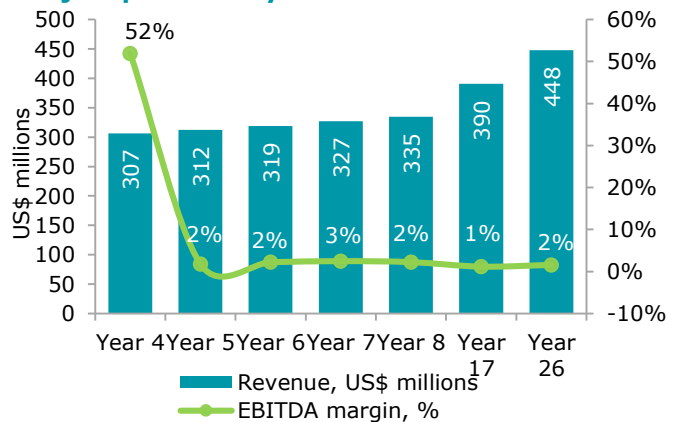
**Potential for pig iron exporting.** Currently, in Kazakhstan, the export of pig iron is underdeveloped. In particular, exports to China are completely non-existent. Moreover, the import of pig iron in Russia and China is growing rapidly, thereby creating exporting potential for producers in Kazakhstan.

### 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.

### Project profitability





# Mining and smelting industry

## Development of tungsten ores of the Koktenkol deposit

### Project Description

Development of tungsten ores at the Intermediate section of the Koktenkol deposit (Project)

### Project Initiator

Dala Mining LLP is a private Kazakhstani company that is the copyright holder of the Contract for the development of tungsten and tungsten-molybdenum ores of the Koktenkol deposit.

### Output and average annual capacity:

- ammonium paratungstate (APT) – 3,000 tonnes
- molybdenum oxide - 600 tonnes
- copper hydroxide - 300 tonnes

**Manufacturing process:** well in-situ leaching (ISL) using oxalic and hydrochloric acids.

**Location:** Karaganda oblast, Shetsky district

**Sales market:** Germany, Japan

### Market prerequisites:

**Availability of raw materials** – The spatial isolation of the tungsten and molybdenum mineralization of the Koktenkol deposit allows you to organize the primary mining of shallow-lying tungsten ores of the Intermediate section.

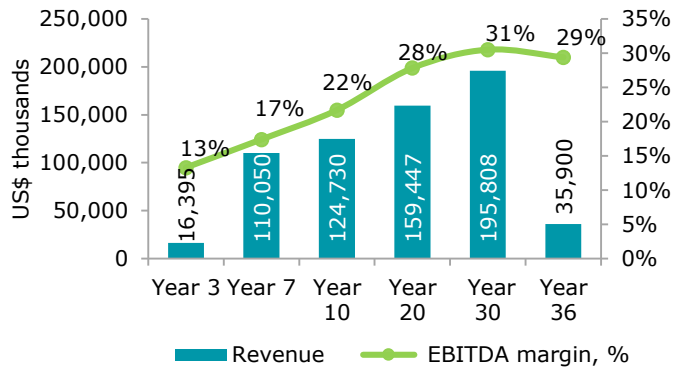
**Export potential** – In 2017, world imports of tungstates amounted to 11,049 tonnes. The main buyers of ammonium paratungstate in the international market are the USA, Germany and Japan. The development of the automotive and mining industries in these countries opens up prospects for the supply of products.

**Growing demand** – Over the next 10 years, global demand for tungsten is projected to increase from 72,552 tonnes to 121,679 tonnes (CAGR 5.3%). The growth in demand for tungsten is closely related to the development of the manufacturing industry and the production of automobiles.

### Key investment indicators

Indicator	Result
Project implementation period, years	36
<i>incl. investment stage, years</i>	2
<i>operational stage, years</i>	34
Investment, US\$ thousands	77,769
Project NPV, US\$ thousands	89,425
IRR, %	26.5%
EBITDA returns, %	25%
Payback period, years	7.9
Discounted payback period, years	9.3

### Project profitability



**Project location:** Karaganda Oblast



### Reserves of the Intermediate site

Ore, thous. tonnes	W gen, %	W gen, tonnes	Cu gen, %	Cu gen, tonnes
87,340	0.315	274,798	0.222	95,000



# Processing industry

## Hydrometallurgical enterprise for ash processing

### 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.

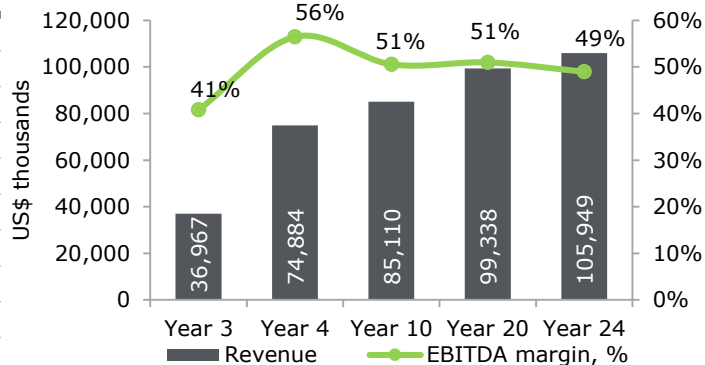
### Key investment data

Index	Results
Project implementation period, years	24
including investment period, years	2
operation period, years	22
Investment, US\$ thousands	57,088
Project NPV, US\$ thousands	106,259
IRR, %	29.9%
EBITDA return, %	52%
Payback period, years	5.4
Discounted payback period, years	6.7

### Project implementation location: Pavlodar Oblast, Ekibastuz district



### 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.

# Kokbulak iron ore deposit

## 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

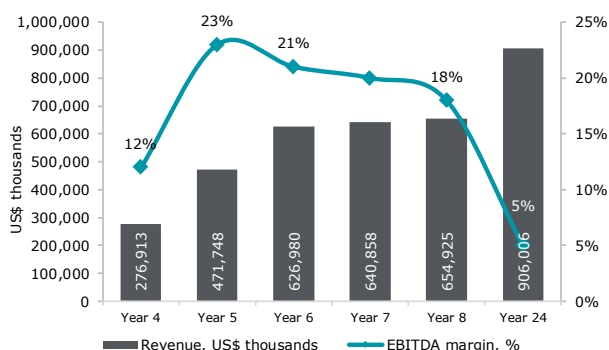
Indicator	Result
Investment amount, US\$ thousands	418,986
Project NPV, US\$ thousands	36,668
IRR	14.9%
EBITDA margin	24%
Payback period, years	9.4
Discounted payback period, years	16.3

## Project location:

Aktobe Oblast, Shalkar district



## Project profitability



## Kokbulak deposit reserves

Class	Reserves, million tonnes	Fe, %	P <sub>2</sub> O <sub>5</sub> , %	Sulphur, %
Central zone				
B	163.1	41.3	1.67	0.06
C1	198.1	37.8	1.48	0.09
Total:	361.2	39.4	1.57	0.08
North zone				
C1	561.9	42.1	1.46	0.06
C2	49.3	37.9	1.36	0.06
Total:	611.2	38.1	1.39	0.06
South zone				
C2	295.9	35.2	1.38	0.09
Total:	295.9	35.2	1.38	0.09
Off-balance				
C1	410.7	26.6	0.99	0.11
C2	238.1	28.3	1.09	0.1
Total:	648.8	27.2	1.03	0.11

# Cobalt-nickel ore processing

## Project overview:

Construction of cobalt-nickel ore processing complex to produce nickel, matte, cobalt and commercial FN-20 ferronickel through the innovative upgrading of an existing industrial enterprise to ensure the efficient use of natural resources and improve product quality

**Investment amount:** US\$ 252,504 thousand

### Capacity:

1.9 million tonnes of ore and 9,500 tonnes of nickel in matte (or 63,000 tonnes of matte) per year

**Product:** nickel, stein, cobalt and FN-20 ferronickel

### Location:

East-Kazakhstan Oblast, Beskaragay District

### Project implementation period:

19 years (until 2036)

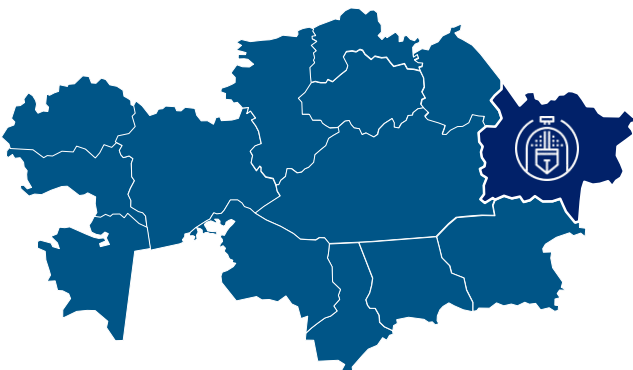
## Market prerequisites:

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

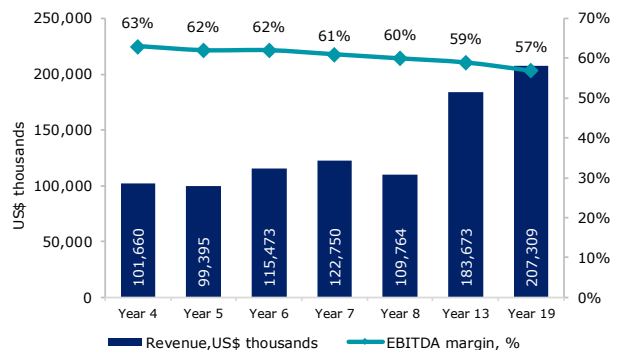
## Key investment indicators

Indicator	Result
Investment amount, US\$ thousands	252,504
Project NPV, US\$ thousands	73,613
IRR	18%
EBITDA margin	57% - 63%
Payback period, years	7.0
Discounted payback period, years	12.0

## Project location: East-Kazakhstan Oblast, Beskaragay District



## Project profitability



## Deposit reserves

Cut-off grade	Capacity (m <sup>3</sup> )	Tonnes (thous)	Ni (%)	Metal Ni (thous)	Co (%)
0.5	<b>Indicated</b>				
	30,694,458	38,982	0.74	289	0.054
	<b>Inferred</b>				
	12,358,506	15,695	0.75	117	0.056

# Metallurgy



# Production of copper pipes

## Machinery construction and metallurgy

### Project overview:

This investment project involves the construction of a copper pipe production plant for production of copper pipes with an external diameter of 6-46 mm under the American Society for Testing and Materials (ASTM) standard. The area of the plant's territory will be 14.5 hectares.

The projects aims creation of more than 45 permanent jobs.

### Location:

Special Economic Zone (SEZ) in Karaganda.

### Project Initiator:

Temir men Mys LLP, which main activity is study and research of potential opportunities in the mining and metallurgical complex of the Republic of Kazakhstan and conduction of feasibility studies in the organization of production of the third, fourth and fifth redistributions.

### Commodity production and capacity

Copper pipes with external diameter of 6-46 mm as per ASTM standard - 13 000 tones per a year.

**Sales markets:** domestic market and exports to Russia, China, Belarus, Ukraine and Austria.

### Key investment indicators

Indicator	Result
Investment amount, US\$ thousands	59,345
Project NPV, US\$ thousands	22,587
IRR, %	21.4%
EBITDA margin, %	19%
Payback period, years	6.4
Discounted payback period, years	9.6

### Investment structure



Construction and assembly work

28%

\$16.7 million



Machinery and equipment

60%

\$35.8 million



Other capital expenditures

12%

\$6.8 million

### Market prerequisites:

#### Import substitution

Kazakhstan does not have copper pipes production plant. Demand in the domestic market is fully covered by imported goods. Compound annual growth rate of copper pipe imports to the country was 8% during the period 2015-2019.

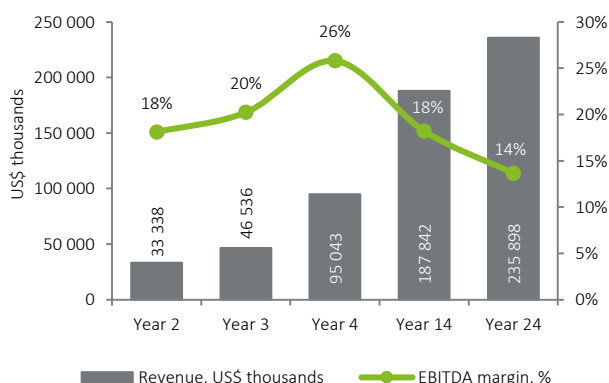
#### Export potential.

Copper pipe imports in China and Russia totaled US\$165 billion and US\$97 billion, respectively. Proximity to high-capacity sales markets in Russia and China allows for exports to take a significant share of their consumption markets.

#### Stable growth of raw materials production

During 2020 Kazakhstan produced 481 thousand tones of refined, unprocessed and unalloyed copper.

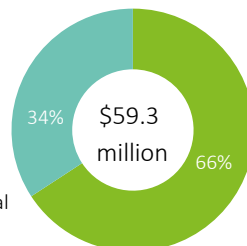
### Project profitability



### Financing structure

Participation of the Initiator  
66% (\$39.0 million)

Debt financing subject to collateral  
34% (\$20.3 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.

# Construction of an aluminium can production plant in Pavlodar

KAZAKH INVEST  
Investment proposal  
November 2020

## Metallurgy

### Project description:

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

### Location:

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

### Initiator:

JSC Pavlodar SEZ

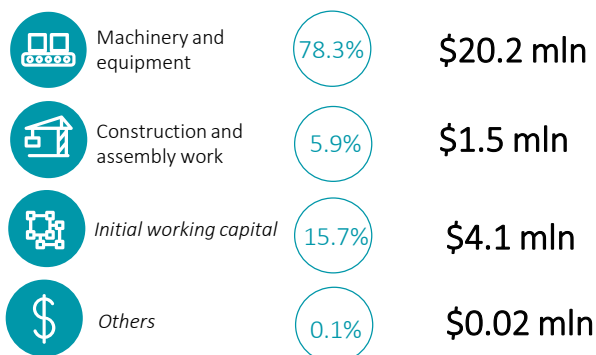
### Proposed sales and market size:

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

### Key investment indicators

Indicator	Results
Investment amount, US\$ thous.	25,863
Project NPV, US\$ thous.	34,217
IRR, %	18%
EBITDA margin, %	11.12%
Payback period, years	8.13
Discounted payback period, years	10.54

### Investment structure



### Market prerequisites:

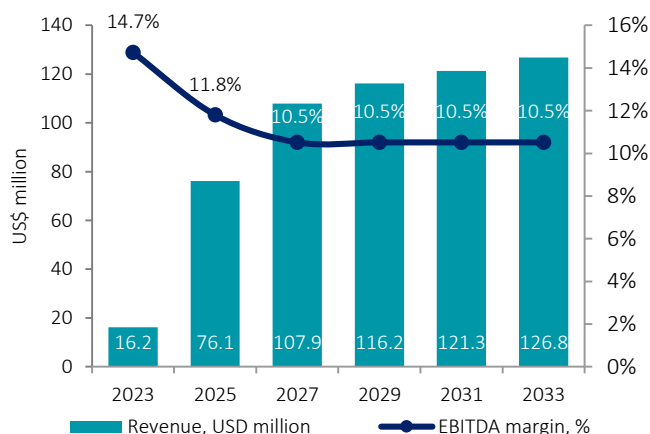
#### Lack of similar industries in Kazakhstan.

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

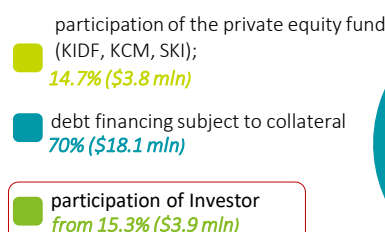
#### Logistic advantage.

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

### Project profitability



### 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.

# Creation of foundry in West Kazakhstan region

KAZAKH INVEST  
Investment proposal  
November 2020

## Metallurgy

### 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 Aktope regions of the Republic of Kazakhstan, as well as border regions of the Russian Federation (Samara and Orenburg regions).

### Location:

West Kazakhstan Oblast.

**Initiator:** KazArmapirom 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

Indicator	Results
Investment amount, US\$ thous.	65,662
Project NPV, US\$ thous.	20,569
IRR, %	18.6%
EBITDA margin, %	53.3%
Payback period, years	7.7
Discounted payback period, years	13.8

### Investment structure



Machinery and equipment

81%

**\$53.0 million**



Construction and assembly work

14%

**\$9.1 million**



Working capital

3%

**\$2.4 million**



Marketing program

2%

**\$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.

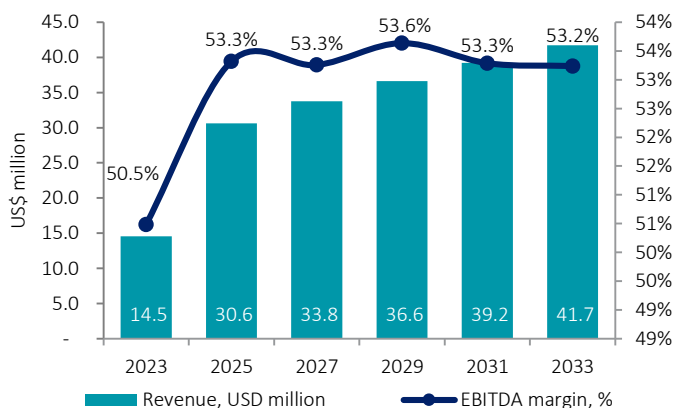
#### Favorable geographical location.

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.

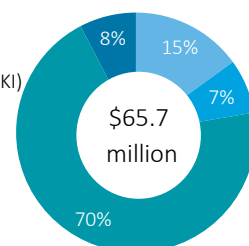
The strength of the project is the experience of KazArmapirom LLP in the foundry and assembly of valves. The Company's current location area, including production and engineering areas, is 13 ha. The number of current employees is 430 (375- production 55- administrative).

### Project profitability



### 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.



## Organization of the production of ferrosilicon aluminum in Pavlodar oblast

### Description of the Project :

The investment project provides for the construction of a plant for the production of ferrosilicon aluminum in Ekibastuz.

### Production and annual capacity :

Ferrosilicon aluminum labeled as FS45A10 till FS65A20 – 60 thousand tons per year.

### Raw materials:

Carbonaceous rock, quartzite, coal

### Initiator:

Vtormet Asia LLP

### Location:

Ekibastuz, Pavlodar region

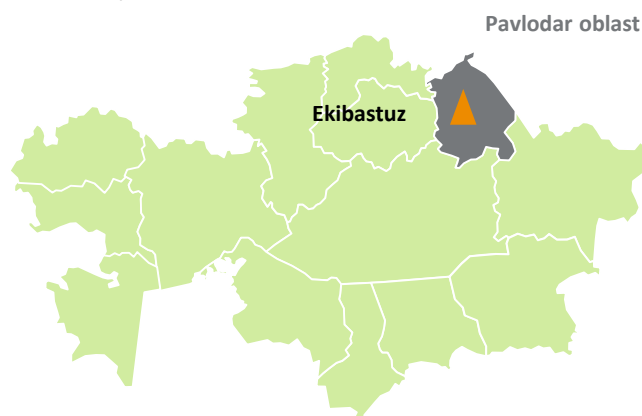
**Sales market:** domestic market, China, Russia.

### Key investment indicators:

Indicator	Results
Investment, USD thousands	70,000
Project NPV, USD thousands	86,388
IRR, %	29.5%
EBITDA returns, %	38-43%
Payback period, number of years from the start of production	6.4
Discounted payback period, number of years from the start of production	7.9

### Location of the Project:

Ekibastuz, Pavlodar oblast



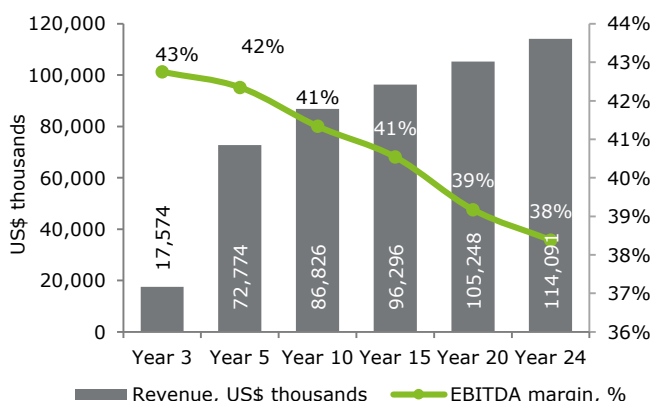
### Market background:

**Growth in demand for steel.** According to the forecasts of the International Steel Association, the global demand for steel and steel products will increase by 1.4% in 2019. Lucintel expects steel demand to grow. Compound annual growth rate (CAGR) will be 1.6% in the period from 2019 to 2024.

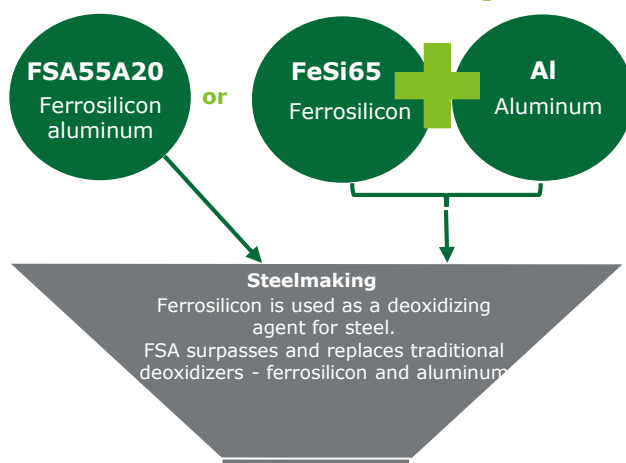
**Low competition.** The demand for FSA among steel producers is significant. Competition is made only by producers of ferrosilicon. However, the superiority of the FSA over the analogue will cover a significant share of domestic and foreign markets.

**Increased production, export and domestic consumption of ferrosilicon.** Ferrosilicon aluminum surpasses and replaces the traditional deoxidizers - ferrosilicon and aluminum, reducing the percentage of defective products and reducing the amount of sulfur, fluorine and other non-metallic parts. The growth of production by 8.8%, exports by 4.3% and consumption by 12.6% in 2017-2018 show growing demand for ferrosilicon and, accordingly, for PSA also as an analog product.

### Project profitability



### Ferrosilicon aluminum and its analogues:





# Construction of a ferroalloy plant in Kyzylorda

## 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

Indicator	Results
Investment, USD thousands	242,264
Project NPV, USD thousands	277,539
IRR, %	29.2%
EBITDA returns, %	52%
Payback period, number of years from the start of production	6.1
Discounted payback period, number of years from the start of production	7.6

### Location of the Project:

Site of the Industrial Zone, Kyzylorda, Kyzylorda Oblast, Republic of Kazakhstan



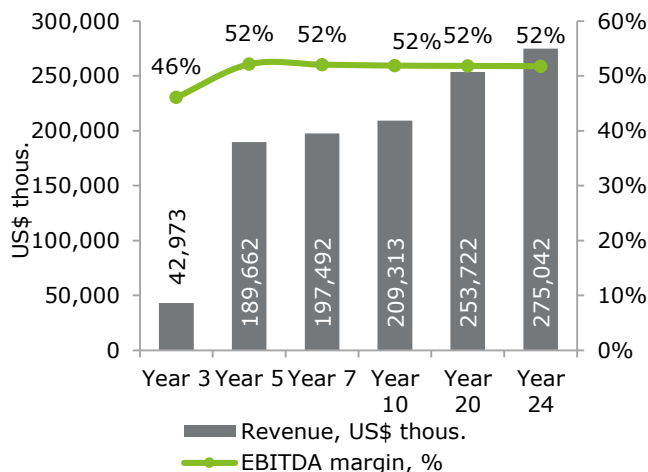
### Market assumptions:

**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.

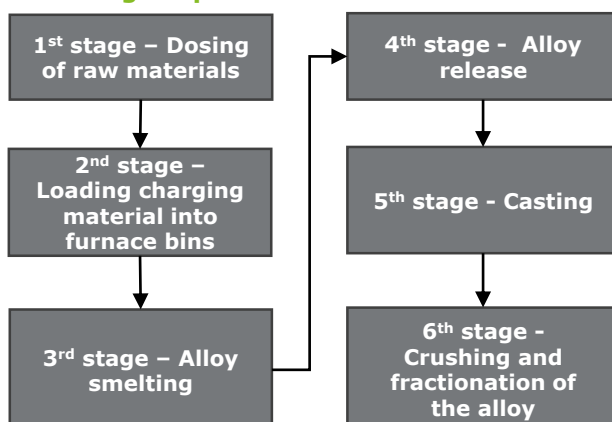
**Persistent steel demand.** High rates of historical production growth and the strategic importance of the further development of industries, which use steel as raw materials, create a steady demand for the products manufactured under the Project. According to the forecasts of the International Steel 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



### Technological process:



# Organization of the production of refractory products in the Karagandy oblast

## 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:

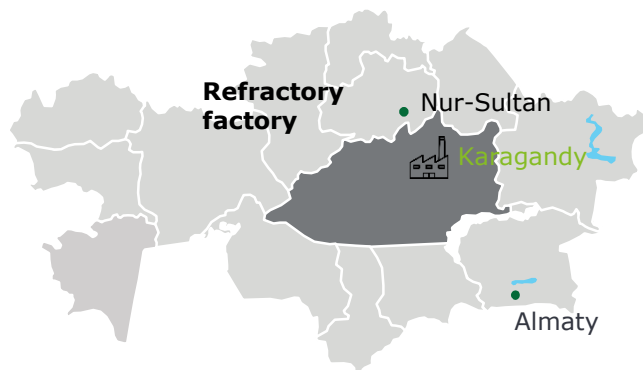
Republican State Enterprise "National Center for the Integrated Processing of Mineral Raw Materials of the Republic of Kazakhstan" ("RSE National Center IPMRM")

## Key Investment Indicators

Indicator	Results
Investment, USD thousands	7,763
Project NPV, USD thousands	5,405
IRR, %	25.0%
EBITDA returns, %	17-32%
Payback period, number of years from the start of production	5.0
Discounted payback period, number of years from the start of production	6.9

## Location of the Project

Karagandy city, Karagandy oblast, Republic of Kazakhstan



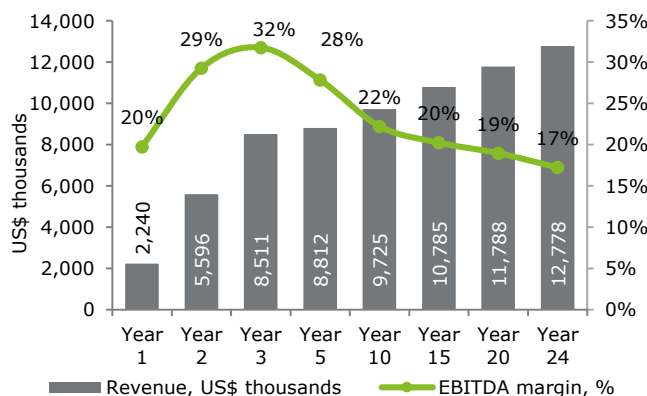
## Market prerequisites

**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.

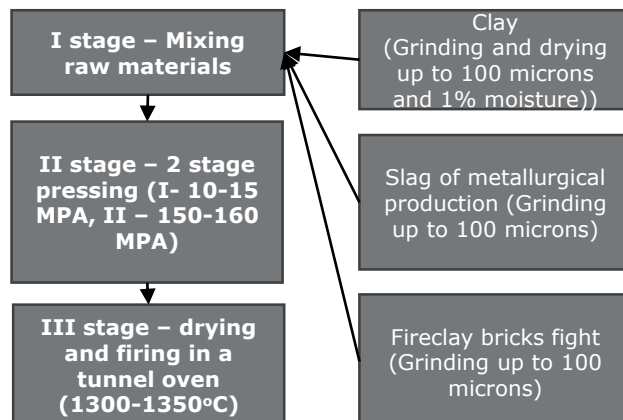
**Unique technology.** The technology of RSE NC IPMRM using chemically active mixtures allows the use of chemical energy in the system itself, which in turn accelerates the processes of solid-phase sintering, improves quality and reduces cost.

**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%.

## Project profitability



## Technical process



### Launch of long products manufacturing at Aktau Foundry in Aktau city

#### 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%.

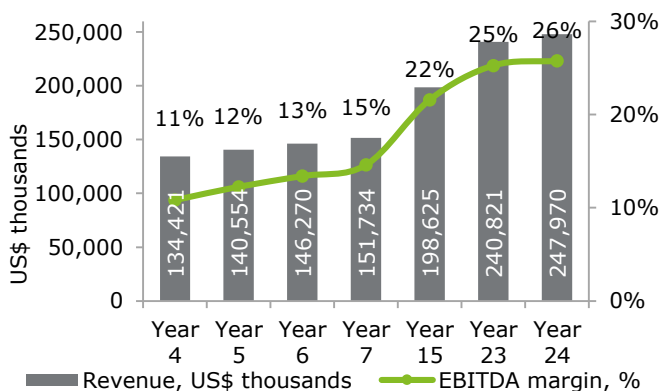
**Import substitution.** Growth in consumer demand has sharpened competition between domestic producers and suppliers from the Russian Federation. Also, in Kazakhstan there are no enterprises producing a full range of long products.

**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

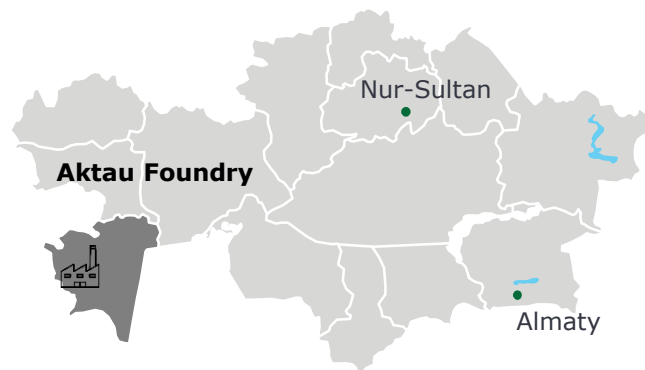
Indicator	Results
Investment amount, US\$ thousands	79,348
Project NPV, US\$ thousands	59,687
IRR, %	15.9%
EBITDA margin, %	19%
Payback period, years	9.7
Discounted payback period, years	16,4

#### Project profitability

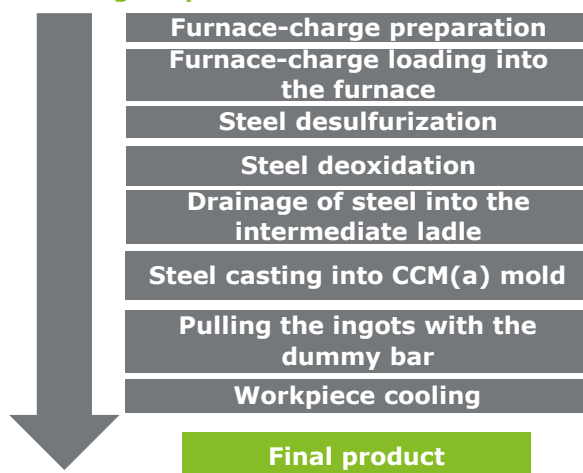


#### Project location:

Mangystau oblast, Aktau, Industrial area



#### Technological process:



# Production of longitudinally welded pipes

## 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

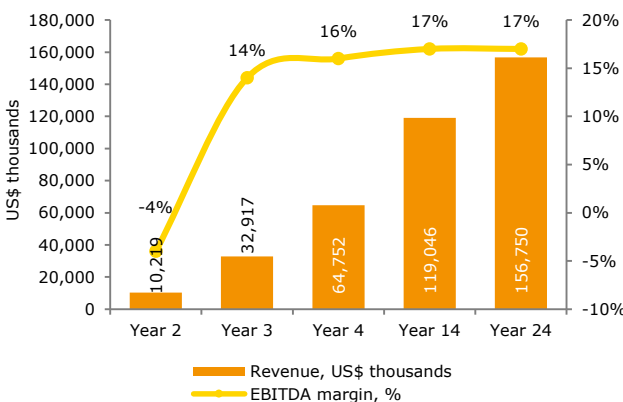
**Suppliers:** local and Russian suppliers of raw materials

**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.

## Project profitability



## Key investment indicators

Index	Results
Investment amount, US\$ thousands	24,215
Project NPV, US\$ thousands	20,292
IRR, %	25.9%
EBITDA margin, %	16%
Payback period, years	7.1
Discounted payback period, years	9.5

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

Sector	Summary	Potential market volume in Kazakhstan (2016) (thousand km)	Potential market volume in Kazakhstan (2016) (billion tenge)
Housing and public utilities	Heating mains	6.7	~87
	Water pipelines	14	
	Gas pipelines	16.2	~7
Total		36.9	~111

\*Gas and oil trunk lines are not considered, since their diameter exceeds the diameter of the produced pipes



# Production of metal powder

**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

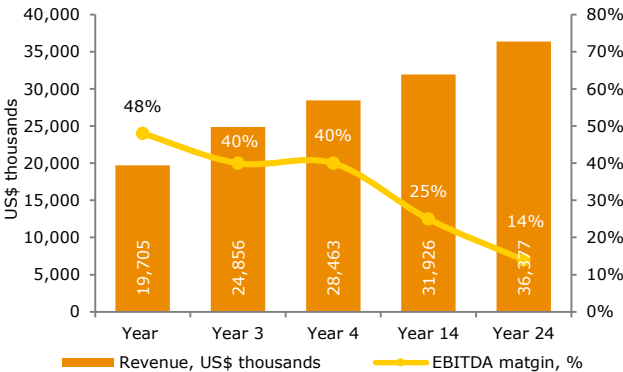
**Suppliers:** local metallurgical enterprises and scrap buyers

**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.

**Project profitability**



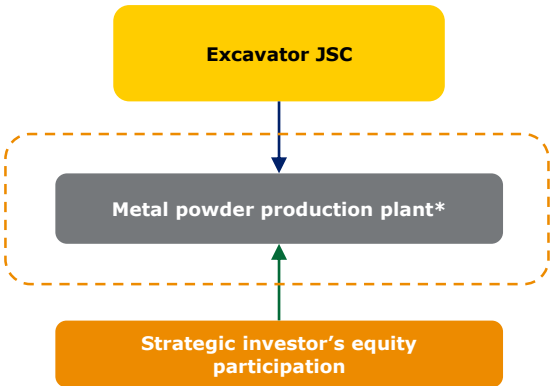
**Key investment indicators**

Indicator	Result
Investment amount, US\$ thousands	23,308
Project NPV, US\$ thousands	6,795
IRR, %	23.3%
EBITDA margin, %	27%
Payback period, years	5.1
Discounted payback period, years	7.7

**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.*

# Machine manufacturing

# Organization of a manufacturing line for the production of railway springs

## Mechanical engineering and metallurgy

### Project description:

Organization of a manufacturing line for the production of railway springs on the territory of a machine-building plant with creation of 87 new workplaces.

### Project location:

East Kazakhstan oblast, Semey

### Project Initiator:

Semipalatinsk Machine-Building Plant JSC (SMP JSC) - an enterprise of the military-industrial complex.

### Product and output:

External air suspension spring 100.30.002-0 – 45,000 units per year.

Internal air suspension spring 100.30.003-0 – 45,000 units per year.

Other types of air suspension springs -12,500 units per year.

### Sales market:

It is planned to sale products on domestic market with further expansion to the markets of Uzbekistan, China, and Kyrgyzstan.

### Production process:

1. Cutting, heating, winding, heat treatment and compression of spring steel bars, PRT.
2. Preparation of marketable product (coloring, preservation and packaging).

### Key investment indicators of the Project

Indicator	Results
Investment amount, US\$ thous.	848
Project NPV, US\$ thousands	1,334
IRR, %	31.4%
EBITDA margin, %	21%
Payback period, years	5.0
Discounted payback period, years	6.6

### Investment structure



Construction and assembly work

8%

\$65 ths.



Machinery and equipment

92%

\$783 ths.

### Prerequisites for Project implementation

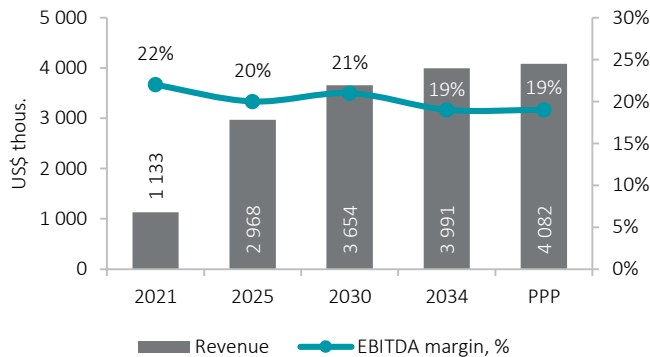
#### Growth in railway traffic and large depreciation of rolling stock

- In 2019, the freight turnover of railway transport in Kazakhstan amounted to 289 mln tonne-kilometers (tkm), exceeding the value of 2015 by 23%. The number of rolling stock reached 143 thous. units. Most of the rolling stock (97% or 138.5 thousand units) is occupied by freight wagons. About 50% of the rolling stock is over 10 years old, which indicates a high level of depreciation.

**Import substitution** - In 2019, imports of coil springs made of ferrous metal amounted to 2,812 tonnes, an increase of 74% compared to the same period in 2015. The production of railway springs will meet the demand of companies specializing in freight transportation, partially reducing import dependence.

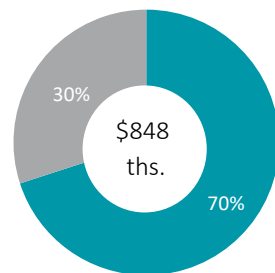
**Export potential** – the volume of export supplies of springs remained at an insignificant level. Given the current demand and planned production volumes, there is a potential for increasing export volumes.

### Project profitability



### Financing structure

- Debt financing subject to collateral  
70% (\$594 ths.)
- Participation of the Investor from 30% (\$254 ths.)



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 of pumping equipment, pipeline fittings and asynchronous electric motors

## Mechanical engineering

KAZAKH INVEST  
Investment proposal  
August 2020

### 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.;  
APSU (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

Indicator	Results
Investment amount, US\$ thousand	64,959
Project NPV, US\$ thousand	33,287
IRR, %	23.5%
EBITDA margin, %	39%
Payback period, years	6.3
Discounted payback period, years	9.9

### 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.

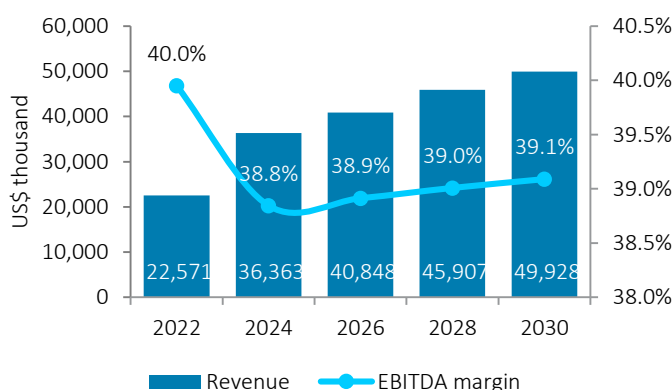
#### Import substitution opportunity.

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.

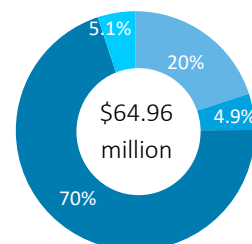
NWF Samruk Kazyna JSC has developed the concept of off-take contracts, under which domestic producers receive guaranteed long-term orders from the national companies of the fund.

### Project's profitability



### 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.



Mechanical engineering

Project idea:

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

Project location:

Taraz, Zhambyl oblast

Project Initiator:

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

Production capacity and sales market:

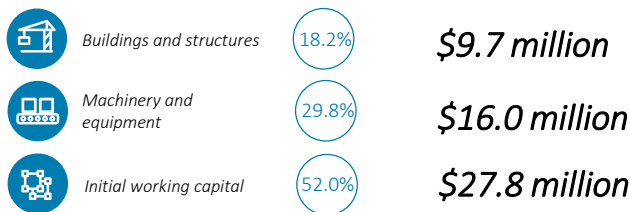
The target group of the Company's products consumers (gas stoves, gas heating boilers, refrigerators, combined plates, electric furnaces and stoves) are enterprises specialised in the sale of household appliances.

The project involves the sale of products in the domestic and foreign markets.

Investment attractiveness of the Project

Indicator	Results
Investment amount, US\$ thousand	53,514
Project NPV, US\$ thousand	53,362
IRR, %	33.7%
EBITDA margin, %	15%
Payback period, years	5.9
Discounted payback period, years	7.3

Investment structure



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).

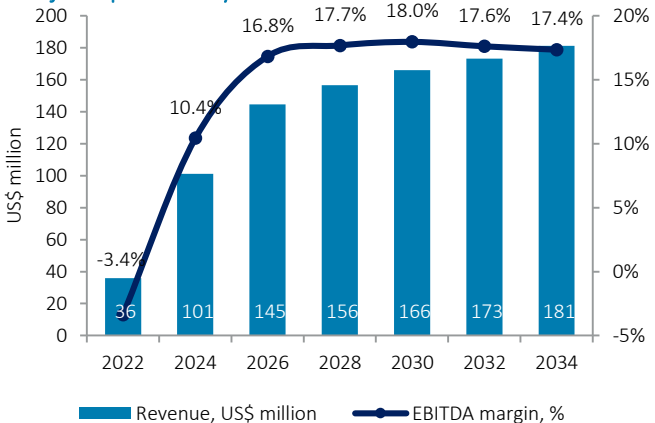
High quality products.

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.

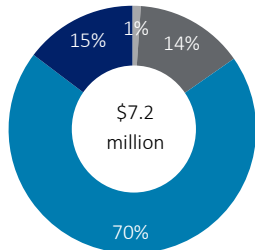
Household appliances are mainly imported to Kazakhstan. Manufacturing in Kazakhstan will significantly reduce the cost of production, as expenses on transport, taxes and customs duties will decrease.

Project's profitability



Financing structure

- Initiator equity 1% (\$0.60 million)
- Participation of the Fund (KIDF, KCM, SKI) 14% (\$7.6 million)
- Debt financing subject to collateral 70% (\$37.5 million)
- Participation of the Investor from 15% (\$7.9 million)



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

# New plant to develop and produce aids for the blind and vision-impaired

## Machine manufacturing

KAZAKH INVEST  
Investment proposal  
November 2020

### 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

Indicator	Results
Investment amount, US\$ thousand	3,229
Project NPV, US\$ thousand	11,430
IRR, %	28.5%
EBITDA margin, %	31%
Payback period, years	7.3
Discounted payback period, years	10.0

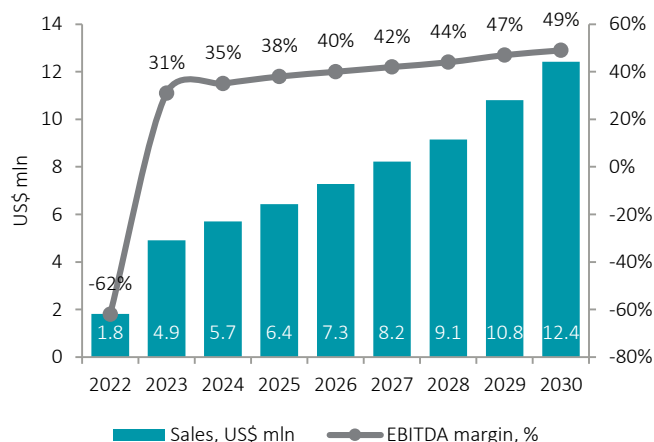
### Investment structure

	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

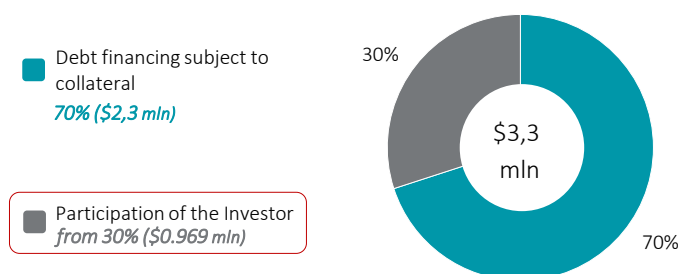
### Prerequisites for implementation of the Project

- **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



### 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.

Machine manufacturing

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

Indicator	Results
Investment amount, US\$ thousand	5,000
Project NPV, US\$ thousand	14,042
IRR, %	38%
EBITDA margin, %	4.3%
Payback period, years	4.2
Discounted payback period, years	4.94

Investment structure



Working capital

100%

\$5 mln

Prerequisites for implementation of the Project

Sector experience.

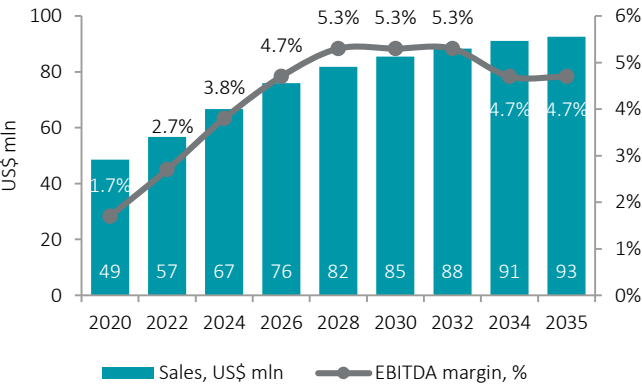
JSC Kazenergokabel is a large fast-growing producer of cable and conductor products in Kazakhstan, accounting for 19.4% of the local market. JSC Kazenergokabel has been certified by the KEMA international certification body (the Netherlands).

Plant equipment is capable of producing all standard types of power, control and telephone cable and installation wires. The plant has renovated production, administrative, warehouse and other facilities; as well as built and commissioned its own boiler station.

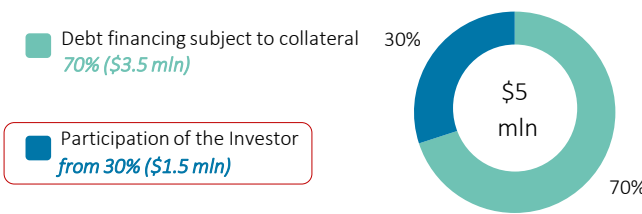
Own production of aluminium wire rod.

After the Initiator commissioned its own aluminium wire rod production shop, the Company fully abandoned the import of raw materials from Russia, which helped reduce the cost of production.

Project's profitability



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.

# Electric motor manufacturing line

KAZAKH INVEST  
Investment proposal  
November 2020

## Machine manufacturing

### 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 of 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

Indicator	Results
Investment amount, US\$ thousand	28,000
Project NPV, US\$ thousand	28,092
IRR, %	25.9%
EBITDA margin, %	23%
Payback period, years	7.5
Discounted payback period, years	10.5

### Investment structure



Buildings and structures

16%

\$5.0 million



Machinery and equipment

73%

\$23 million



Initial working capital

11%

\$3.5 million

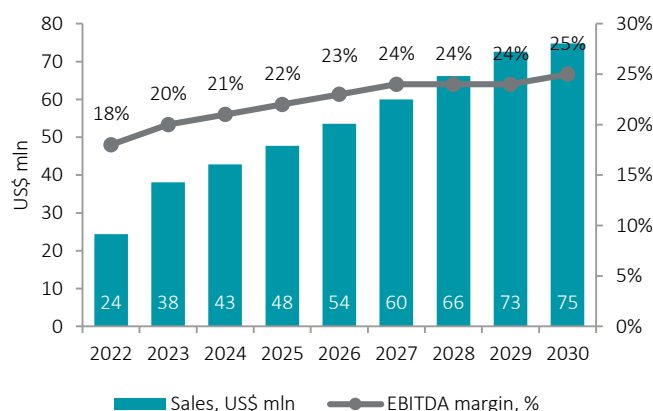
### Prerequisites for implementation of the Project

**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.

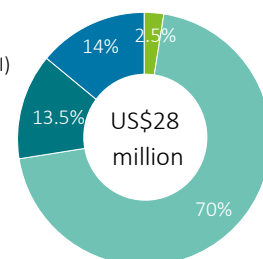
The Company's accumulated experience in the overhaul of electric motors of the world's leading manufacturers and other electrical equipment allowed the Company to establish long-term relationships with key consumers. The offtake programme of Samruk Kazyna NWF JSC aimed at supporting domestic producers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

### Project's profitability



### 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.



## Expansion of the production of steel pipes in the Mangistau Oblast

### Description of the Project:

The investment project provides for the construction of a plant for the production of oil and gas equipment in the SEZ "Seaport Aktau" of the Mangistau Oblast.

### Production and annual capacity:

- Tubing pipes – 78.3 thousand tonnes per year;
- Casing – 66.7 thousand tonnes per year;
- Line pipe – 5089 tonnes per year.

### Raw materials:

High alloy steel

### Initiator:

The initiator of the project is Kaskor-Mashzavod JSC, which is one of the leading machine-building enterprises in the Republic of Kazakhstan.

**Location:** SEZ "Seaport Aktau" - subzone 3, the Mangistau Oblast

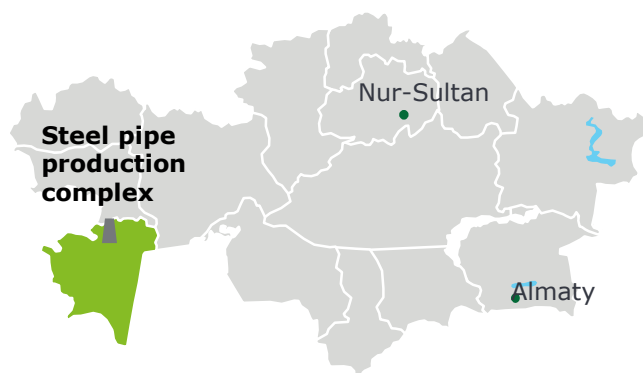
**Sales market:** domestic market, China, Russia, Turkmenistan

### Key investment indicators

Indicator	Results
Investment, USD thousands	245,923
Project NPV, USD thousands	257,581
IRR, %	25.5%
EBITDA returns, %	42%
Payback period, number of years from the start of production	6.8
Discounted payback period, number of years from the start of production	8.4

### Location of the Project:

Aktau, Mangistau Oblast



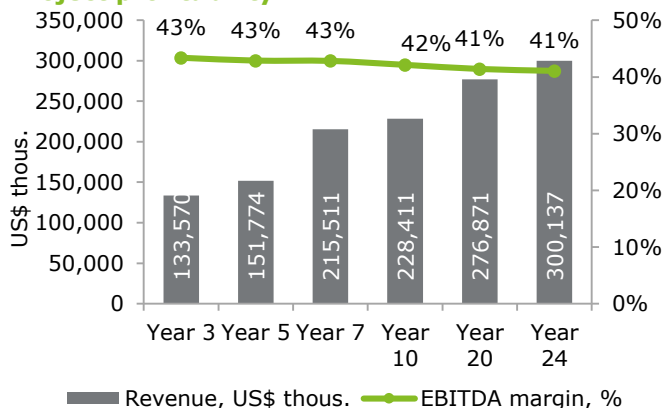
### Market background:

**Growth in demand for steel pipes.** Lucintel predicts that there will be an increase in global demand for steel pipes in the world. Compound annual growth rate (CAGR) in 2019-2024 will be equal to 1.6%, and revenue will be equal to about US\$ 68.4 billion. The main drivers of this market are the construction of new pipelines, the replacement of obsolete pipelines, the level of urbanization and the development of infrastructure.

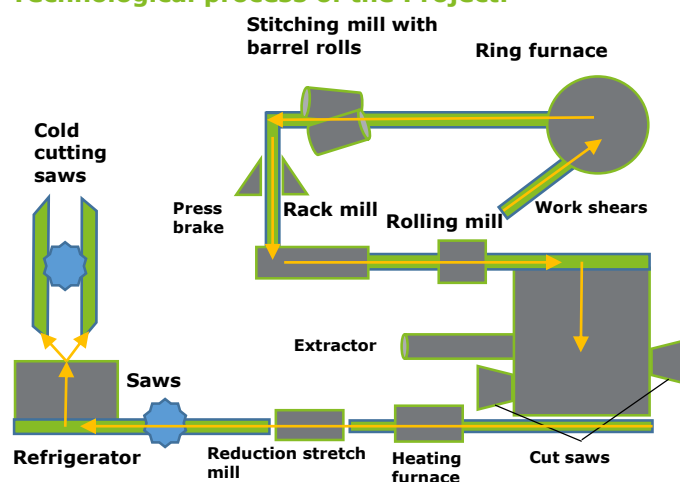
**Import substitution.** Import volumes over the past year equal to 210.8 thousand tonnes, which is twice as high than in 2015, given that the country's domestic production rate is 2.4 times lower than the use of tubing, casing and line pipes. The expansion of the steel pipe plant will reduce the dependence on imports.

**Export development.** Kazakhstan also exports steel pipes. In 2018, the volume of export of tubing pipes, casing and line pipes amounted to 149.4 thousand tonnes, demonstrating an increase of 57% compared to 2014.

### Project profitability



### Technological process of the Project:



# Production of power transformers

## Project overview:

The expansion of production of Alageum Electric group of companies, Kazakhstan's only manufacturer of 110 kV and 220 kV power transformers

**Investment amount:** US\$ 13,000 thousand

**Products:** 110 kV and 220 kV power transformers

### Location:

Tassay industrial zone, Shymkent city

### Project implementation period:

24 years, including 3 years of construction

**Target markets:** CIS countries

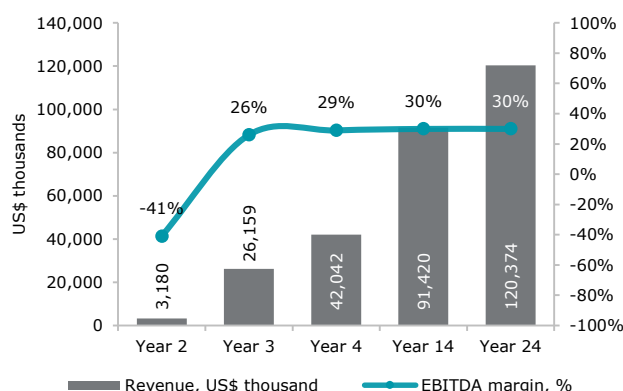
**Suppliers:** local and foreign suppliers of raw materials

**Consumers:** grid companies, in particular, energy distribution companies

## Market prerequisites:

- *Availability of basic materials* – almost all of the basic materials and components necessary for the implementation of the Project are available in Kazakhstan.
- *Demand* – from mining businesses and power transmission companies.
- *Competitive advantage* – affordable prices for products (in comparison with imported analogues) and compliance with quality standards.
- *Growth of export potential* - low level of import duties in neighboring countries.

## Project profitability



## Key investment indicators

Indicators	Result
Investment amount, US\$ thousands*	13,000
Project NPV, US\$ thousands	9,053
IRR, %	20.2%
EBITDA margin, %	26-30%
Payback period, years	6.3
Discounted payback period, years	10.0

\* 49.33% share acquisition

## Project timeline

The project was launched in 2016. To date the majority of the capital expenditures have already been incurred by the project holder Asia Trafo LLP.

2016-2018	2019-2020	Year 24
Construction started, intangible assets, technological equipment, overhead cranes and special machinery acquired	49.33% share acquisition*: US\$ 13,000 thousand	
Construction period	Production and sale stage	

\* 49.33% share is one of the basic assumptions of this investment project and is subject to further discussion.

# Chemistry

# 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.

### Market prerequisites:

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

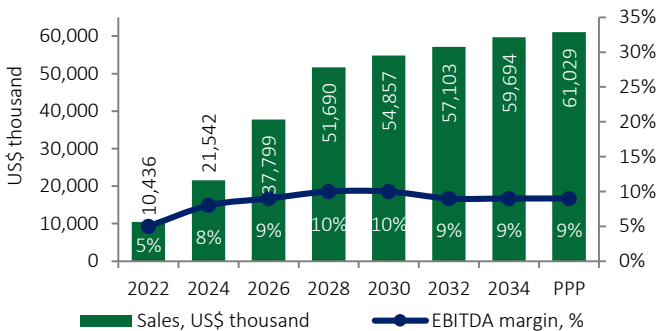
**Own laboratory and computer technology.** The plant has its own laboratory and provides for the automation of control processes for complex chemical processes, which make it possible to ensure the quality control at every production stage in terms of the chemical composition and purpose of products.

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

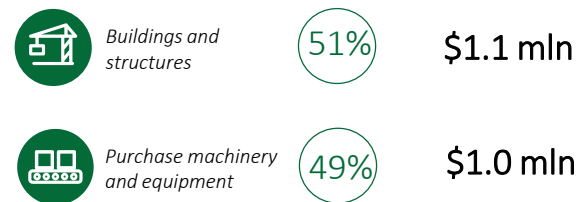
### Key investment indicators

Indicator	Results
Investment amount, US\$ thous.	2,059
Project NPV, US\$ thous.	9,627
IRR, %	31.7%
EBITDA margin, %	9%
Payback period, years	6.9
Discounted payback period, years	8.2

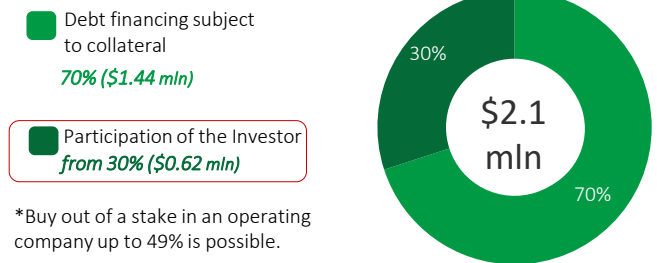
### Project profitability



### Investment structure



### Project financing scheme



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.



# Sodium sulphite production

KAZAKH INVEST  
Investment proposal  
November 2020

## Chemistry

### 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 Pnazarov) 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

Indicator	Results
Investment amount, US\$ thous.	8,233
Project NPV, US\$ thous.	8,348
IRR, %	21.1%
EBITDA margin, %	42%
Payback period, years	6.8
Discounted payback period, years	8.6

### Investment structure



Construction and assembly work

51%

\$4.2 million



Machinery and equipment

40%

\$3.3 million



Others

9%

\$0.8 million

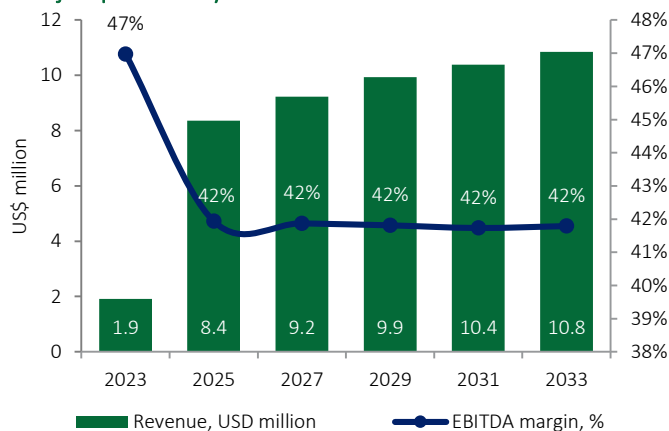
### Market prerequisites:

**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%.

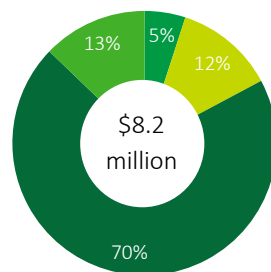
**Favourable production location.** The considered plant location in Taraz Chemical Park SEZ has such benefits as the proximity of raw materials sources to production facilities, favourable price for gas and a developed transport hub with directions to all regions of the country and neighbouring countries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

### Project profitability



### 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

KAZAKH INVEST  
Investment proposal  
November 2020

### 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.

**Manufacturing process:** load raw materials into a bowl, create dispersion - interim quality control - solution dispersion - finished product - quality analysis - pour into packaging - prepare packaging - finished product warehouse - production line cleaning.

### Key investment indicators

Indicator	Results
Investment amount, US\$ thous.	4,232
Project NPV, US\$ thous.	4,694
IRR, %	21.8%
EBITDA margin, %	22.8%
Payback period, years	8.5
Discounted payback period, years	12.1

### Investment structure



Buildings and structures

47%

\$2.0 mln



Purchase machinery and equipment

53%

\$2.2 mln

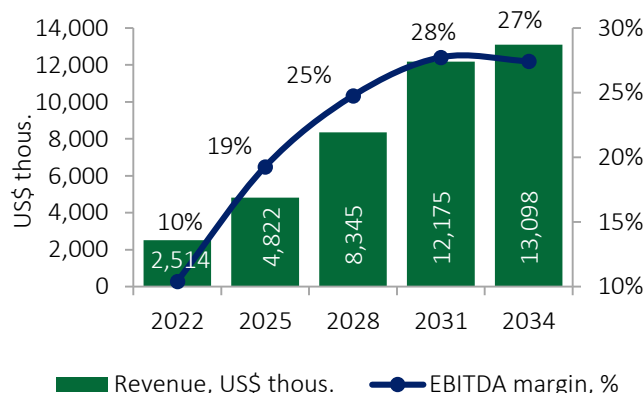
### Market prerequisites:

**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

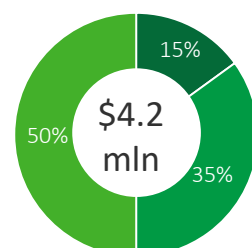


### Project financing scheme

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 complex for the production of caustic soda, hydrochloric acid and coagulants

KAZAKH INVEST  
Investment proposal  
2020

## Chemistry and petrochemistry

### 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.

The Project suggests creation of 56 permanent jobs and 600 temporary jobs during construction.

#### Initiator:

Global Chemical LLP is a project sponsor/developer for large chemical projects, which will be located at the National Industrial Petrochemical Technopark, a special economic zone in Atyrau oblast in Kazakhstan.

#### 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

**Consumer markets:** Domestic market, RF and EU markets.

### Key investment indicators

Indicator	Results
Investment, US\$ thousands	70,000
Project NPV, US\$ thousands	55,646
IRR, %	22.2%
EBITDA returns, %	49%
Payback period, amount of years from the start of production	6.1
Discounted payback period, amount of years from the start of production	8.8

### Investment structure



Land plot

3%

\$2 million



Construction and assembly work

34%

\$24.15 million



Machinery and equipment

49%

\$34.15 million



Other capital expenditures

14%

\$9.7 million

### 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 in the textile, pulp, paper industries and the production of organic chemicals will contribute to the consumption growth of caustic soda.

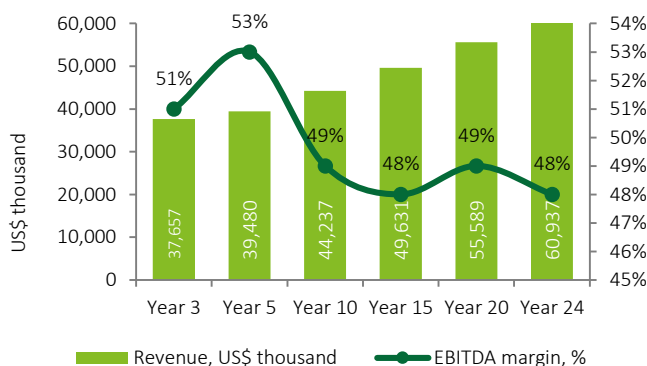
#### Growing demand for hydrochloric acid and coagulants

According to Grand View Research, by 2024 demand for hydrochloric acid and coagulants on the 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 50 thous. tones 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".

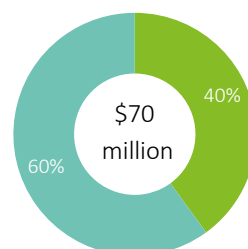
### Project profitability



### Financing structure

Participation of the Initiator  
40% (\$28 million)

Debt financing subject to collateral  
60% (\$42 million)



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

# Construction of a plant for the assembly and production of non-electric initiation systems and emulsion explosives

KAZAKH INVEST  
Investment proposal  
2020

## Chemistry and petrochemistry

### 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.

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, one of the first companies in Kazakhstan to start assembling NEIS. The company also manufactures explosives and provides services for drilling and blasting operations. The activity of the company is licensed.

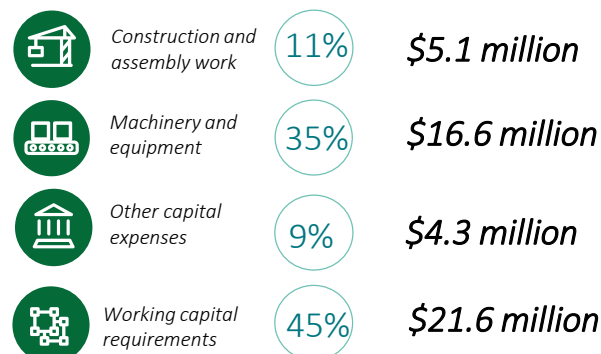
**Project location:** Karaganda Oblast, Satpayev

**Consumer markets:** domestic market, Russia and Uzbekistan.

### Key investment indicators

Indicator	Results
Investment, US\$ thousands	47,669
Project NPV, US\$ thousands	238,209
IRR, %	72.94%
EBITDA returns, %	62.4%
Payback period, amount of years from the start of production	3.93
Discounted payback period, amount of years from the start of production	4.22

### Investment structure



### 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.

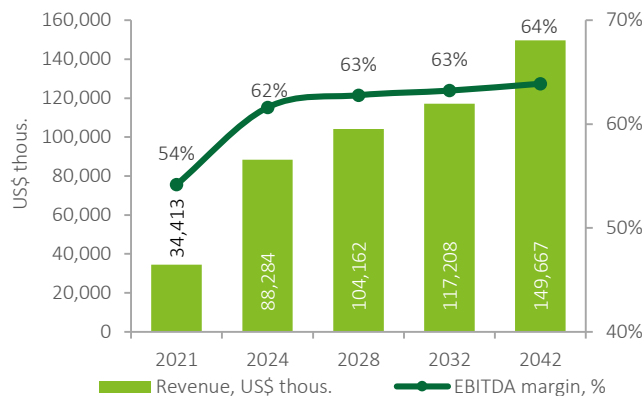
#### Import substitution

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 2020, the import of NEIS in Kazakhstan amounted to 1,605 tonnes in the amount of about US\$ 16,7 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.

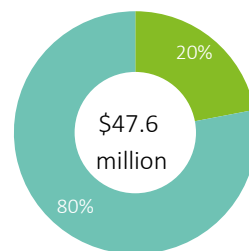
### Project profitability



### Financing structure

Participation of the Initiator  
20% (\$9.5 million)

Debt financing subject to collateral  
80% (\$38.1 million)



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



# Construction 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

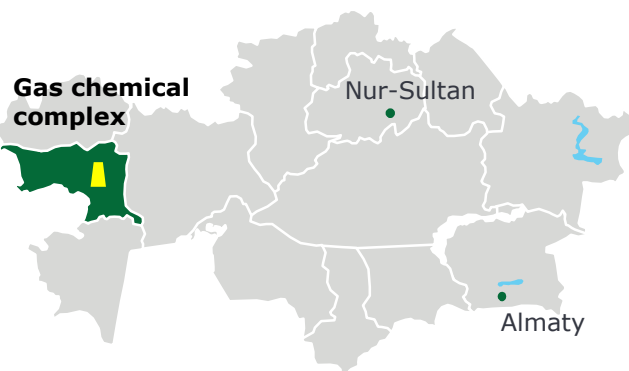
**Project location:** SEZ "NIPT", Atyrau Oblast

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

## Key investment indicators

Indicator	Results
Investment, US\$ thousands	73,878
Project NPV, US\$ thousands	93,075
IRR, %	30.3%
EBITDA returns, %	44-54%
Payback period, amount of years from the start of production	5.1
Discounted payback period, amount of years from the start of production	6.4

**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.

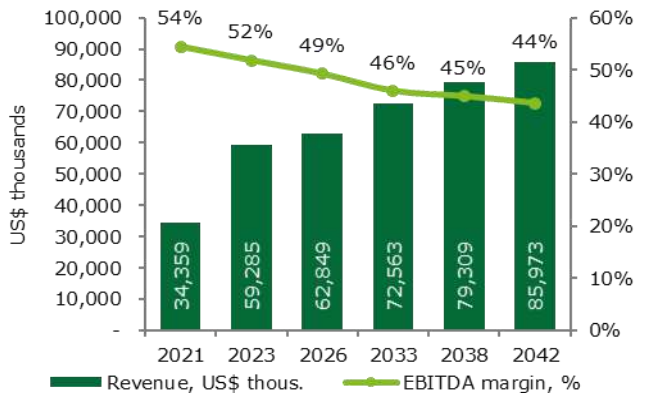
### Import substitution

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

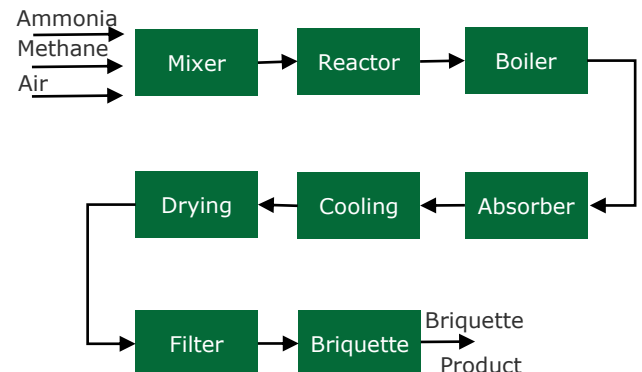
In 2014-2018 the average annual growth rate of world gold production was equal to 2%. At the same time, the neighboring countries, such as China and Russia, are the largest producing countries of the precious metal, which account for about 15% and 8% of world production, respectively.

## Project profitability



## Technological flows of the Project

direct production method



# Construction of a new complex for the production of nitrogen mineral fertilizers in Aktau

## 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.

## 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.

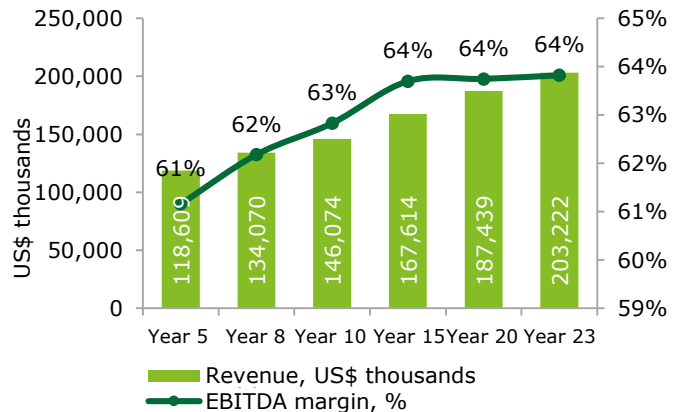
## Key investment indicators

Indicator	Results
Investment, US\$ thousands	344,571
Project NPV, US\$ thousands	79,986
IRR, %	14.0%
EBITDA returns, %	63%
Payback period, amount of years from the start of production	9.7
Discounted payback period, amount of years from the start of production	20.1

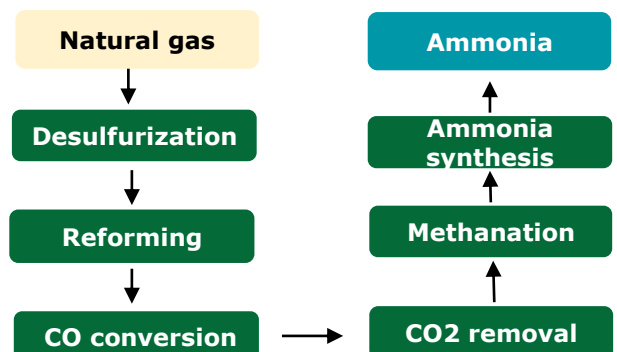
**Project location:** Mangystau Oblast, Aktau



## Project profitability



## Technological flows during Project implementation period



# Construction of a plant for the production of household chemicals in Almaty

## Project overview:

This investment project provides for the construction of a plant for the production of household chemicals with a capacity of 18,500 thousand liters per year (the "Project").

**Initiator:** "Aurora Holding" Group of Companies

## Commercial products:

- Dishwashing detergents;
- Glass spray;
- Cleaning product for kitchen;
- Cleaning products for plumbing;
- Cosmetics;
- Detergents for clothes and textiles.

## Output capacity:

18 500 thousand liters/year

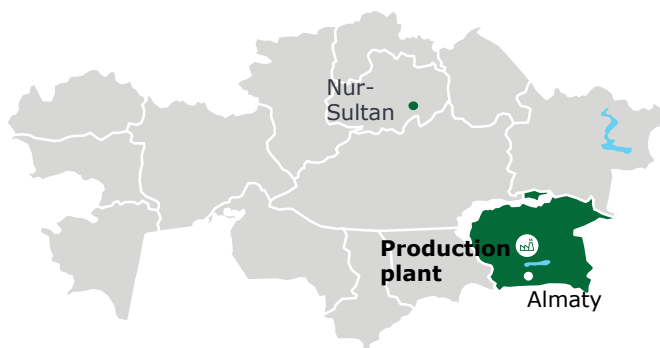
**Project location:** Industrial zone, Alatau district, Almaty city

## Key investment data

Index	Results
Investment, US\$ thousands	23,479
Project NPV, US\$ thousands	13,946
IRR, %	20.6%
EBITDA returns, %	18%
Payback period, years	7.2
Discounted payback period, years	11.5

## Project location:

Industrial zone, Alatau district, Almaty city



## Market assumptions:

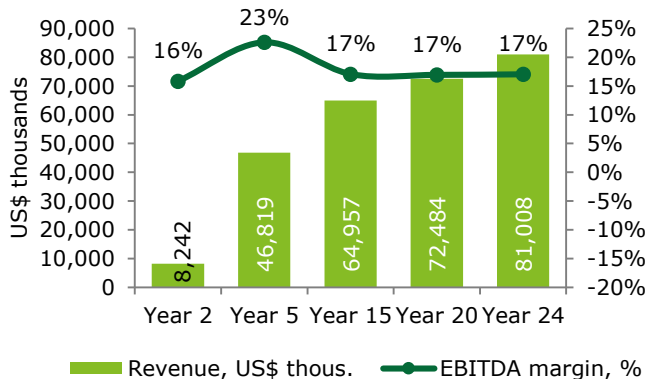
**Growing demand** – The average annual growth rates for certain products of this industry range from 3% to 8% per year. The detergent market was estimated at \$ 27.4 bln in 2017 and, according to forecasts by Allied Market Research, it will reach US\$ 40.5 bln by 2025. The global market of hair care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



## Commercial products

Product name	Volumes at full capacity, thous. liters
Dishwashing liquid	7,806
Glass spray	1,498
Kitchen cleaning products	1,000
Cleaning products for plumbing	3,758
Cosmetics	3,886
Detergents for linen and textiles	556
<b>Total</b>	<b>18,500</b>

# Chemical and petrochemical industry

## Expansion of dry cyanide sodium production in Zhambyl Oblast

**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

### Market assumptions:

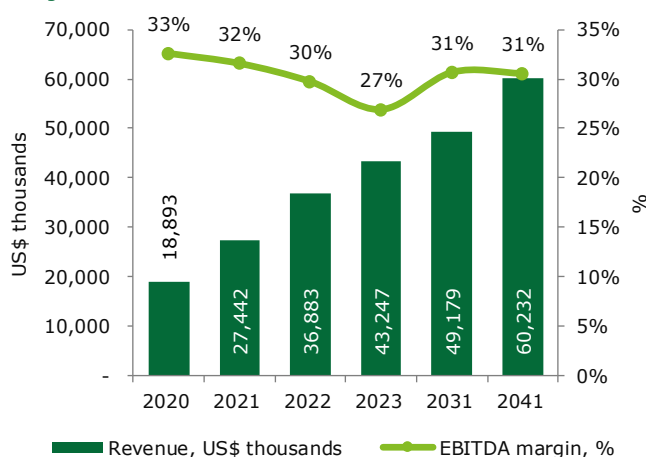
**Growing demand** – 85 tonnes of gold produced in 2017 by domestic gold mining companies required more than 40 thousand tonnes of reagents, which is 3 times higher than production output of sodium cyanide in Kazakhstan.

**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.

### Key investment data

Index	Results
Project implementation period, years	24
<i>including the investment stage, years</i>	<i>3</i>
<i>Operational stage, years</i>	<i>21</i>
Investment, US\$ thousands	21,051
Project NPV, US\$ thousands	41,013
IRR, %	36%
EBITDA returns, %	22-33%
Payback period, years	5.1
Discounted payback period, years	5.9

### Project economics



**Project location: industrial zone of Karatau, Zhambyl Oblast**



### Planned capacity of the plant

Index	2017	2018F-2019F*	2020F	2021F	2022F
Load, %	100%	100%	50-60%	70-80%	100%
Capacity, tonnes	15,000	15,000	7,500-9,000	10,500-12,000	13,500-15,000
	<b>Current capacity</b>		<b>+Future capacity</b>		



# Chemistry and petrochemistry

# Construction of a gas chemical complex for the production of methanol and olefins in Atyrau Oblast

## Chemistry and petrochemistry

KAZAKH INVEST  
Investment proposal  
2020

### 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.

The Project creates of 500 permanent jobs.

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

#### Initiator:

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

#### Commercial products and annual output:

- AA class methanol: 1,800 thousand tones per year;
- Olefins: 600 thousand tones per year (propylene - 360 thousand tones, ethylene - 240 thousand tones).

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

### Key investment indicators

Indicator	Results
Investment, US\$ thousands	1,800,000
Project NPV, US\$ thousands	1,068,605
IRR, %	21.2%
EBITDA returns, %	63%
Payback period, amount of years from the start of production	6.9
Discounted payback period, amount of years from the start of production	9.7

### Investment structure



Construction and assembly work

39%

\$693 млн



Machinery and equipment

42%

\$761 млн



Other capital expenses

19%

\$346 млн

### 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.

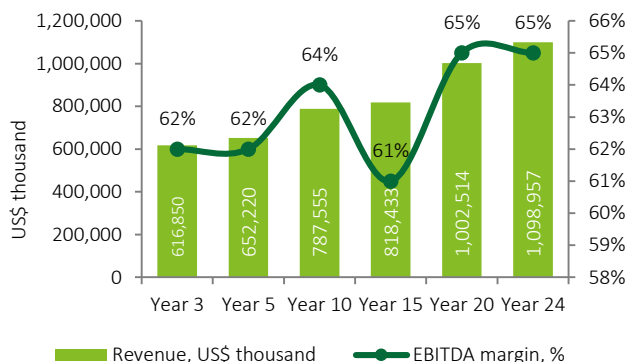
#### Import substitution

During 2015-2019, Kazakhstan imported about 28 thousand tones of methanol per year, despite the fact that import volumes grow by an average of 13% per year. Production of domestic products will reduce the volume of gas and chemical imports.

#### Rich raw material base

Low production cost can be achieved with own cheap raw materials (raw materials take 72% in the cost structure). Kazakhstan has got significant reserves of natural gas (over 1.3 trillion m3), two thirds of which are made by associated gas found in the same productive horizons where oil lies. Negotiations are currently underway with KazTransGas JSC and the Ministry of Energy of Kazakhstan to sign an agreement on natural gas supply.

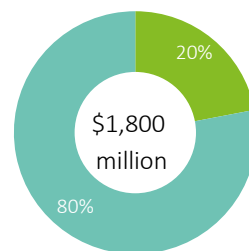
### Project profitability



### Financing structure

Participation of the Initiator  
20% (\$360 million)

Debt financing subject to collateral  
80% (\$1 440 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 the base oil production plant in Turkestan Oblast

KAZAKH INVEST  
Investment proposal  
2020

## Chemistry and petrochemistry

### Project overview

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

**Location:** Turkestan Oblast, industrial zone of Shymkent.

### Commercial products:

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

### Initiator:

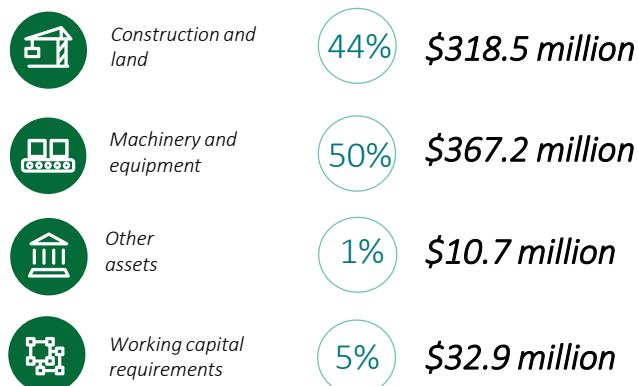
HILL Corporation Group, the only major producer of lubricating oils in Kazakhstan. The Company has a large plant for compounding commercial lubricating oils, which was launched in 2010. The base oil production plant will operate not as a separate production unit, but as a link in a consistent production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

**Consumer markets:** Kazakhstan, China

### Key investment data

Index	Results
Project implementation period, years	24
Investment, US\$ thousands	729,238
Project NPV, US\$ thousands	770,807
IRR, %	26.3%
EBITDA returns, %	65%
Payback period, years	6.5
Discounted payback period, years	8.5

### Investment structure



### Market assumptions

#### Growing demand

According to the report provided by Grand View Research Inc., the world market of base oils is expected to reach US\$ 40.47 bln by 2024.

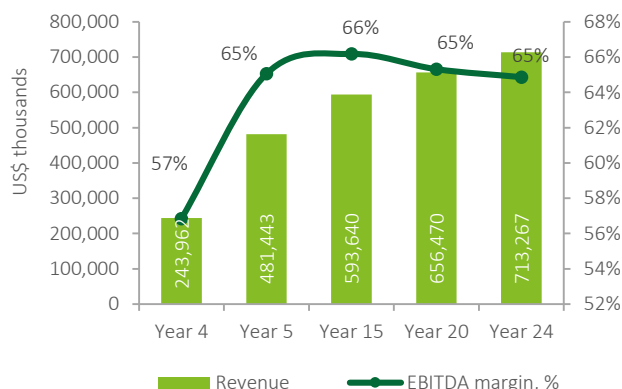
#### Availability of customers and raw materials

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

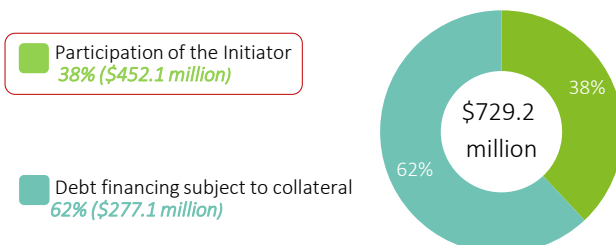
#### Import substitution and export potential

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

### Project 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.

# Construction of a gas-chemical complex for the production of methanol in the West Kazakhstan region

KAZAKH INVEST  
Investment proposal  
2020

## 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 rregion, 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

Indicator	Results
Investment, US\$ thousands	166,100
Project NPV, US\$ thousands	127,522
IRR, %	22.4%
EBITDA returns, %	43%
Payback period, years	6.3
Discounted payback period, years	9.3

### Investment structure



Construction and assembly work

39%

\$63.9 million



Machinery and transportation

42%

\$70.3 million



Other capital expenditures

19%

\$31.9 million

### 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.

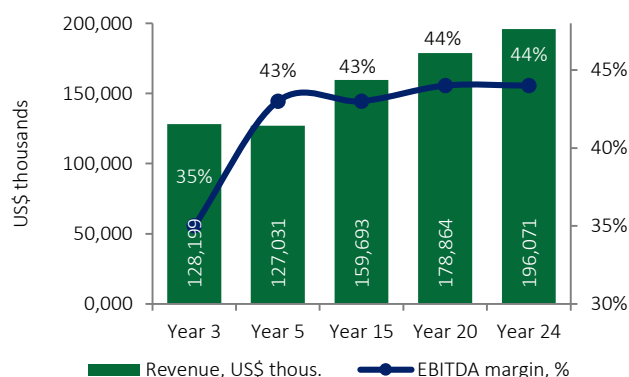
#### Import substitution

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.

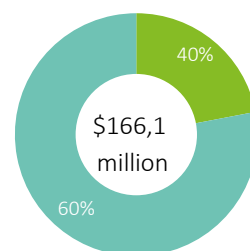
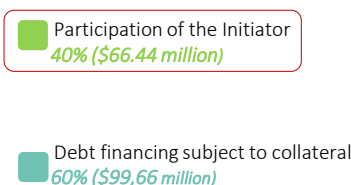
#### Raw materials availability

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



### 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.



# Construction of gas chemical complex on the Karachaganak field

## Chemistry and petrochemistry

### Project overview

Construction of a gas chemical complex for processing of separated and stabilized gases, containing acid gas (CO<sub>2</sub>+ H<sub>2</sub>S). Separated and stabilized gases will be produced by production facilities at Karachaganak deposit.

#### 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, which is engaged in the processing of hydrocarbons and production of motor fuels.

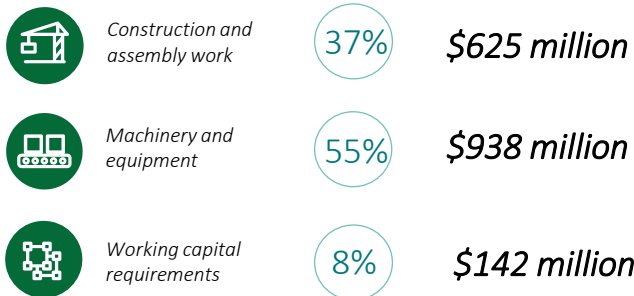
**Project location:** West Kazakhstan Oblast, 12 km from the town of Aksay.

**Consumer markets:** Kazakhstan, Europe, China and India.

### Key investment indicators

Indicator	Results
Project implementation period, years	24
Investment, US\$ thousands	1,705,896
Project NPV, US\$ thousands	1,057,982
IRR, %	16%
EBITDA returns, %	71%
Payback period, amount of years from the start of production	5.9
Discounted payback period, amount of years from the start of production	10.6

### Investment structure



### 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.

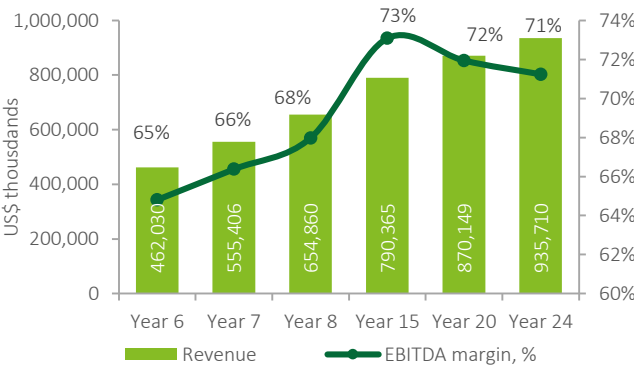
#### Raw materials availability

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.

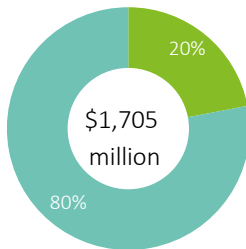
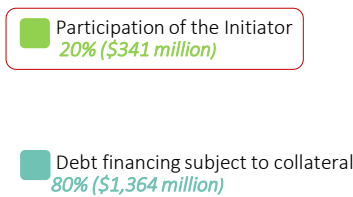
#### Export potential

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



### 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.

# Construction of a plant for the production of base oil components in the West Kazakhstan Oblast

**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;

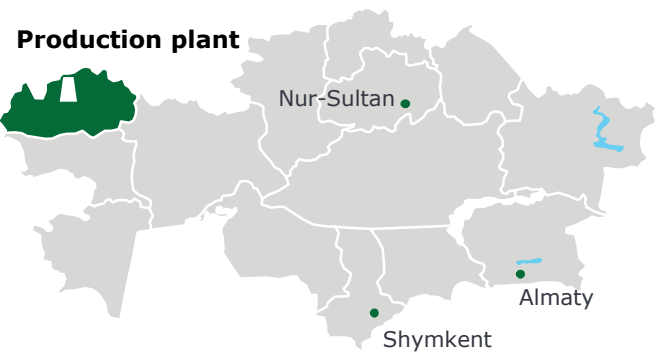
Obligatory pension contributions - US\$ 34 millions.

**Key investment data**

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

**Project location:**

**Production site Sulusay, Aksai city, West Kazakhstan Oblast**



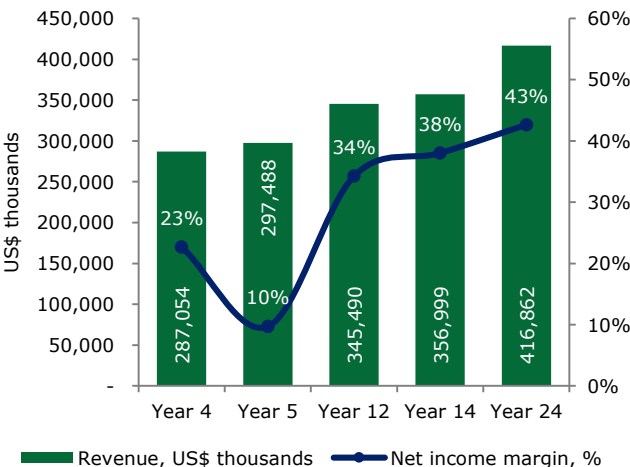
**Market assumptions:**

**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.

**Project profitability**



Construction sector

# Construction of a sanitary paper product production plant

KAZAKH INVEST  
Investment proposal  
August 2020

## Light industry

### 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:

1. Production of paper base – semi-finished product from primary and secondary raw materials.
2. Rewinding of paper base, embossing, cutting, printing and packaging of finished products.

### Key investment indicators of the Project

Indicator	Results
Investment amount, US\$ thous.	9,422
Project NPV, US\$ thous.	11,881
IRR, %	32.5%
EBITDA margin, %	36%
Payback period, years	5.5
Discounted payback period, years	6.9

### 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

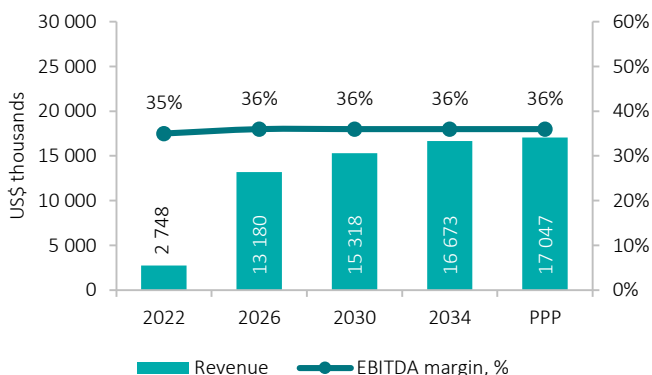
### Prerequisites for Project implementation

**The growth of paper product market.** In comparison to other segments of the pulp and paper industry, the sector of a 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 thous. 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

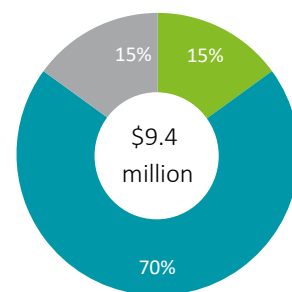


### Financing structure

Initiator equity  
15% (\$1.4 million)

Debt financing subject to collateral  
70% (\$6.6 million)

Participation of the Investor  
om 15% (\$1.4 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 of sulphur cement products

## Construction sector

### 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).

### 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 CO<sup>2</sup> into the atmosphere are reduced;
- ✓ High strength;
- ✓ Corrosion resistance;
- ✓ Waterproof;
- ✓ Frost resistance and good adhesion.

### Investment attractiveness of the Project

Indicator	Results
Investment amount, US\$ thousand	10,540
Project NPV, US\$ thousand	20,408
IRR, %	32.8%
EBITDA margin, %	27.1%
Payback period, years	6.2
Discounted payback period, years	7.5

### Investment structure



Construction and assembly work

21%

\$2.26 million



Machinery and equipment

44%

\$4.65 million



Initial working capital

24%

\$2.52 million



Others

11%

\$1.11 million

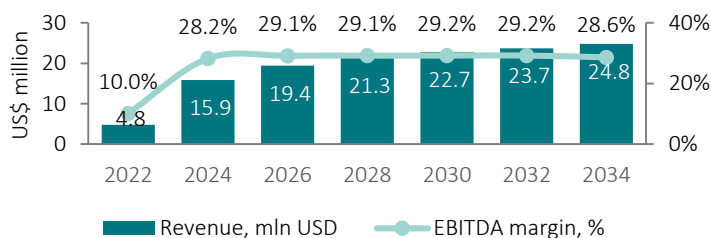
### Prerequisites for the Project implementation

**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.

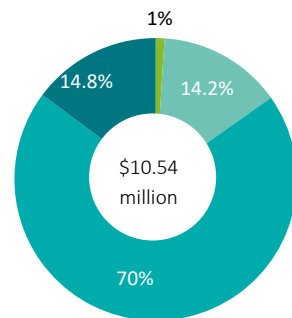
**Resources base.** Negotiations were held with Tengizchevroil (TCO) on the supply of the main raw material - sulphur. An agreement was reached to provide up to 5 thousand tonnes of sulphur per month (quota). Around 3.84 million tonnes or 96% of all sulphur in the country is produced annually in Atyrau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

### Projects profitability



### 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.

## Construction sector

### Project summary

The Project envisages the production of textile floor coverings – textile carpets and floor coverings made of polypropylene fibre and used widely to cover floors in residential and non-residential premises. The Project is due to be implemented at the Almaty Industrial Zone in Almaty. The Project partner is the Saray Hali A.S. Holding, which is a Turkish carpet producer. The project will create 56 jobs.

#### Project Initiator:

Alimp SAMA Ltd LLP

#### Project location:

Republic of Kazakhstan, Almaty

#### Marketed products and project capacity:

Design capacity of 1 082 thousand m<sup>2</sup>/year is expected to be achieved from 2023.

- Textile carpets – 541 thousand m<sup>2</sup>/year (or 50%);
- Textile rugs – 541 thousand m<sup>2</sup>/year (or 50%).

**Consumer markets:** Domestic market and the market of Russian Federation.

**Suppliers of the equipment:** Saray Hali A.S., Pankaj Tandon, Promet LLP

### Investment attractiveness of the Project

Financial indicators	Results
Investment, US\$ thousand	8,860
Project NPV, US\$ thousand	10,259
IRR, %	23.6%
EBITDA margin, %	32.7%
Payback period, years	6.8
Discounted payback period, years	9.6

### Investment structure



Construction and assembly work

36%

\$3.2 million



Machinery and equipment

23%

\$2 million



Transport

2%

\$0.2 million



Other

39%

\$3.5 million

### Prerequisites for Project implementation

#### Demand for products.

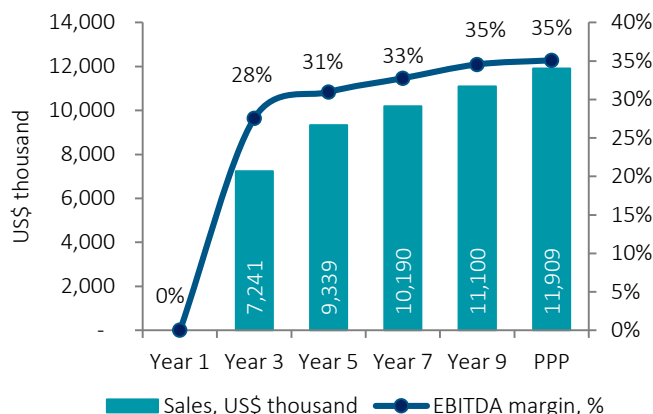
Carpet and floor covering production in Kazakhstan in 2015-2019 was between 2.3-3.0 million m<sup>2</sup> per year. As opposed to parquet and floor tiles, the demand for carpet is constant because it is fairly cheap and durable, which is especially relevant during declines periods of consumer purchasing power.

#### Lack of well-established production.

Kazakhstan has a limited number of carpet manufacturers. The main barriers for the development of carpet production enterprises in Kazakhstan are the unequal competitive conditions with other countries, especially with China and Turkey.

**Extensive market distribution experience.** Alimp SAMA Ltd has over 20 years of sales experience and its brand is well know among B2B and B2C consumers. The Initiator has its own trading premises in Almaty, which cover an area of 1,212.9 m<sup>2</sup>, and a well-developed client base. Production will be in Almaty, the most densely populated and economically active city in Kazakhstan. The Almaty agglomeration has well-developed road transportation and logistics infrastructure, which is one of the defining factors influencing the Project's successful implementation.

### Project Profitability

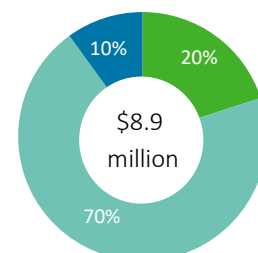


### Financing structure

Initiator equity  
20% (\$1.8 million)

Debt financing subject to collateral  
70% (\$6.2 million)

Participation of the Investor  
from 10% (\$0.9 million)



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

# Production of basalt mineral wool slabs

KAZAKH INVEST  
Investment proposal  
August 2020

## Construction sector

### Project idea:

Construction of a plant with production capacity of 50 thousand tonnes basalt mineral wool slabs per year.

The Project will help resolve the issue of supplying the domestic market with a quality, competitive product, increasing the country's export potential, and creating over 200 highly qualified production jobs.

### Project location:

Industrial zone, Almaty, Republic of Kazakhstan

### Project Initiator:

Almaty Thermal Insulation Plant LLP

### Production capacity:

From 2023, the production volume will reach full design capacity or 50 thousand tons :

- Light slabs - 17,500 tons / year;
- Semi-rigid slabs – 7,500 tons / year;
- Rigid plates – 15,000 tons / year;
- Super-rigid slabs - 10,000 tons / year.

### Sales market:

- Domestic market of Kazakhstan, mainly Almaty and Almaty Oblast as well as the southern region of Kazakhstan and adjacent Oblasts (60% of finished products).
- Exports (40%) to the countries of Central Asia (Kyrgyzstan, Tajikistan, Turkmenistan and mainly to Uzbekistan).

### Investment attractiveness of the Project

Indicator	Results
Investment amount, US\$ thousand	38,872
Project NPV, US\$ thousand	47,947
IRR, %	28.91%
EBITDA margin, %	46.74%
Payback period, years	5.8
Discounted payback period, years	7.2

### Investment structure



Construction and assembly work

31%

\$12.0 million



Machinery and equipment

60%

\$23.4 million



Initial working capital

9%

\$3.4 million

### Prerequisites for implementation of the Project

#### Import substitution opportunity.

Project implementation will help replace a significant volume of imported products.

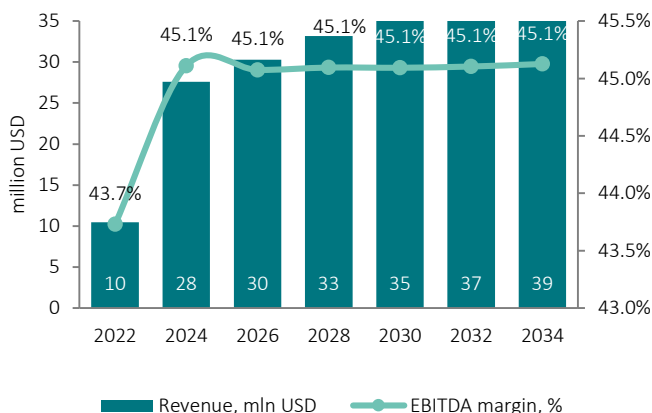
Domestic product consumption of mineral wool slabs (128 thousand tonnes) is more than double domestic production, while the share of imports in consumption is approximately 60%.

#### Reliable partner.

The Project group has experience in implementing similar projects. It has built and commissioned a plant to produce mineral wool in Makinsk (capacity of 34,000 tonnes per year).

The plan is to hire plant management and engineers from Makinsk thermal insulation plant specialists.

### Project's profitability

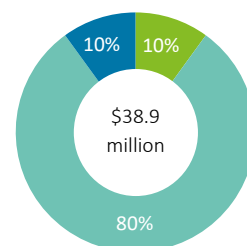


### Financing structure

Initiator equity  
from 10% (\$3.9 million)

Debt financing subject to collateral  
up to 80% (\$31.1 million)

Participation of the Investor  
from 10% (\$3.9 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.

# Production of basalt mineral wool sandwich panels

## Construction sector

KAZAKH INVEST  
Investment proposal  
August 2020

### Project idea:

Construction of a 1 million m<sup>2</sup> per year plant to produce sandwich panels. Project implementation will create more than 70 jobs.

### Project location:

Industrial zone, Almaty, Republic of Kazakhstan

### Project Initiator:

Almaty Sandwich-Panel LLP

### Production capacity:

Wall panels – 536 thousand m<sup>2</sup>/year;

Roof panels – 464 thousand m<sup>2</sup>/year.

### Sales market

The product to be sold mostly in two key regions –the city of Almaty and Almaty Oblast.

### Production process:

1. Rolling mill prepares a sandwich panel coating;
2. Mineral slabs cut into segments; segments shaped; Segments placed along the metal sheet onto adhesive;
3. Ready-prepared sandwich panel coating applied to the segments. Assembled sandwich panel is placed in the press.

### Investment attractiveness of the Project

Indicator	Results
Investment amount, US\$ thousand	10,400
Project NPV, US\$ thousand	16,470
IRR, %	37%
EBITDA margin, %	23%
Payback period, years	6.3
Discounted payback period, years	7.3

### Investment structure



Construction and assembly work

42.3%

\$4,4 million



Machinery and equipment

43.3%

\$4.5 million



Other

14.4%

\$1.5 million

### Prerequisites for the Project implementation

#### Import substitution opportunity.

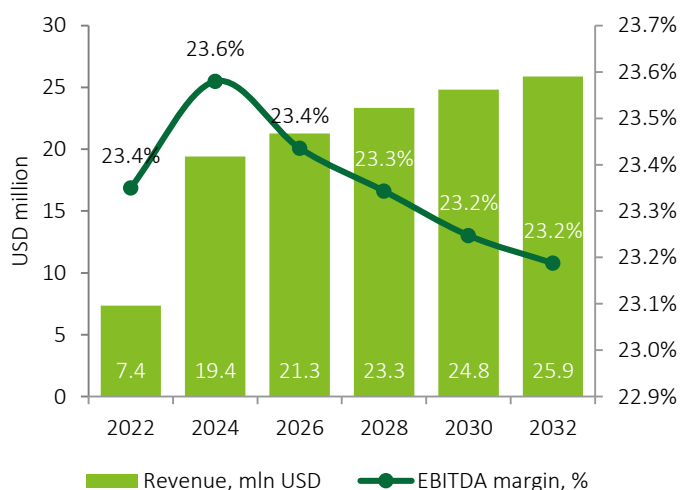
Project implementation will help replace a significant volume of imported products. Sandwich-panel imports (26.2 thousand tonnes) are almost double domestic production (14.4 thousand tonnes).

#### Reliable partner.

The simultaneous implementation of AZTI LLP's production of mineral wool boards in the Almaty industrial zone will help reduce the cost of production, which is a competitive advantage.

**Priority activities.** The enterprise's creation is a priority project in the manufacturing industry.

### Project's profitability

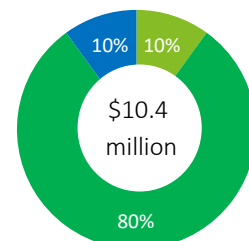


### Financing structure

Initiator equity  
from 10% (\$1,040 thousand)

Debt financing subject to collateral  
up to 80% (\$8,320 thousand)

Participation of the Investor  
from 10% (\$1,040 thousand)



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 region

KAZAKH INVEST  
Investment proposal  
November 2020

## 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:** acceptance of loam - gauging of metal raw materials - mix grinding - soft-mud molding - bar cutting - burning - tempering and cooling – storage.

### Key investment indicators

Indicator	Results
Investment amount, US\$ thous.	1,685
Project NPV, US\$ thous.	927
IRR, %	19.3%
EBITDA margin, %	49.7%
Payback period, years	6.6
Discounted payback period, years	10.3

### Investment structure



Construction and assembly work

3%

\$58 thous.



Machinery and equipment

97%

\$1,627 thous.

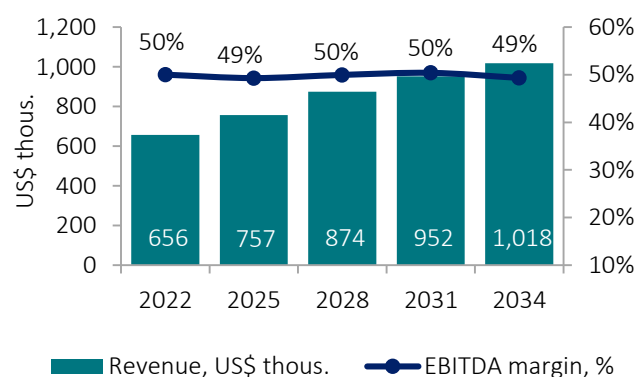
### Market prerequisites:

**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

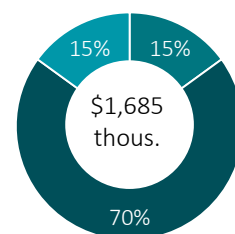


### Financing structure

Initiator equity  
15% (\$253 thous.)

Debt financing subject to collateral  
70% (\$1,180 thous.)

Participation of the Investor  
from 15% (\$253 thous.)



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

# Transport and logistics

# Construction of a cargo terminal at the international airport in Aktobe

## 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.

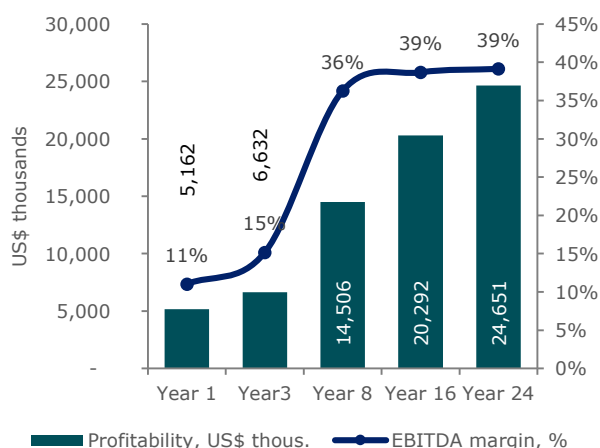
Air cargo services:

- Cargo planes;
- Transit cargo planes.

## Key investment indicators:

Indicator	Results
Investment amount, US\$ thous.	25,599
Project NPV, US\$ thous.	15,091
IRR, %	14.5
EBITDA margin, %	32.9%
Payback period, years	10.3
Discounted payback period, years	16

## 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



## Transport and Logistic

# Construction of Trade and Transport Logistics center in the West Kazakhstan region

### 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

Indicator	Results
Investment amount, US\$ thous.	15,581
Project NPV, US\$ thous.	5,367
IRR, %	18.1
EBITDA margin, %	37.8%
Payback period, years	7.2
Discounted payback period, years	12.1

### 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%.

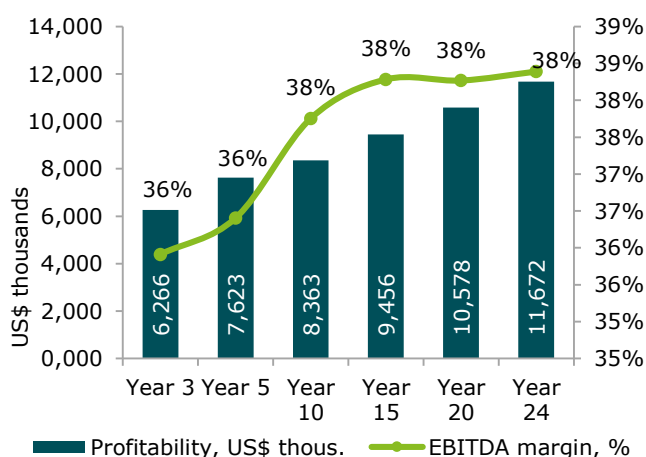
#### Low competition in the field of transport and logistics in the West Kazakhstan region

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 Aktoobe 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





# Modernization of the sea ferry complex Kuryk in the Mangystau oblast

## 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 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

Indicator	Results
Investment amount, US\$ thousand	37,742
Project NPV, US\$ thousand	97,699
IRR, %	33.3%
EBITDA margin, %	75%
Payback period	5.5
Discounted payback period	6.9

## Project development location:

R, Mangistau oblast, Karakiya district, KuKryk rural area, Sarsha region, sites 26 and 27



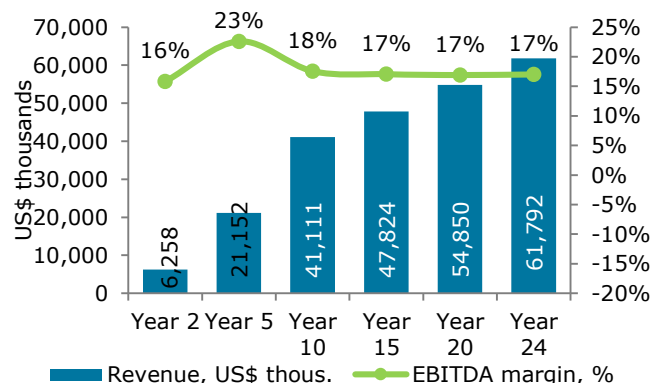
## Market prerequisites:

**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.



# Introduction of roadside services on the roads of the Republic of Kazakhstan

## 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

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

## Types of roadside service points

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

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

## Market prerequisites:

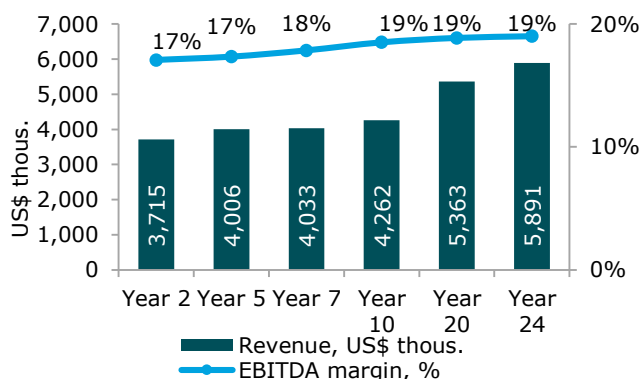
**Growing demand for cars.** Over the past 10 years, the average annual increase in the number of cars in the country amounted to 5%. According to forecasts, the car fleet will grow from 4.3 million units in 2018 to 10 million units by 2045-2050. The country has also increased passenger and cargo turnover 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.

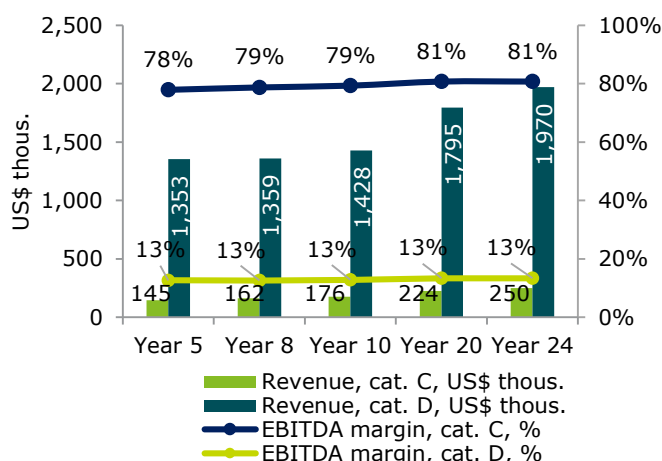
**Extensive customer base.** In 2018, the share of cargo transportation by land was 30%, and the share of passenger turnover was 88%.

## Project profitability

Categories "A" and "B"



Categories "C" and "D"



# Creation of a multimodal transportation hub at the Astana International Airport

## 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.

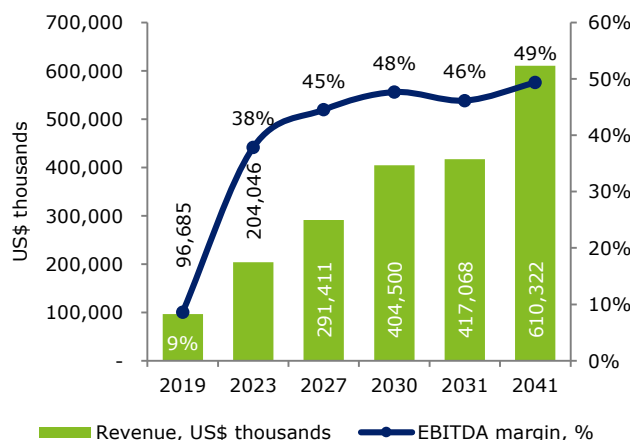
## Services provided:

- 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

Indicator	Results
Project implementation period, years	24
<i>incl. investment stage, years</i>	10
<i>operational stage, years</i>	14
Investment, US\$ thousands	430,975
Project NPV, US\$ thousands	967,264
IRR, %	21.3%
EBITDA returns, %	3-51%
Payback period, years	9.7
Discounted payback period, years	11.7

## Project profitability



## Market prerequisites:

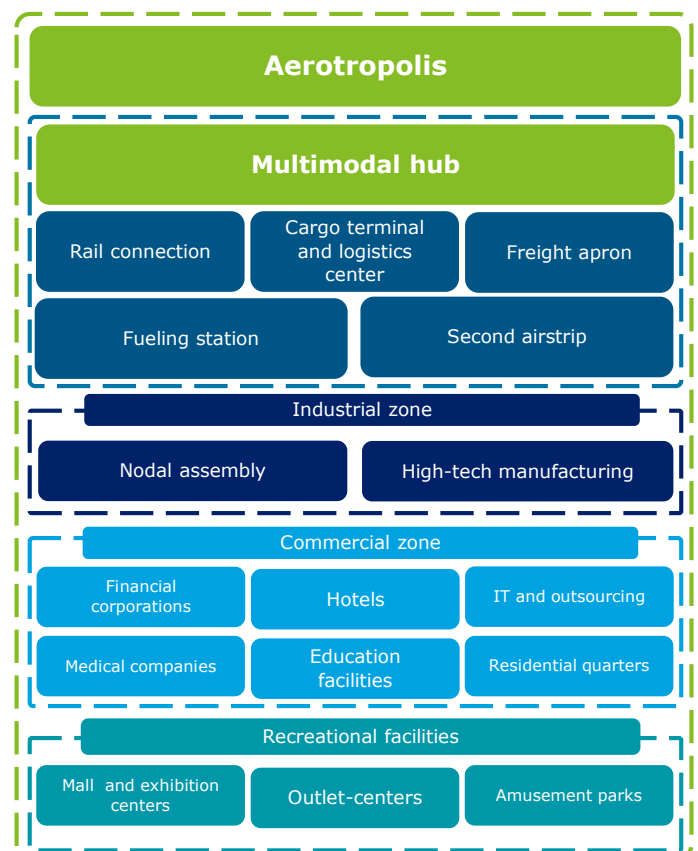
**Strategic location** Astana Airport has a unique chance to become a transcontinental air bridge, since in a 8 hour flight radius there are 2.3 billion people, which includes populations of China, India and Russia.

**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)

## 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.

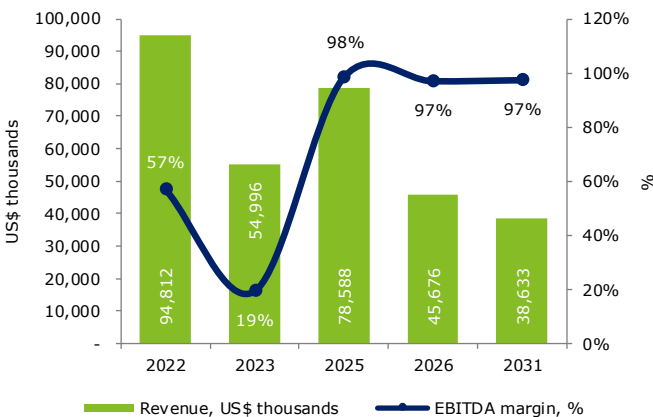
**Transit potential** Over the last year, the growth of transit on motor transport amounted to 223%. Implementing the Project is necessary to maximize the benefits of transit flows, while providing the transit cargo and passengers with a high level of transport infrastructure quality.

**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.

## Key investment indicators

Indicator	Results
Project implementation period, years	13
<i>incl. investment stage, years</i>	5
<i>operational stage, years</i>	8
Investment, US\$ thousands	267,399
Project NPV, US\$ thousands	34,704
IRR, %	13%
EBITDA return, %	19-98%
Payback period, years	7.7
Discounted payback period, years	10.6

## Project profitability



## Qualitative indicators

### Project Participants

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

### 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.

### Private partner income

- Compensation of investment and operating costs
- Dividends

### 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).



Health care

# Construction of a hospital in Turkestan city

## Project description:

The project involves the construction and operation of a multi-profile hospital in Turkestan city. The hospital will consist of a 630-bed inpatient facility.

### Location:

The project is based on the territory of SEZ "Turkistan" in Turkestan city, Turkestan Oblast. The hospital will be built on the site having an area of 15.6 hectares

**Capacity:** Hospital with 630 beds;

### Initiator:

BI Construction & Engineering

**Project goals:** The aim of the Project is to create a modern hospital in Turkestan consisting of a multi-profile hospital for 630 beds. The Project aims at developing health care in Turkestan, improving the quality and providing affordable medical care to the population, as well as introducing new technologies in healthcare and reducing overload of the existing healthcare organizations in Turkestan;

## Key investment indicators of the Project

Indicator	Results
Investment amount, US\$ thousands	276,806
Project NPV, US\$ thousands	10,271
IRR, %	16.05%
EBITDA margin, %	95%
Payback period, years	8.1
Discounted payback period, years	14.7

## Project location: TKO, Turkistan city, SEZ "Turkistan"

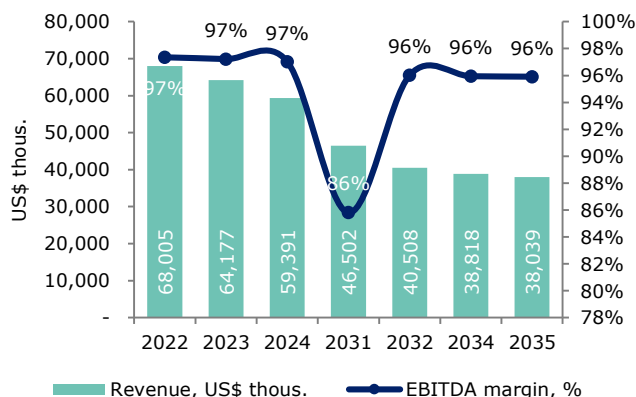


## Market conditions:

**Incidence growth:** During 2013-2017 SKO reported an annual increase in incidence and a high level of hospital admissions: incidence levels grew from 40.7 thousand to 49.7 thousand cases per 100 thousand people. In TKO, excluding Shymkent city, in 2018 TKO reported an incidence level of 40.2 thousand cases per 100 thousand people.

**Hospital bed shortage.** Based on the health indicators of TKO residents' demand for inpatient treatment in the region is estimated at 21,900 hospital beds, indicating a deficit of 12,587 beds. While the incidence of respiratory, digestive, urogenital and circulatory diseases is growing every year in TKO, bed supply for almost all these profiles decreased or remained unchanged, with only cardiologic beds increasing in number. Bed supply for oncological patients in TKO is the lowest in the country.

## Project profitability



## Structure of the hospital;

Inpatient facility structure	# of beds	Inpatient facility structure	# of beds
Traumatology	30	Neurosurgery	30
Surgery	120	Cardiovascular surgery	30
Obstetrics and gynecology	150	Ophthalmology	10
Therapy	60	Toxicology	10
Nephrology	10	Infections	60
Neurology	30	Oncology	90

## Hospital activities:

The hospital will provide:

- medical services, including:
  - medical services as part of obligatory social medical insurance
  - fee-paying medical services
- non-medical services, including:
  - the lease of premises
  - public catering
  - services to other organisations

# Construction and operation of a university hospital in Shymkent city

## Project description:

The project involves the construction and operation of a multi-profile university hospital under the Kazakh Innovation University in Shymkent city. The hospital will consist of a 1,000-bed inpatient facility and an outpatient diagnostic and treatment center with a capacity of 700 visits per shift.

## Location:

The project is based on the territory of the Kazakh Innovation University which is under construction. Shymkent city, Bozaryk microdistrict

## Capacity:

- Hospital: 1000 beds;
- Outpatient facility: 700 visits per shift;

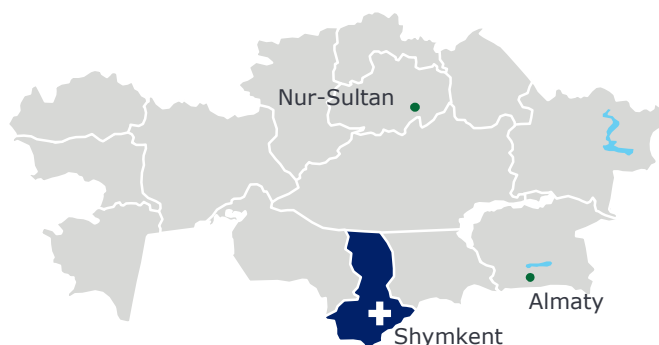
## Initiator:

South Oil LLP

## Key investment indicators of the Project

Indicator	Results
Investment amount, US\$ thousands	189,475
Project NPV, US\$ thousands	160,121
IRR, %	15.1%
EBITDA margin, %	47%
Payback period, years	10.4
Discounted payback period, years	14.6

## Project location: Shymkent, Bozaryk microdistrict



**Kazakh Innovation University**

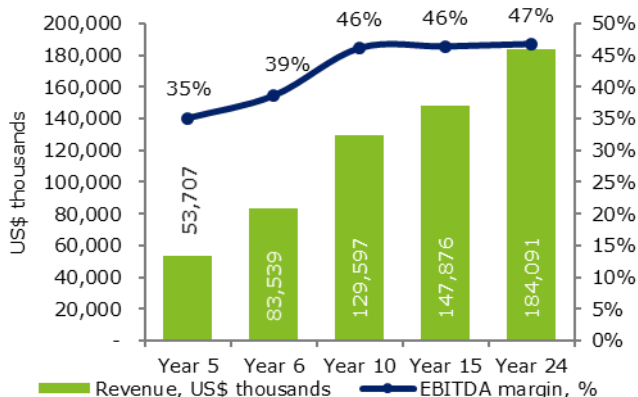
## Market conditions:

**Morbidity growth.** Turkestan oblast and Shymkent city reports an annual increase in the morbidity levels and a high number of hospital admissions. In the period from 2013 to 2017, the morbidity rate increased from 40.7 thousand to 49.7 thousand cases per 100 thousand people.

**Reduction in hospital bed supply.** During the period from 2013 to 2017, the hospital bed capacity in the Turkestan oblast and Shymkent decreased from 14.4 thousand to 12.7 thousand beds, while the population in Turkestan oblast and Shymkent grew from 2.62 million to 2.89 million people.

**Hospital bed shortage.** Based on the health indicators of Turkestan oblast and Shymkent city residents, demand for inpatient treatment in the region is estimated at 23,075 hospital beds, indicating a deficit of 10,316 beds.

## Project profitability



## Structure of the hospital;

Inpatient facility structure	Number of beds
Surgical Center	340
Therapeutic Center	370
Maternity and Childhood Center	290
Obstetric and gynecological unit	130
Pediatric unit	160
Resuscitation unit	48
Outpatient facility structure	
Therapeutic department	
Surgery department	
Center for outpatient surgery	
Department of rehabilitation	
Diagnostic unit	

# Multi-profile Hospital in Almaty

## Project overview:

Construction of a modern multi-profile hospital to provide a full range of medical services, as well as clinical training for medical students and doctor retraining

**Investment amount:** US\$ 125,717 thousand

**Capacity:** a hospital for 300 beds and an out-patient clinic with a capacity of 150 visits per shift (2 shifts, 300 visits per day)

**Location:** Almaty, S D Asfendiyarov Kazakh National Medical University ("KazNMU")

**Project implementation period:**

15.3 years, including 3,3 years of construction

**PPP model:** Concession (infrastructure model)

**Suppliers:** manufacturers of medical equipment and medicines

**Clients:** Almaty residents, non-residents, foreigners, corporate clients, insurance companies

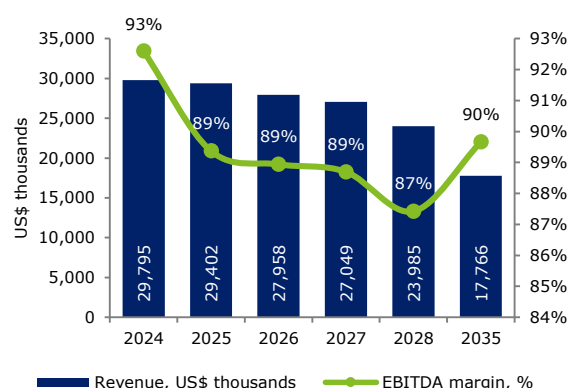
## Market prerequisites:

- *High demand for medical services.* Almaty and Almaty Oblast report high statistics of hospitalizations, visits to out-patient clinics and overload of hospital beds. According to 2016 results, the need for in-patient care per 100 thousand residents in Almaty amounts to 398 hospital beds.
- *Proximity to southern regions.* The majority of country population live in southern regions, with high population density. However, the availability of hospital beds in these regions is poor.
- Highly demanded medical profiles are absent among medical services rendered by KazNMU clinics. Moreover, the majority of KazNMU policlinics, including the building of the university, were built between 1932-1982, which does not meet the modern standards of training and retraining of medical personnel. Overall, 71% of hospital infrastructure in Almaty are worn out.

## Key investment indicators

Indicator	Result
Investment amount, US\$ ths	125,717
NPV, US\$ ths	13,140
IRR	16%
EBITDA margin	85-93%
Payback period, years	8.2
Discounted payback period, years	11.4

## Revenue forecast



## Quality indicators

### Project participants

- Private partner
- State partner (Kazakhstan Ministry of Health)
- The operator of medical services
- (S D Asfendiyarov Kazakh National Medical University)

### Private partner income

- Compensation of investment and operating costs;
- Management fee;
- Additional income (pharmacy, waste utilization, canteen)

### Clinic structure

- Day-stay center;
- Diagnostic department;
- Family Health Center.

### Hospital structure

- Medical rehabilitation;
- Surgical departments;
- Therapeutic departments.



## Integrated Clinic for 1,265 beds in Almaty

### Project overview:

construction and operation of an Integrated Clinic under the S D Asfendiyarov Kazakh National Medical University through the combination of leading medical and scientific-research institutes and centres in Almaty

**Investment amount:** US\$ 336,496 thousand

**Capacity:** a hospital for 1,265 beds, including 1,065 profile beds, 55 beds for the rehabilitation department and 145 beds for the day hospital

**Location:** Almaty, S D Asfendiyarov Kazakh National Medical University ("KazNMU")

**Project implementation period:**

15.3 years, including 3,3 years of construction

**PPP model:** Concession (infrastructure model)

**Suppliers:** manufacturers of medical equipment and medicines

**Clients:** Almaty residents, non-residents, foreigners, corporate clients, insurance companies

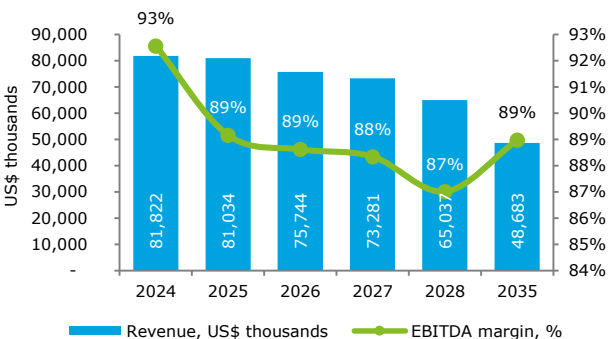
### Market prerequisites:

- *High demand for medical services.* Almaty and Almaty Oblast report high statistics of hospitalizations, visits to out-patient clinics and overload of hospital beds. According to 2016 results, the need for in-patient care per 100 thousand residents in Almaty amounts to 398 hospital beds.
- *Proximity to southern regions.* The majority of country population live in southern regions, with high population density. However, the availability of hospital beds in these regions is poor.
- Highly demanded medical profiles are absent among medical services rendered by KazNMU clinics. Moreover, the majority of KazNMU polyclinics, including the building of the university, were built between 1932-1982, which does not meet the modern standards of training and retraining of medical personnel. Overall, 71% of hospital infrastructure in Almaty are worn out.

### Key investment indicators

Indicator	Result
Investment amount, US\$ ths	336,496
NPV, US\$ ths	35,925
IRR	16%
EBITDA margin	85-93%
Payback period, years	8.2
Discounted payback period, years	11.3

### Revenue forecast



### Quality indicators

#### Project participants

- Private partner
- State partner (Kazakhstan Ministry of Health)
- The operator of medical services
- (S D Asfendiyarov Kazakh National Medical University)

#### Private partner income

- Compensation of investment and operating costs;
- Management fee;
- Additional income (pharmacy, waste utilization, canteen)

#### Clinic structure

- Surgery Center;
- Center for Cardiology and Internal Diseases;
- Center of Gynecology and Perinatology;
- Center of Oncology;
- Surgery Block;
- Pediatric Unit.

## Multi-profile Hospital in Astana

### Project overview:

Construction of a modern multi-profile hospital to provide a full range of medical services

**Investment amount:** US\$ 150,063 thousand

**Capacity:** a hospital for 300 beds and an out-patient clinic with a capacity of 150 visits per shift (2 shifts, 300 visits per day)

**Location:** Astana, Railway hospitals of disaster medicine JSC

**Project implementation period:**

15.2 years, including 3.2 years of construction

**PPP model:** Concession (infrastructure model)

**Suppliers:** manufacturers of medical equipment and medicines

**Clients:** Astana residents, non-residents, foreigners, corporate clients, insurance companies

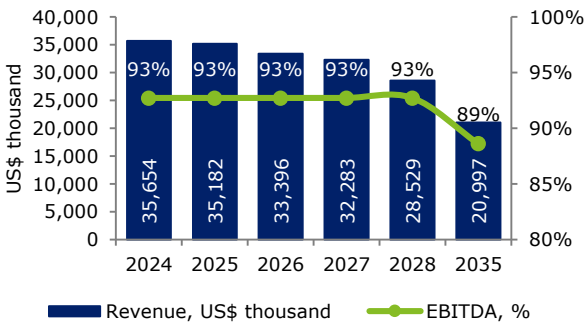
### Market prerequisites:

- *High demand for medical services.* Astana and Akmola Oblast report high statistics of hospitalizations, visits to out-patient clinics and overload of hospital beds.
- *High demand for hospital beds.* Given the health indicators of Astana residents and the inflow of patients from other regions, demand for in-patient treatment per 100,000 people in Astana is estimated at 650 beds (in Akmola Oblast – 592 beds). At the same time, full coverage of the population with inpatient care would require 2,644 hospital beds (Akmola Oblast – 4,665 beds).
- *Nationwide importance.* The new multi-profile hospital is of national importance. It will admit not only residents of Astana, but the population of Akmola Oblast and other regions of the country

### Key investment indicators

Indicator	Results
Investment amount, US\$ ths	150,063
NPV, US\$ ths	13,147
IRR	15%
EBITDA margin	84-93%
Payback period, years	8
Discounted payback period, years	12

### Revenue forecast



### Quality indicators

#### Project participants

- Private partner
- State partner (Kazakhstan Ministry of Health)
- The operator of medical services
- (Railway hospitals of disaster medicine JSC)

#### Private partner income

- Compensation of investment and operating costs;
- Management fee;
- Additional income (pharmacy, waste utilization, canteen)

#### Clinic structure

- Day-stay center;
- Diagnostic department;
- Family Health Center.

#### Hospital structure

- Medical rehabilitation;
- Surgical departments;
- Therapeutic departments.

## Multi-profile hospital in Karaganda

### Project overview:

Construction of a modern multi-profile hospital to provide a full range of medical services, as well as clinical training for medical students and doctor retraining in the latest medical advancements

**Investment amount:** US\$ 125,717 thousand

**Capacity:** a hospital for 300 beds and an out-patient clinic with a capacity of 150 visits per shift (2 shifts, 300 visits per day)

### Location:

Karaganda, Karaganda State Medical University ("KGMU")

### Project implementation period:

15.3 years, including 3,3 years of construction

**PPP model:** Concession (infrastructure or integration model)

**Suppliers:** manufacturers of medical equipment and medicines

**Clients:** Karaganda residents, non-residents, foreigners, corporate clients, insurance companies

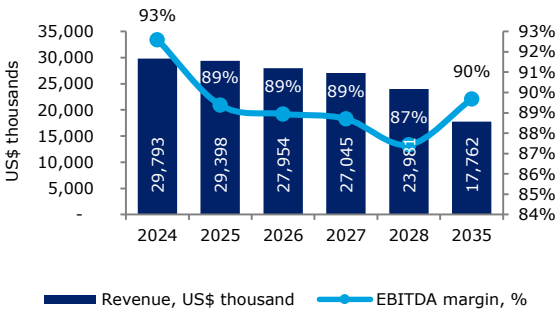
### Market prerequisites:

- *High demand for medical services in the region*
- *High demand for hospital beds.* According to 2016 results, the need for in-patient care per 100 thousand people in Karaganda amounts to 612 hospital beds. A complete coverage of the population with in-patient care would require 8,230 hospital beds. Most medical organizations in Karaganda were built in 1930-1990. and are in adulthood.
- *Educational and scientific activities in health care.* Highly demanded medical profiles are absent among medical services rendered by KGMU clinics. Moreover, the remoteness of medical institutions cooperating with the university impede the continuity of the teaching process for students and tutors.

### Key investment indicators

Indicator	Results
Investment amount, US\$ ths	125,717
NPV, US\$ ths	13,140
IRR	16%
EBITDA margin	85-93%
Payback period, years	8.2
Discounted payback period, years	11.4

### Revenue forecast



### Quality indicators

#### Project participants

- Private partner
- State partner (Kazakhstan Ministry of Health)
- The operator of medical services
- KGMU (under infrastructure model)/private partner (under integration model)

#### Private partner income

- Compensation of investment and operating costs;
- Management fee;
- Additional income (pharmacy, waste utilization, canteen)

#### Clinic structure

- Day-stay center;
- Diagnostic department;
- Family Health Center.

#### Hospital structure

- Medical rehabilitation;
- Surgical departments;
- Therapeutic departments.

# Pharmaceuticals



# Localization of production of test systems for detecting viral diseases in Almaty Pharmaceuticals

KAZAKH INVEST  
Investment proposal  
August 2020

## Project summary

The Project involves building a plant for the production of test systems for detecting 2019-nCoV and IgM/IgG antibodies to 2019-nCoV. Production is localized in the industrial zone of Almaty. The project will create 109 jobs.

### Project Initiator:

Almerek LLP is a Kazakhstani pharmaceutical company specialized in the production, wholesale, and retail of medical devices. Since 2011, it has been a supplier for the Uniform Distributor of SK-Pharmacy LLP.

### Project location:

Republic of Kazakhstan, Almaty

### Marketed products and Project capacity:

Upon reaching the full production capacity of 280 thousand units: sales on the domestic market will amount to 238 thousand units, and 42 thousand units will be shipped abroad.

- Tests to detect 2019-nCoV;
- Tests to detect IgM / IgG antibodies to 2019-nCoV;

**Consumer markets:** Domestic market and markets of Uzbekistan, Azerbaijan, Georgia and Ukraine.

**Suppliers of the equipment:** BGI Health (HK) Co., Ltd. (China) and other Kazakhstani suppliers.

## Investment attractiveness of the Project

Financial indicators	Results
Investment, US\$ thousand	2,437
Project NPV, US\$ thousand	37,167
IRR, %	25,0
EBITDA margin, %	11,62
Payback period, years	8,8
Discounted payback period, years	12,0

**Project location:**  
Almaty



## Prerequisites for Project implementation

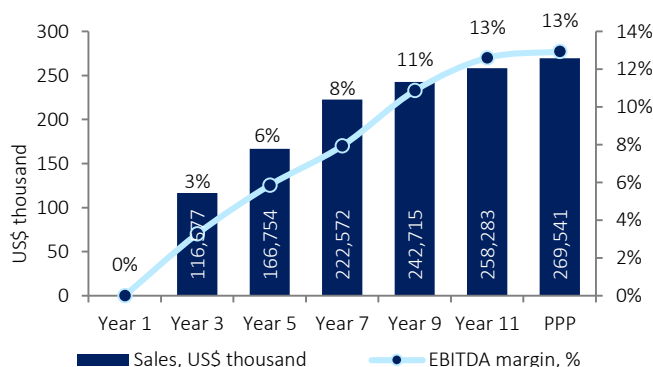
**Localization of production.** Local production will reduce the final cost of diagnostic test systems, and resolve the issue of insufficient testing service availability.

**Incidence of Covid-19.** Despite the quarantine measures taken by the Government of the Republic of Kazakhstan to prevent the spread of coronavirus infection, there was a surge in the incidence of COVID-19 in May 2020. While before May 15th, the average number of new cases was 91 cases per day, after this date - the number has reached 353 cases per day.

**Testing for Covid-19.** For the entire coronavirus epidemic in the country, 1.5 million tests for Covid-19 were used, which amounts to 81 tests per 1000 people. It is worth noting that the WHO recommends reaching less than 10% of positive results for all tests that are carried out. In Kazakhstan in June, this average figure was 1.64%.

**Vaccination of the population.** To date, global scientists are actively working on the development of the vaccine against nCoV-2019, but these vaccines have not yet been massively tested on humans.

## Project profitability

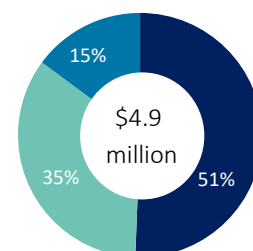


## Financing structure

Initiator equity  
50,6% (\$2.5 million)

Debt financing subject to collateral  
34,55% (\$1.7 million)

Participation of the Investor  
from 14,85% (\$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.

# Construction of the pharmaceutical plant in Turkestan Oblast

## Healthcare and pharmaceuticals

KAZAKH INVEST  
Investment proposal  
August 2020

### 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:

1. N-Pentoxenial: concentrate production-filtration-high temperature packaging-freezing and holding-marking and packaging-warehouse storage.
2. Notaloron: API preparation-preparation of ampoules-filling ampoules with solution, ampoule sealing-quality control-packing ampoules in a blister pack-storage of finished products in the warehouse.

### Key investment indicators

Indicator	Results
Investment amount, US\$ thous.	100,550
Project NPV, US\$ thous.	98,887
IRR, %	27.1%
EBITDA margin, %	24%
Payback period, years	7.1
Discounted payback period, years	9.8

### Investment structure



Construction and assembly work

70%

\$70.0 million



Machinery and equipment

11%

\$11.4 million



Initial working capital

19%

\$19.2 million

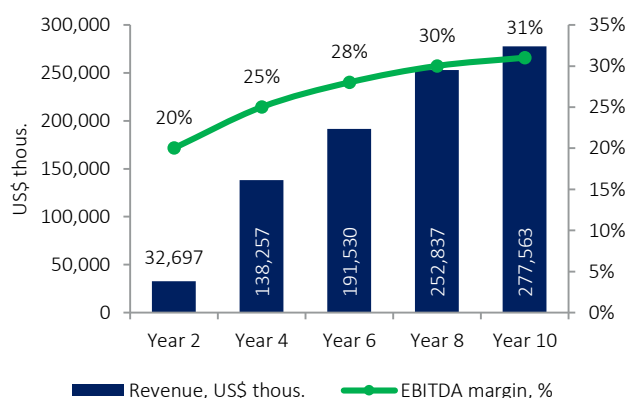
### Market prerequisites:

**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.

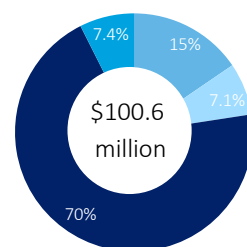
**Plans to include the drug in state medical procurement.** In accordance with the legislation of the Republic of Kazakhstan, domestic suppliers have advantages in conducting state purchases of medicines. If a domestic manufacturer is selected as a supplier, the Uniform Distributor SK-Pharmacy LLP concludes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

### Project profitability



### 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.

# Construction of a full cycle chemical and pharmaceutical plant in the SEZ "Saryarka"

## Healthcare and pharmaceuticals

KAZAKH INVEST  
Investment proposal  
August 2020

### 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

Indicator	Results
Investment amount, US\$ thous.	33,541
Project NPV, US\$ thous.	29,807
IRR, %	27.1%
EBITDA margin, %	35%
Payback period, years	5.9
Discounted payback period, years	8.3

### Investment structure



Construction and assembly work

30%

\$10.1 million



Machinery and equipment

70%

\$23.5 million

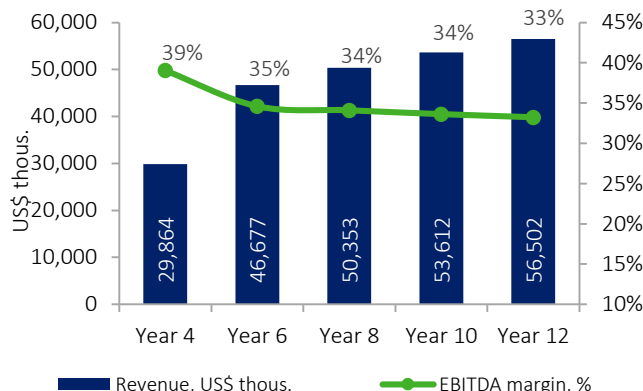
### Market prerequisites:

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

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

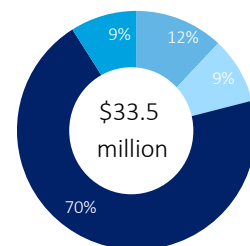
**Expansion of the product range.** After the company reaches its full output capacity, it is possible to expand the range of manufactured drugs to cover a larger target group of consumers.

### Project profitability



### Financing structure

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



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

# Nonwoven material production in Almaty region

## Pharmacy

KAZAKH INVEST  
Investment proposal  
November 2020

### Project description

The Project envisages the construction of a nonwoven material production plant with a capacity of 2,300 tonnes per annum as well as medical devices in the future. The production will be located in the special economic zone Park of Innovative Technology in Almaty Oblast. The project will create 54 jobs.

#### Initiator:

Dolce LLP is a Kazakhstan pharmaceutical company founded in 2003, specialized in the production and wholesale and retail sales of medical products. The Company and Dolce Pharm LLP are integral parts of pharmaceutical production and commercial association engaged in the production of disposable medical products, professional consumables, disposable clothing and linen, as well as medicines. Since 2011, the company has been a supplier of the Single Distributor SK-Pharmacia LLP.

**Commodity production and capacity:** Upon reaching the design capacity since 2024, it is planned to produce 2,300 tonnes of finished products annually.

**Sales markets:** Domestic market

**Equipment suppliers:** Chinese company Beijing Liaosha Import Export Trading Co., Ltd.

### Key investment indicators of the Project

Indicator	Results
Investment amount, US\$ thousand	8,522
Project NPV, US\$ thousand	5,475
IRR, %	19.6%
EBITDA margin, %	29%
Payback period, years	6.8
Discounted payback period, years	10.8

### Investment structure



Construction and assembly work

26%

\$2.2 million



Machinery and equipment

54%

\$4.6 million



Other capital expenses

1%

\$0.1 million



Working capital

19%

\$1.6 million

### Prerequisites for Project implementation

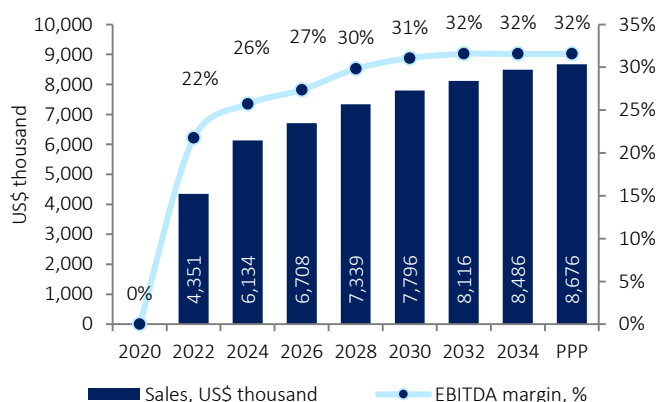
#### Low competition in Kazakhstan.

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.

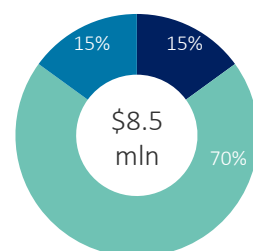
### Project profitability



Initiator equity  
15% (\$1.3 million)

Debt financing subject to collateral  
70% (\$5.9 million)

Participation of the Investor  
from 15% (\$1.3 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.



# Information and Communication Technologies

# Digital logistics system in the Republic of Kazakhstan (ASU DKR 2.0)

KAZAKH INVEST  
Investment proposal  
November 2020

## 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

Indicator	Results
Investment amount, US\$ thous.	12,720
Project NPV, US\$ thous.	17,565
IRR, %	25.7%
EBITDA margin, %	47.1%
Payback period, years	6.2
Discounted payback period, years	8.5

### Investment structure



Intangible assets

99%

\$12.60 million



Machinery and equipment

0.9%

\$0.11 million



Other

0.1%

\$0.01 million

### Market prerequisites:

#### Approbation 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.

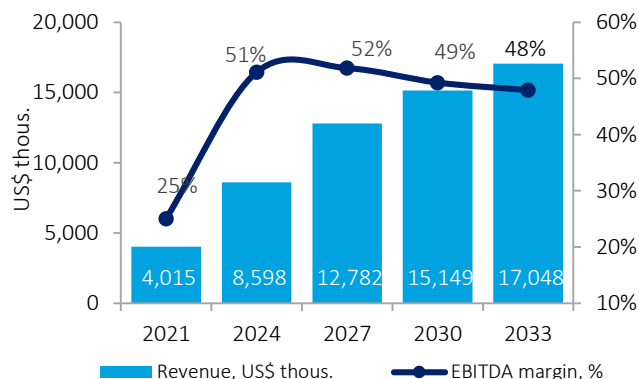
In addition, the Initiator, together with ForteBank JSC, developed and tested the integration functionality of online banking in the ASU DKR 2.0.

#### 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:

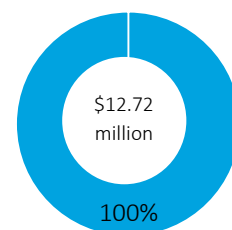
- there will be a transition from paper railway bills to electronic versions,
- operational risk or human factor is minimized,
- temporary and transaction costs will be reduced,
- the cost of tariffs for the services of "NC" KTZ" JSC will decrease, etc.

### Project profitability



### Financing structure

Participation of the Investor (venture funding)  
100% (\$12.72 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 development of software and technological equipment in the field of logistics

## 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

**Location:** Nur-Sultan, st. Mambetova 24.

## 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%.

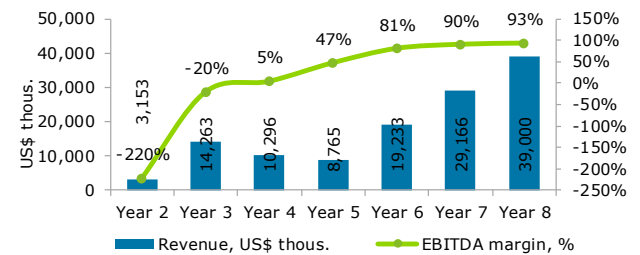
### Growth in demand for postamat services.

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

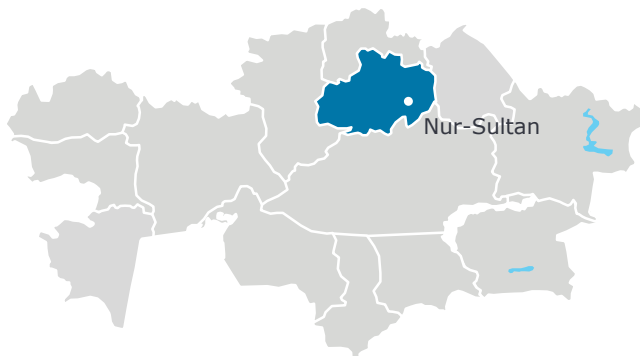
## Key investment indicators

Indicator	Results
Investment amount, US\$ thous.	10,975
Project NPV, US\$ thous.	78,233
IRR, %	28.7%
EBITDA margin, %	63%
Payback period, years	6.5
Discounted payback period, years	7.4

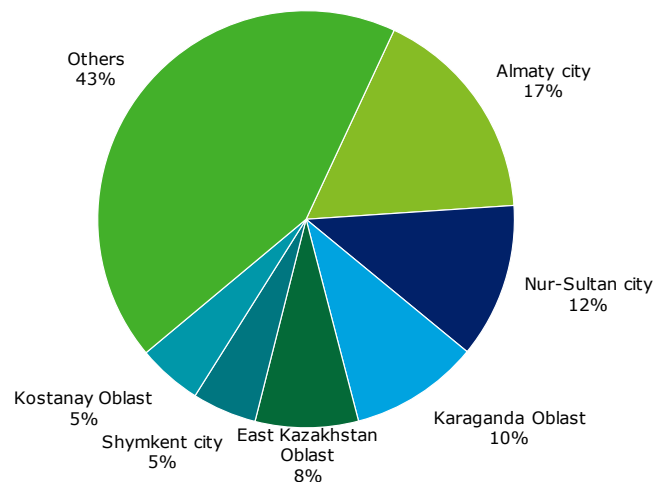
## Project profitability



**Project location: Nur-Sultan, st. Mambetova 24**



## The number of postamats by regions of RoK, 2018



Tourism



# Health-improving and tourist complex Verkh-Katun in East Kazakhstan oblast

## Tourism

KAZAKH INVEST  
Investment proposal  
August 2020

### Project description:

Construction of a health-improving and tourist complex Verkh-Katun in the Katon-Karagai region of the East Kazakhstan oblast. Project will create 16 additional workplaces.

### Location:

East Kazakhstan oblast, Katon-Karagai region, Aksharbak village

### Initiator:

Verkh-Katun LLP - has its own farm for breeding marals, based on a small hotel complex provides pantotherapy services.

### Provided services and potential clients:

The room fund includes 50 standard rooms; 4 junior suites and 4 suites. The target market of the resort is lovers of recreational tourism and nature living in the country and abroad.

### Advantages:

- An ecologically favorable area with unique nature, high mountain climate and clean air;
- A wide range of entertainment to cover the interests of all segments of visitors;
- The presence of a large land plot will allow expanding the area of the LOK and the range of services.

### Types of services provided on the territory of the complex

- Hotel complex for 58 rooms
- Medical block. Providing pantotherapy services
- Other services. Services for the organization of hunting and fishing.

### Investment attractiveness of the Project

Indicator	Results
Investment amount, US\$ thous.	5,478
Project NPV, US\$ thous.	3,121
IRR, %	19.3%
EBITDA yield, %	61%
Payback period, years	6.96
Discounted payback period, years	11.85

### Investment structure



Construction and assembly work

50%

\$2.7 mln



Machinery and equipment

50%

\$2.7 mln

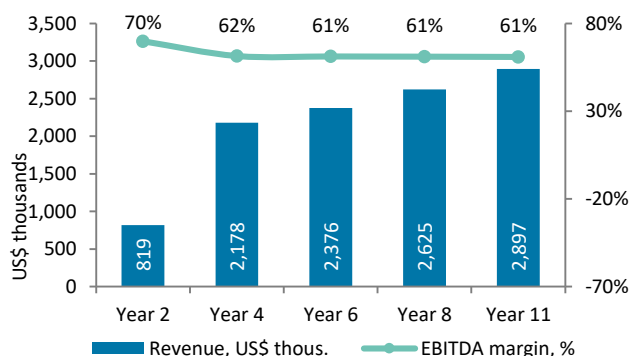
### Prerequisites for implementation of the Project

**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.

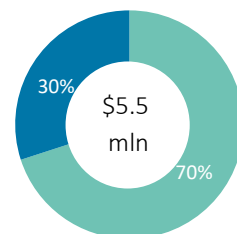
### Project Profitability



### Financing structure

Debt financing subject to collateral  
70% (\$3.8 mln)

Participation of the Investor  
from 30% (\$1.6 mln)



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

# Development of a multifunctional family-touristic cluster in Almaty Oblast

## Project Description:

Development of a multifunctional family-touristic cluster «HAPPYLAND PARK» in Almaty Oblast («Project»).

**Project goal:** To provide citizens of Kazakhstan and Central Asia the opportunity to visit a world-class amusement park.

**Location:** near Almaty city

**Project initiator:** «HAPPYLON» is a group of companies, which owns an international network of indoor theme parks, dolphinarium, park of professions and the biggest Ferris Wheel in the region, providing services for family holidays.

**Governmental support:** The project corresponds to the objectives of the national concept of development of the tourist industry until 2023, which includes the creation of a cultural and tourist cluster "Almaty – free cultural zone of Kazakhstan"

**Area of the Park:** 193 ha

## Key investment indicators

Indicator	Result
Construction period, years	6
Investment, US\$ thousands	125,989
Project NPV, US\$ thousands	87,000
IRR, %	15.1%
EBITDA returns, %	55%
Payback period, years	8.7
Discounted payback period, years	11.7

## Key Project Facilities

### Amusement Park, 45 ha:

- Children's zone – 20 attractions;
- Family zone – 20 attractions;
- Extreme zone – 10 attractions.

### Waterpark, 6 ha:

- Open air – 5 ha, 26 attractions
- Indoor – 1 ha, 16 attractions.

### Additional segments:

- Nature park, 20 ha;
- Golf club, 78 ha.

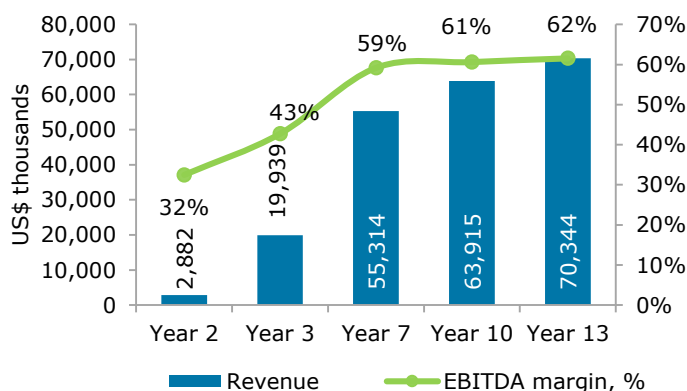
## Market prerequisites:

**Growing demand for tourism services–** Average annual growth in the number of domestic tourists in Kazakhstan in 2013-2017 was 10%. The average annual growth in the number of incoming tourists in 2016-2017 was 18% (2017 – 7.7 million people). The number of visits to parks and recreation areas in Kazakhstan was more than 27 million in 2017.

**Geographical location –** The park will be located near the largest megacity of Kazakhstan with a population of 1.8 million people alongside the new highway Almaty – Kapshagai. The target audience of the project covers 162 million people – Kazakhstan, Central Asia, border regions of Russia, China and the Caucasus.

**Competence of the initiator–** HAPPYLON is the leading player in the «Indoor amusement parks» segment on Kazakhstan market. The company has 12 years of experience in creating and managing projects in the entertainment industry. The number of visitors in 2017 was more than 1 million people.

## Project Profitability



### Indoor entertainment center, 5 ha:

- Large food court;
- Indoor amusement park;
- Happy City (Professions Park) and Science Park;
- Starting platforms for large attractions and karting.

### SPA & Resort Hotel, 15 ha:

- Hotel – 200 rooms;
- Cottage house town – 150 rooms
- Bungalow complex – 100 rooms;
- Spa complex– 0,5 ha.

# Development of a multifunctional family-touristic cluster in Shymkent

## Project Description:

Development of a multifunctional family-touristic cluster «HAPPYLAND» in Shymkent («Project»).

**Project goal:** To provide citizens of Kazakhstan and Central Asia the opportunity to visit a world-class amusement park.

**Location:** : 20 km from the center of Shymkent, on the shore of the Badam reservoir

**Project initiator:** «HAPPYLON» is a group of companies, which owns an international network of indoor theme parks, dolphinarium, park of professions and the biggest Ferris Wheel in the region, providing services for family holidays.

**Governmental support:** The project corresponds to the objectives of the national concept of development of the tourist industry until 2023

**Area of the Park:** 152 ha

## Market prerequisites:

**Growing demand for tourism services–** Average annual growth in the number of domestic tourists in Kazakhstan in 2013-2017 was 10%. The average annual growth in the number of incoming tourists in 2016-2017 was 18% (2017 – 7,7 million people). The number of visits to parks and recreation areas in Kazakhstan was more than 27 million in 2017.

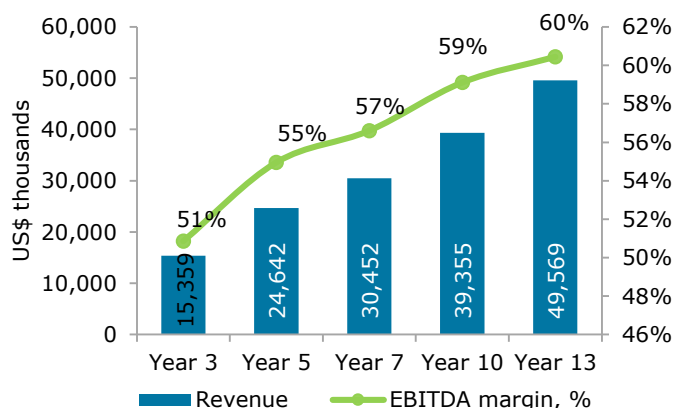
**Geographical location –** The park will be located 20 km from the center of Shymkent with a population of 1.8 million people. The target audience of the project covers 162 million people – Kazakhstan, Central Asia, border regions of Russia, China and the Caucasus.

**Competence of the initiator–** HAPPYLON is the leading player in the «Indoor amusement parks» segment on Kazakhstan market. The company has 12 years of experience in creating and managing projects in the entertainment industry. The number of visitors for 2017 was more than 1 million people.

## Key investment indicators

Indicator	Result
Construction period, years	4
Investment, US\$ thousands	56,388
Project NPV, US\$ thousands	68,727
IRR, %	18.4%
EBITDA returns, %	57%
Payback period, years	7.5
Discounted payback period, years	10.1

## Project Profitability



## Key Project Facilities

### Amusement Park, 45 ha:

- Children's zone
- Family zone
- Extreme zone.

### Waterpark, 5 ha:

- Open Air – 25 rides and slides

### Additional segments:

- Nature park, 20 ha;
- Golf club, 78 ha.

### Indoor entertainment center, 2 ha:

- Starting platforms for large attractions and karting.
- Large food-court – 0.12 ha
- Recreational areas

### SPA & Resort Hotel, 15 ha:

- Hotel & SPA – 200 rooms
- Cottage house town – 100 rooms
- Bungalow complex – 100 rooms.



# Construction of the “Akkol resort” recreation area

## Project description

The project plan is to construct a resort close to the capital of Kazakhstan - Astana. The key driver is a growing population of the most wealthy region of the country and a lack of large resorts near Astana, where in 2017 the population amounted to 973 thd people. The resort has a logistics advantage in a growing segment of the market. It is expected that the company will provide 126 rooms, 15 guest houses, 3 conference rooms and offer SPA, sports and restaurant services for guests.

## Project location



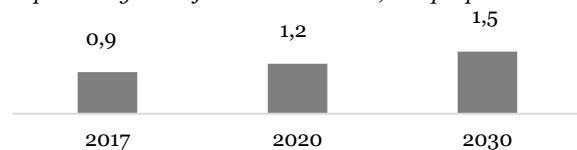
## Investment highlights

Upfront investment	\$35 MM
NPV	\$22 MM
IRR	19%
Payback period	7 years

## Market analysis

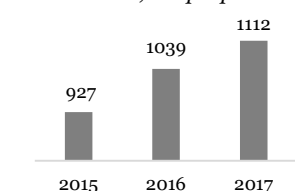
Expected urbanization in Astana drives demand for recreational spaces. Expansion of market will boost necessity for range of variety and number of services available for recreational purposes.

Population growth forecasts in Astana, mln people

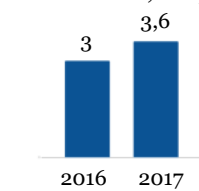


Number of visitors to touristic areas in the region is increasing. There is also a steady growth of foreign tourists in Kazakhstan, who are also expected to be resort visitors.

Number of residents in selected touristic area, thd people



Number of foreign tourists in Kazakhstan, mln people



## Target Investor Mandate

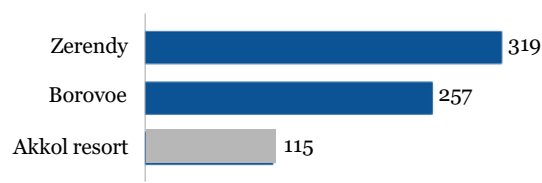
Long cheap financial resources

## Competitive advantage

I. Well-established infrastructure that allows frequent and fast movement to the location of a potential hotel.

II. Distance to the area is twice shorter from Astana than to other large recreational centres in the region (Borovoe and Zerendy). This factor can attract citizens of Astana and frequency of tourists is expected to be higher than of competitors.

Distance of largest resort areas from Astana, km



## Value proposition

This project proposes to take advantage of **the growing tourism demand** in the most developed region of country.



# 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

## 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.

## Key investment indicators

Indicator	Results
Project implementation period, years	24
incl. investment stage, years	13
operating stage, years	11
Investment amount, US\$ thous.	190,151
Project NPV, US\$ thous.	53,898
IRR, %	17.4%
EBITDA margin, %	42%
Payback period, years	10.6
Discounted payback period, years	17.9

## 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.

Solid waste

# Modernization of MSW management system in the Karaganda Oblast

## Project description:

Construction and equipment of 300 waste collection points. As well as the acquisition and commissioning of equipment using composting technology, to reduce the volume of municipal solid waste disposal by production of biogas and generation of green energy.

**Capacity:** 5 MW of electricity;

Service of 265 thousand people per year for Municipal Solid Waste ("MSW") disposal services.

**Products:** Service of MSW disposal and electric power.

**Initiator:** GorkomTrans goroda Karagandy LLP

**Location:** Karaganda and Karaganda Oblast.

## Main consumers:

1) The main consumers of electrical energy are the Financial Settlement Center of RE (state) and enterprises operating on electric power.

2) The main consumers of sorted MSW are companies engaged in recycling of secondary raw materials.

## 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.

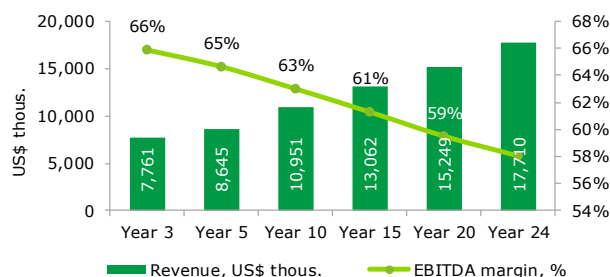
**Lack of competition in the region.** The Karaganda Oblast does not have the enterprises engaged with the recycling of MSW by production of biogas, while the total volume of wastes continues to increase annually. Thus, by the end of 2017, more than 350 thousand tonnes of MSW was generated in the Karaganda 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.

## Key investment indicators

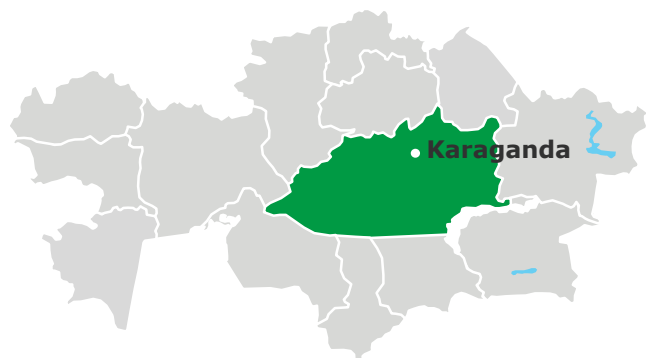
Indicator	Results
Investment amount, US\$ thous.	16,713
Project NPV, US\$ thous.	28,418
IRR, %	25.7%
EBITDA margin, %	61%
Payback period, years	6.1
Discounted payback period, years	7.6

## Project profitability



## Project location:

Karaganda and Karaganda Oblast



## 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.

# Modernization of the MSW management system in Pavlodar Oblast

## 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

Indicator	Results
Investment, US\$ thousands	6,427
Project NPV, US\$ thousands	9,631
IRR, %	13.8%
EBITDA returns, %	35%
Payback period, number of years	2.8
Discounted payback period, number of years	3.1

## Location of the Project:

Pavlodar, Aksu and Ekibastuz



## Market assumptions

### High level of MSW accumulation.

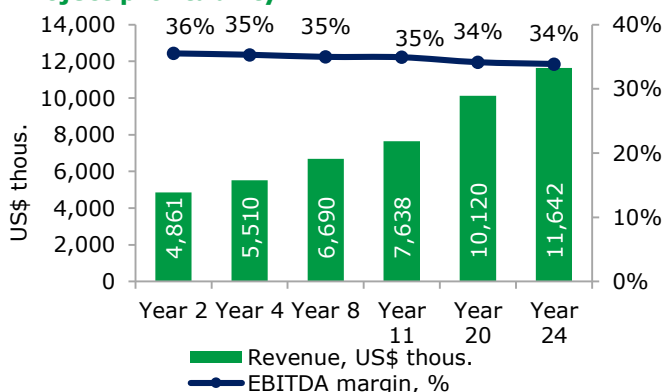
According to the Committee on Statistics of the Republic of Kazakhstan, there is a high level of generation of solid household waste, which is not regenerated, at the level of 3 million tonnes annually. Between 2021 and 2030, an increase in waste generation is expected to reach 8.3 million of solid waste 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.

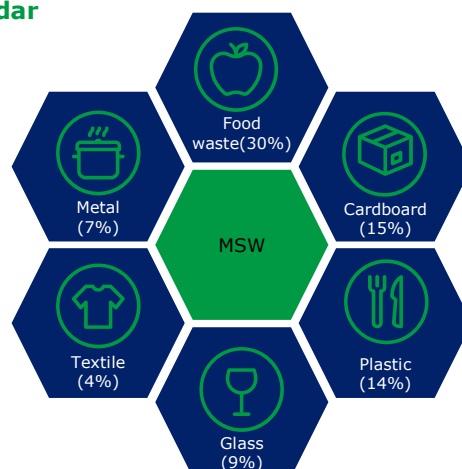
The number of landfills and their area is growing rapidly, having a negative impact on the environment. At present, in Kazakhstan there are more than four thousand landfills, of which only 13% comply with sanitary standards and have a permit for emissions into the environment. The standard of living 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%.

## Project profitability



## Morphological composition of the MSW in Pavlodar





Energy sector

# Construction of a hydroelectric power plant

## Project description

The project plan is to build a hydroelectric power plant on the Koksus river in the Almaty oblast. The design capacity is 82 MW. The area of the plant on the Koksus 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



## Investment highlights

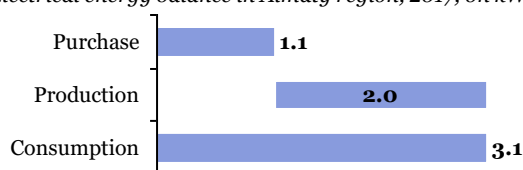
Upfront investment	\$38 MM
NPV	\$12 MM
IRR	21%
Payback period	7 years

## Market analysis

Currently 35% of electricity consumed in the oblast is purchased outside of the oblast.

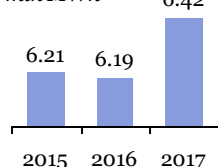
Oblast's economy is forecasted to grow at a CAGR of 6% till 2022 which will drive the demand for energy.

Electrical energy balance in Almaty region, 2017, bn kWh

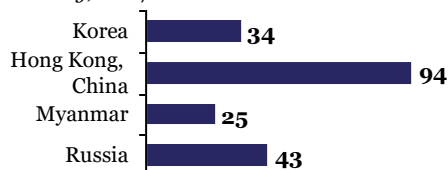


The initiator is also negotiating with Chinese off-takers.

China's imports of electrical energy, mln MWh



Prices of electrical energy by exporting country, USD/MWh



## Target Investor Mandate

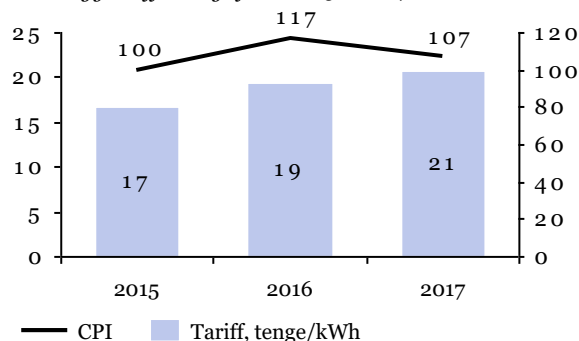
- Long-term financing
- Supply of technologies

## 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.

# Expansion of gas turbine power station GTES-200 Uralsk

## 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

Indicator	Results
Project implementation period, years	24
<i>incl. investment stage, years</i>	6
<i>operating stage, years</i>	18
Investment amount, US\$ thous.	340,000
Project NPV, US\$ thous.	217,018
IRR, %	17.5%
EBITDA margin, %	47-60%
Payback period, years	11.4
Discounted payback period, years	15.5

## Project scheme

### Existing power station (100 MW)

- GE MS 9001E gas turbine

### Expansion (300 MW)

- 2 GE MS 9001E gas turbines
- Expansion of an operational cycle of gas turbines by modifying it into a combined-cycle system, through addition of:
  - Waste heat recovery units
  - K-60-7,4 type steam turbine

**All of the infrastructure required for the expansion of the power plant has already been built**

## Market prerequisites:

### High electricity prices in the region

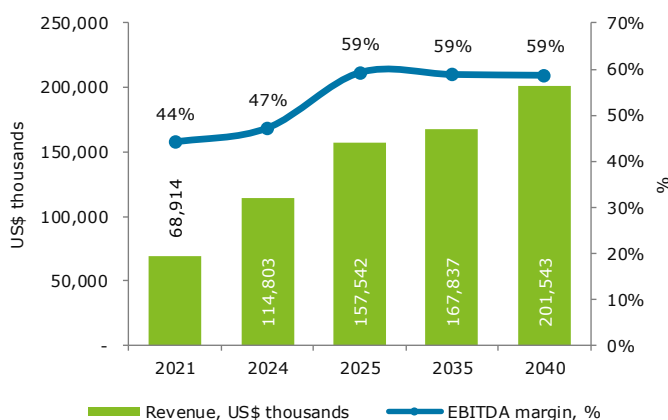
The Western energy zone is isolated from the country's energy system and does not have an access to cheap electricity from the Northern Energy Zone. Electricity prices for industrial enterprises (main consumers) in Atyrau Oblast are the highest in the country, while in West Kazakhstan Oblast - they rank among the highest across the country.

**Increase in energy consumption** Almost the entire oil and gas industry is concentrated in Atyrau Oblast and West Kazakhstan Oblast. These regions house enterprises that are carrying out or have already completed major modernization projects (e.g. enterprises such as Atyrau Refinery, Karachaganak Petroleum Operating, Tengiz, CPC), which leads to an increase in electricity consumption.

**Proximity to raw material resources** GTES-200 Uralsk has an underwater pipeline connected to the major pipeline "Soyuz", which ensures provision of an uninterrupted supply of natural gas. In addition, West-Kazakhstan Oblast is one of the leading oblasts in the Republic of Kazakhstan in terms of gas reserves and gas production. This ensures stability and diversification potential for supplying gas for the operation of the power plant.

**Establishing electricity exports** The creation of a unified electricity market within the framework of the Eurasian Economic Union will enable the Project to set up exports of electricity to Russia and Belarus, where electricity prices will be set by market conditions. GTES-200 Uralsk is connected to the power system of Russia through the Stepnaya electrical substation and has sufficient transmission capacities for large-scale export deliveries.

## Project profitability



# Construction of a hydro power plant in Almaty Oblast

**Project description:**

Construction of a cascade of small hydropower plants (HPP) on the Buyen River (and on its tributaries Koksai and Burkettybien) in Almaty Oblast

**Power capacity:** 18.2 MW

**Location:** Republic of Kazakhstan, Almaty Oblast, Aksu district, 100 km to the north-east from Taldykorgan, 30 km to the south-east from the village of Zhansugurov

**Project Initiator:** "Kazgidrokaskad" LLP

**Consumer Market:** Almaty Oblast

**Applied technology:**

Hydroelectric installations with Pelton turbines

**Key Investment Indicators**

Indicator	Results
Project implementation period, years	23
<i>incl. investment stage, years</i>	3
<i>operational stage, years</i>	20
Investment amount, US\$ thous.	30,081
Project NPV, US\$ thous.	30,607
IRR, %	19.4%
EBITDA margin, %	87%
Payback period, years	7.3
Discounted payback period, years	9.6

**Technical characteristics and components of the Project:**

**Project components:**

- **Cascade of small hydro power plants on the Buyen River (14 MW):**
  - HPP-1 (7.6 MW);
  - HPP-2 (1.4 MW);
  - HPP-3 (2.5 MW);
  - HPP-4 (2.5 MW).
- **Small hydropower plant on the rivers of Koksai and Burkettybien (tributaries of the Buyen River):**  
4.2 MW.

**Project's average yearly electricity production:**  
89.9 GWh

**Market prerequisites**

**Lack of electricity in the region**

Almaty Oblast (including Almaty) is experiencing shortages of electricity. About 30% of the electricity consumed in the region comes from the energy-excessive Northern energy zone or is imported from Kyrgyzstan (neighboring country). In 2017, the volume of electricity generation amounted to 7.4 bln kWh, with the volume of consumption reaching 10.4 bln kWh (deficit of 3 bln kWh). According to the Ministry of Energy of the Republic of Kazakhstan, the shortage of electricity in the Southern energy zone (including the Almaty Oblast and the city of Almaty) in 2017 amounted to 9.2 bln kWh and according to their forecasts it will remain at approximate level of 9 billion kWh per year until 2024.

**The growth of electricity consumption**

In 2017, electricity consumption in the Almaty Oblast amounted to 10.4 bln kWh, which is a 9% increase compared with 2013 (the average annual growth rate over the past five years was equal to 2.1%). In order to reduce the size of the electricity deficit in the region, it is necessary to put significant additional energy generating capacities into the operation in the future.

**Government support**

The sector of Renewable Energy Sources ("RES") is actively supported by the state. Today, RES sector enterprises are exempt from electricity transmission fees. Also, they are guaranteed to have predictable and long-term tariffs, as well as a full purchase of all generated electricity.

**Project profitability**

