KAZAKH INVEST

NATIONAL COMPANY

INVESTMENT OPPORTUNITIES OF KAZAKHSTAN

Niche projects

2019 - 2020

Machinery construction and metallurgy

Production of copper pipes

Project overview:

Construction of a copper pipes production plant

Investment amount: US$ 59,345 thousand

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

Location:

Special Economic Zone Saryarka,

Karaganda city

Project implementation period:

24 years, including 1 year of construction

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

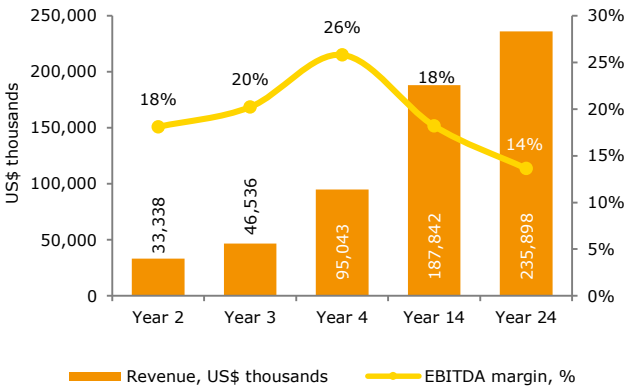
Suppliers: local suppliers of raw materials, foreign equipment suppliers

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

Market prerequisites:

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

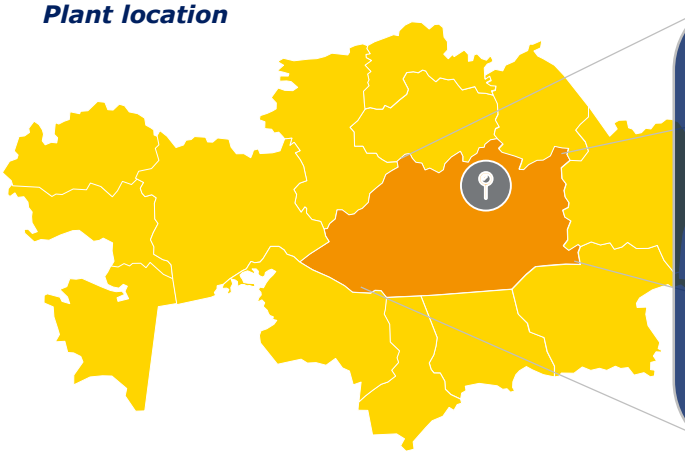
Project profitability



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

Plant location



- Special economic zone provides a special legal regime and preferences to its residents, such as, provision of land plots for the secondary land use (sublease) and infrastructure facilities for lease (sublease) to the persons engaged in ancillary services. Additionally, businesses in the special economy zone receive the exemption from taxes and custom payments until 2036.
- Kazakhstan's geographical location provides convenient access to markets in neighboring countries, which expands export potential for the produced products. The high demand for copper pipes in China, Russia, Ukraine, Belarus and Austria demonstrates opportunity to boost sales.

Machinery construction and metallurgy

Deloitte.

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

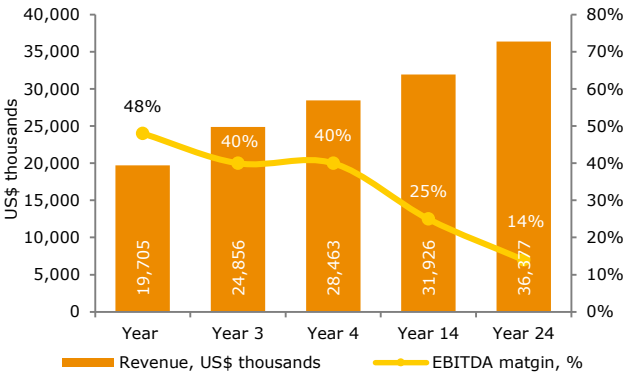
Suppliers: local metallurgical enterprises and scrap buyers

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



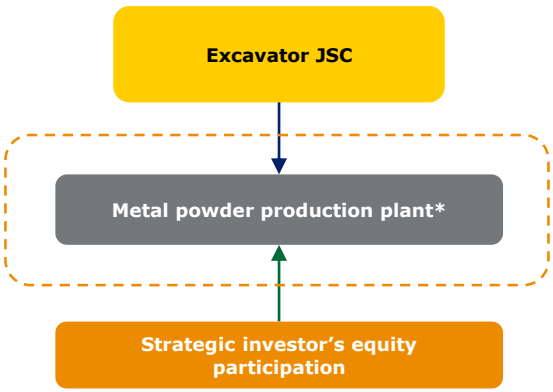
Key investment indicators

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.*

Machinery construction and metallurgy

Deloitte.

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

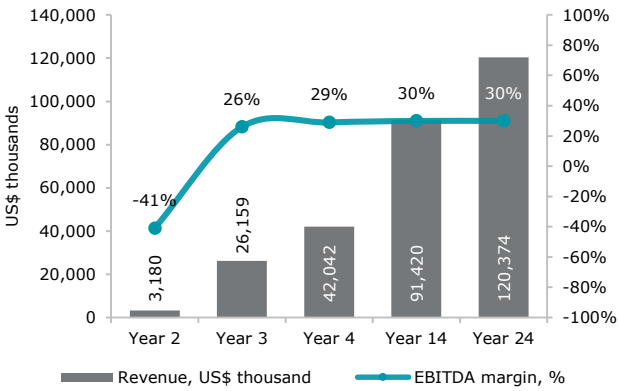
Suppliers: local and foreign suppliers of raw materials

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.

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Metallurgy and mechanical engineering

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.

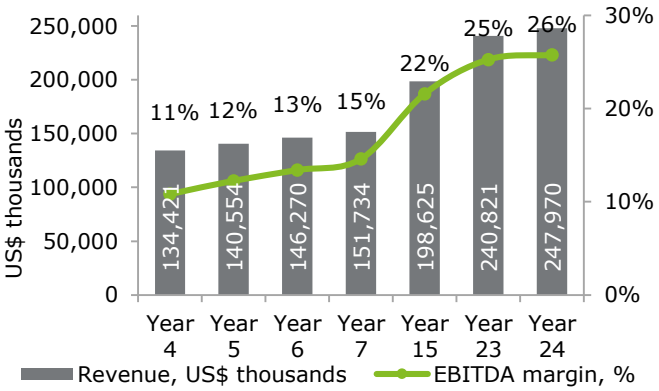
Market background:

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

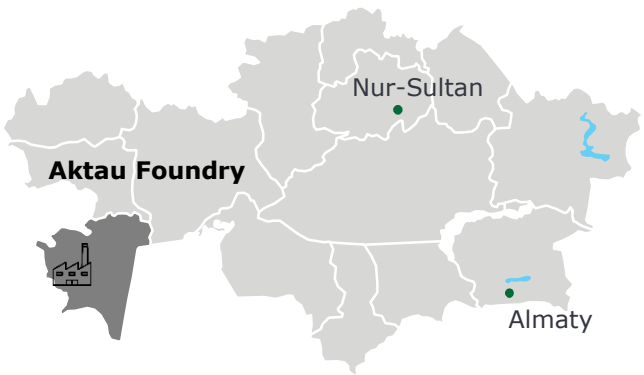
Indicator	Results
Investment amount, US$ thousands	79,348
Project NPV, US$ thousands	59,687
IRR, %	15.9%
EBITDA margin, %	19%
Payback period, years	9.7
Discounted payback period, years	16,4

Project profitability



Project loaction:

Mangystau oblast, Aktau, Industrial area



Technological process:

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

Final product

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Metallurgy and mechanic engineering

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

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.

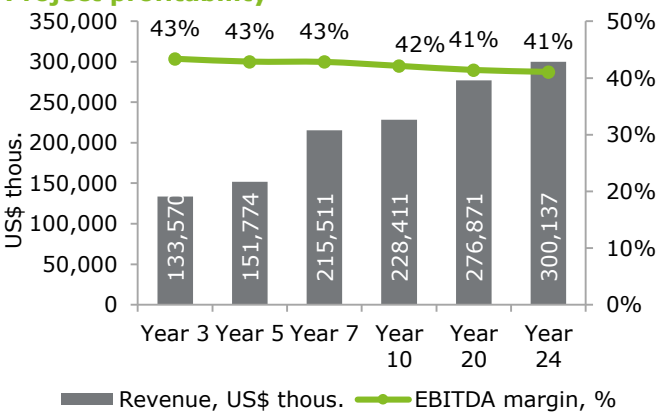
Import substitution. Import volumes over the past year equal to 210.8 thousand tonnes, which is twice as high than in 2015, given that the country's domestic production rate is 2.4 times lower than the use of tubing, casing and line pipes. The expansion of the steel pipe plant will reduce the dependence 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.

Key investment indicators

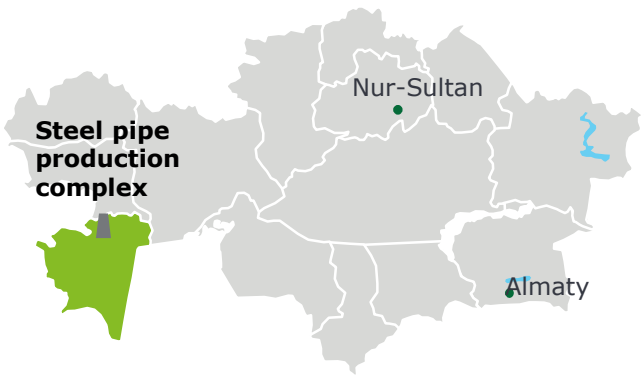
Indicator	Results
Investment, USD thousands	245,923
Project NPV, USD thousands	257,581
IRR, %	25.5%
EBITDA returns, %	42%
Payback period, number of years from the start of production	6.8
Discounted payback period, number of years from the start of production	8.4

Project profitability

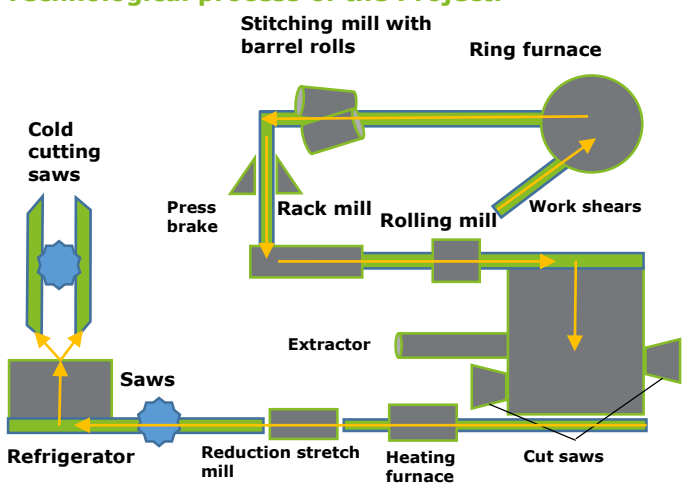


Location of the Project:

Aktau, Mangistau Oblast



Technological process of the Project:



Deloitte.

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

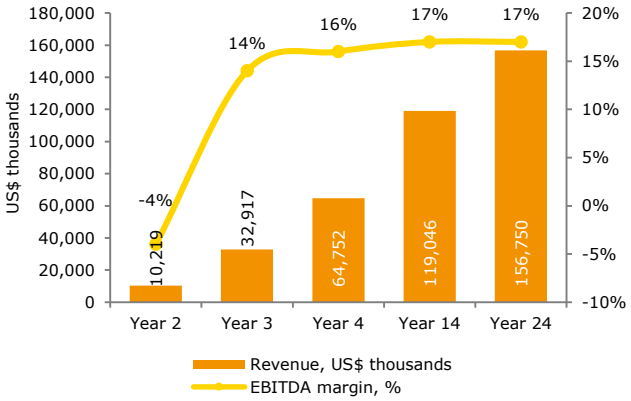
Suppliers: local and Russian suppliers of raw materials

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	Steel pipes are used in house construction and infrastructure projects. They are used in communication systems, overpasses, water and gas pipelines etc.	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*

PPP – Infrastructure

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.

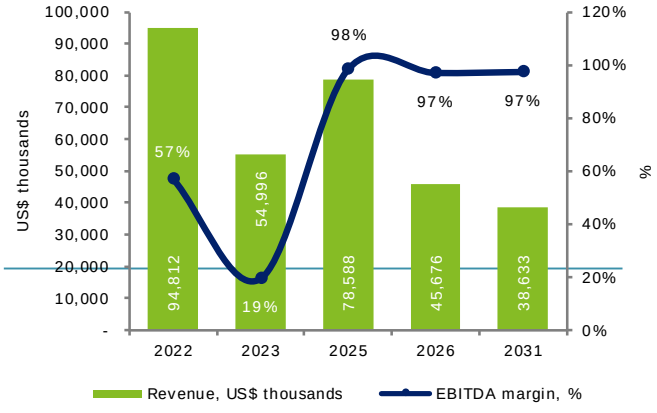
Transit potential Over the last year, the growth of transit on motor transport amounted to 223%. Implementing the Project is necessary to maximize the benefits of transit flows, while providing the transit cargo and passengers with a high level of transport infrastructure quality.

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
incl. investment stage, years	*5*
operational stage, years	*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")

Private partner income

- Compensation of investment and operating costs
- Dividends

Use of payments

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

Transfer of know-how

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

Tolling system

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

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Information and communication

Communications service provider for government bodies and budget organizations in rural areas through satellite communication systems

Project overview:

The organization of broadband Internet access services in rural areas of the Republic of Kazakhstan through satellite communication systems.

Project objective: Organization of broadband Internet access services, VPN and telephony for 1944 points in 1058 rural areas of the Republic of Kazakhstan via satellite communication systems.

Commercial product/service:

Broadband Internet access (satellite connection, LTE-800)

Initiator:

Kazakhtelecom JSC

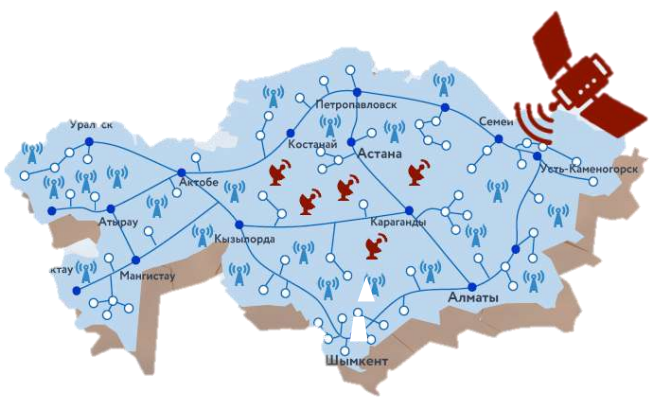
Location:

Branches of Kazakhtelecom JSC, 1058 rural areas – state bodies, budget organizations.

Key investment indicators

Indicator	Results
Investment, US$ thousands	20,608
Project NPV, US$ thousands	25,034
IRR, %	44.87%
EBITDA returns, %	51.50%
Payback period, number of years from the start of production	3.57
Discounted payback period, number of years from the start of production	4.34

Project location: Branches of Kazakhtelecom JSC, 1058 rural areas

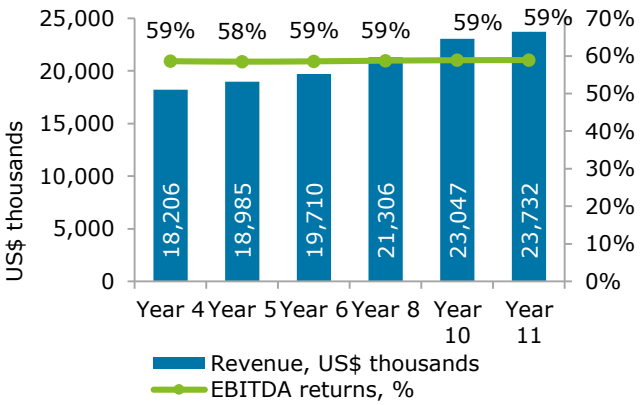


Market assumptions:

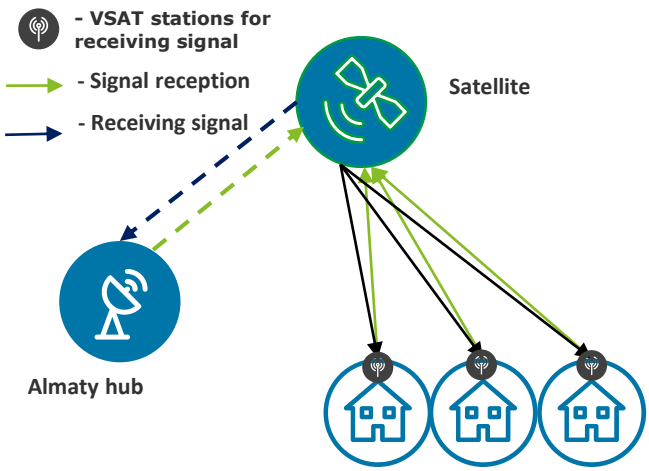
Growing demand for broadband access in Kazakhstan. The increase in per capita income in the Republic of Kazakhstan and positive demographic indicators make it an attractive telecommunication market. The structure of revenues from communication services in Kazakhstan has undergone significant changes reflecting global trends: revenues have grown significantly in the segments of mobile telephony and the Internet. According to ITU forecasts, Kazakhstan is expected to have a cumulative annual growth rate (CAGR) of broadband access use of 4.6% between 2019-2023.

Development prospects of broadband access. Both in the traditional and in the new segments of the telecommunications sector, significant changes will occur in the upcoming years. In the face of increasing price pressure, cost containment and growing competition, telecommunications companies are paying more attention to expanding their business in existing markets, developing new products and increasing operational efficiency. Based on ITU forecasts, the population using broadband access will increase to 3.42 million people in 2023.

Project profitability



Satellite transmission technology



Information and communication

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.

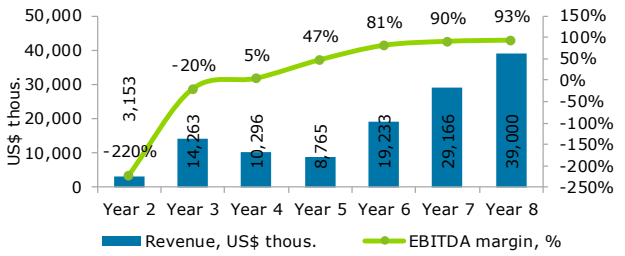
E-commerce market development. The e-commerce market in Kazakhstan is growing at a dynamic pace. According to the data from the Committee on Statistics of the Ministry of National Economy of the Republic of Kazakhstan, the volume of services sold via the Internet in 2016 amounted to 32.5 mln units, of 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.

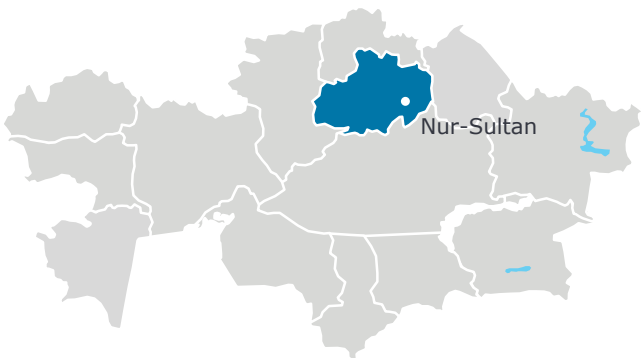
Key investment indicators

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

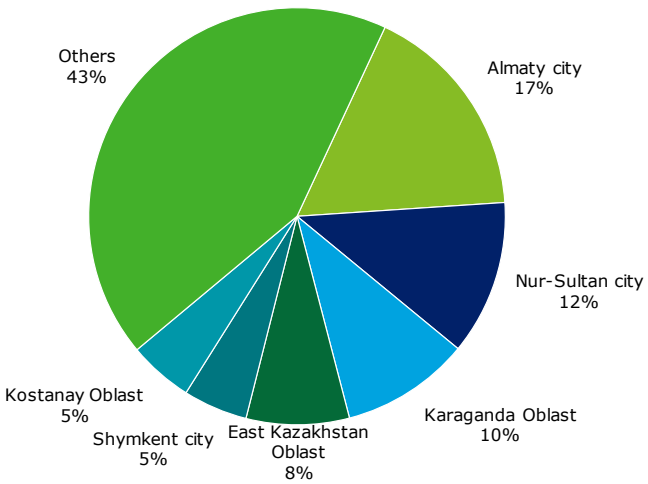
Project profitability



Project location: Nur-Sultan, st. Mambetova 24



The number of postamats by regions of RoK, 2018



Deloitte.

Metallurgy and mechanic engineering

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:

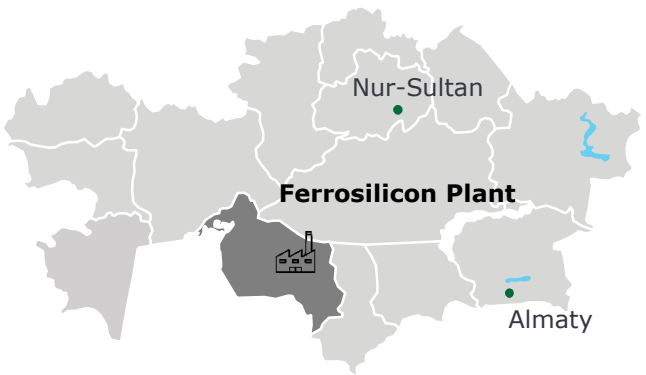
National Center on Complex Processing of Mineral Raw Materials of the Republic of Kazakhstan, «RSE NCCPMRM»

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



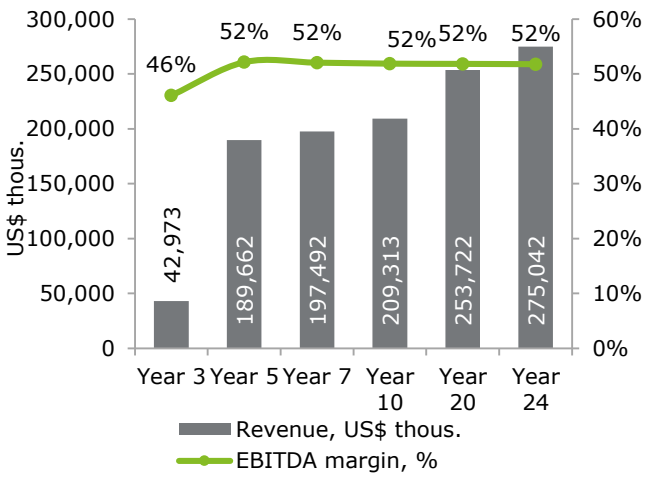
Market assumptions:

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.

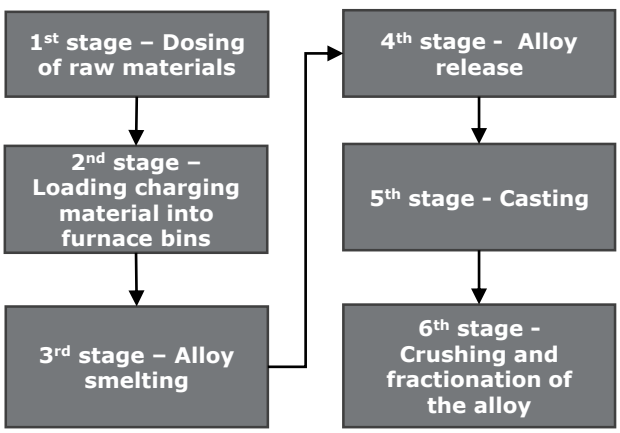
Persistent steel demand. High rates of historical production growth and the strategic importance of the further development of industries, which use steel as raw materials, create a steady demand for the products manufactured under the Project. According to the forecasts of the International Steel Association,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



Mining and smelting industry

Development of Zhezdybassay copper deposits in Mangistau Oblast

Project overview:

This investment project (the "Project") involves construction of an industrial complex for the extraction and beneficiation of copper ores at Zhezdybassay deposit and at nearby located deposits in the 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 6th in the world for copper reserves, which is 4.7% of world reserves or 36.6 million tonnes in volume terms.

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

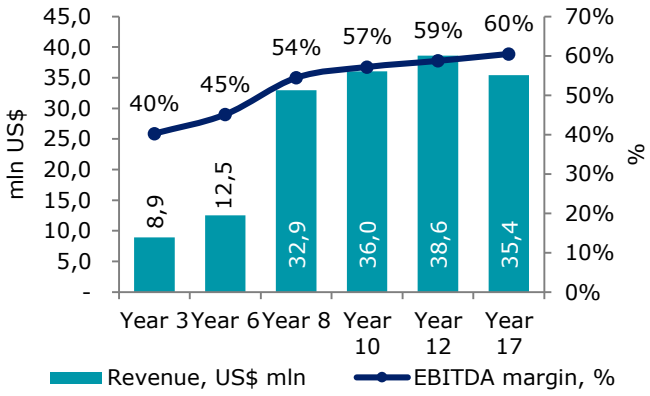
Rise in prices. According to the World Bank's forecast, the moderate rise in prices for copper is expected.

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

Key investment data

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
Dolnapinskoye	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
Total:	**C2+P1**	**15.3**		**90.0**

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.

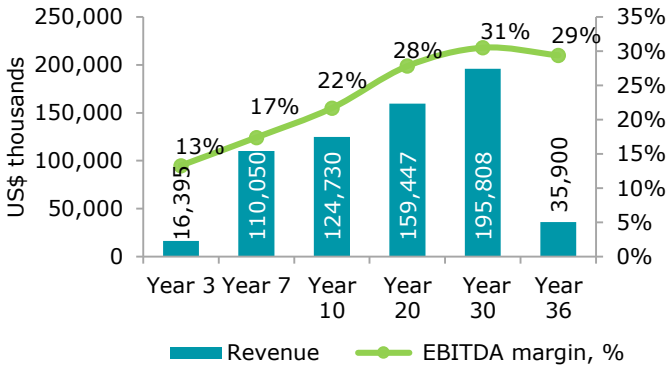
Export potential – In 2017, world imports of tungstates amounted to 11,049 tonnes. The main buyers of ammonium paratungstate in the international market are the USA, Germany and Japan. The development of the automotive and mining industries in these countries opens up prospects for the supply of products.

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
incl. investment stage, years	*2*
operational stage, years	*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

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Mining and metallurgical complex

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.

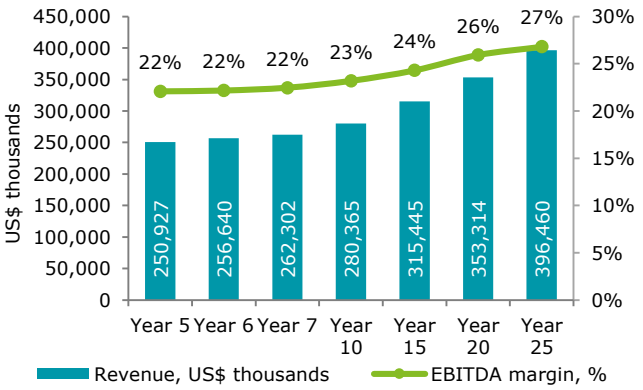
Price stabilization. According to Bloomberg, the price of refined copper is expected to increase with its subsequent stabilization in the medium term: 2019 - 6038.5 USD, 2023 – 6087 USD per ton.

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 profitability



Project location: Besshoky square, Karagandy oblast

Field reserves by JORC (2012)

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

Mining and smelting industry

Increasing the resource base and expanding the production of gold on the Tobolsk area of deposits

Project overview: The investment project provides for the development, extraction and processing of gold bearing ores of the Tobolsk area of deposits

Project Goals:

- Increase in capacity for the mining/processing of oxide ores;
- detailed exploration of sulfide ores with registering of reserves at a commercial level;
- increase in capacity for the extraction and processing of oxide ores;
- construction of a sulphide ore processing plant.

Commercial product: Dore alloy

Initiator: Brendt LLP conducts mining of oxide ores, and processes them into the Dore alloy. Ore processing is carried out through the open pit method. The current mining/processing capacity is 800 thousand tonnes of ore per year.

Planned output: Annual volume of mining and processing of sulphide ores at the level of 1.8 mln.

Potential markets: Kazakhstan

Market assumptions:

Consistently high demand – Gold consumption in the world is at a consistently high level. It is used in technology in the form of alloys with other metals, in the aviation and space industries, radio equipment, electronics, and medicine. A significant part of gold goes to jewelry making. It also plays the role as a main currency metal.

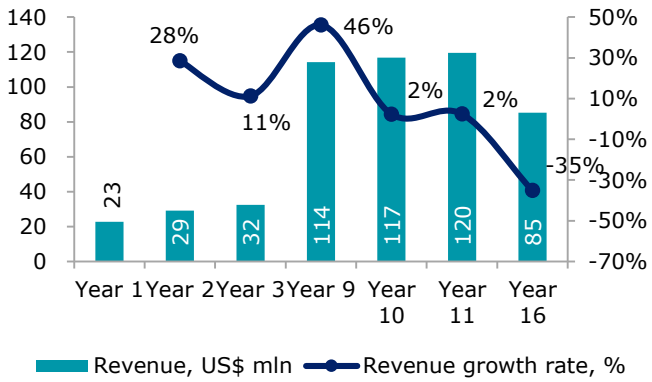
Availability of customer base – In Kazakhstan, gold consumption is mainly created for the purpose of replenishing the country's foreign exchange reserves as a result of processing by three refining plants: Kazzinc in Ust-Kamenogorsk, Kazakhmys in Balkhash and Tau-Ken-Altyn in Nur-Sultan. According to experts, by 2020, refining will reach 80-90 tonnes per year

Key investment data

Index	Results
Project implementation period, years	17
incl. investment stage, years	*~4*
operational stage, years	*16*
Investment amount, US$ thousands	70,800
Project NPV, US$ thousands	39,479
IRR, %	25.1%
EBITDA margin, %	30%
Payback period, years	8.5
Discounted payback period, years	10.2

Project location: The Kutyukhinskoye field and the Tobolsk area are located in the Zhitikarinsky district of Kostanay oblast

Project profitability



Reserves of Tobolsk's area of deposits, calculated according to JORC

JORC classification	Oxidized ore		Sulphide ore		Total
	Gold, kg	Content, g/t	Gold, kg	Content, g/t	Gold, kg
Measures resources	5,324	1.42			5,324
Verified resources	5,686	1.5			5,686
Estimated resources	5,537	1.48	22,434	2.0	27,971
State Reserves Commission P3	3,337	1.4	40,100	2.0	43,437
Total	**19,884**	**1.42**	**62,534**	**2.0**	**82,418**

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Metallurgy and mechanic engineering

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")

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.

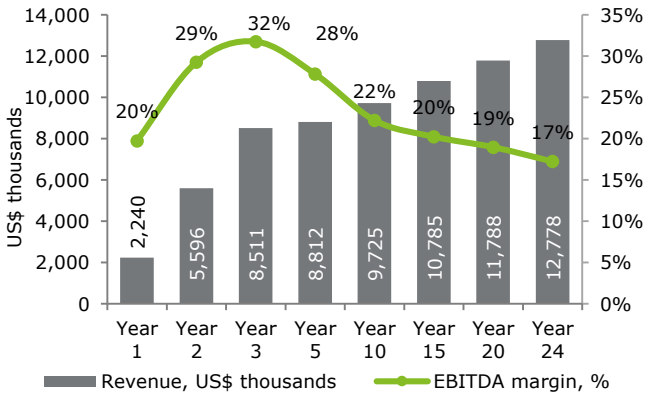
Unique technology. The technology of RSE NC IPMRM using chemically active mixtures allows the use of chemical energy in the system itself, which in turn accelerates the processes of solid-phase sintering, improves quality and reduces cost.

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%.

Key Investment Indicators

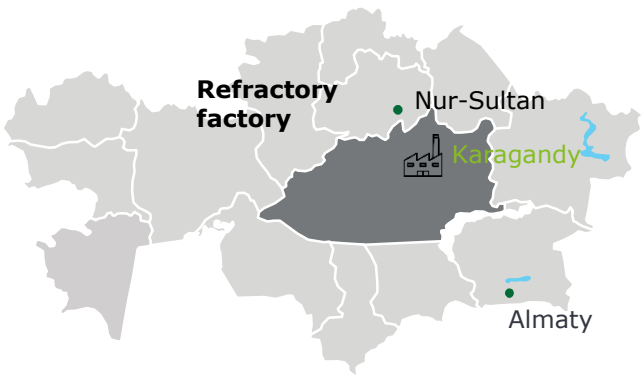
Indicator	Results
Investment, USD thousands	7,763
Project NPV, USD thousands	5,405
IRR, %	25.0%
EBITDA returns, %	17-32%
Payback period, number of years from the start of production	5.0
Discounted payback period, number of years from the start of production	6.9

Project profitability

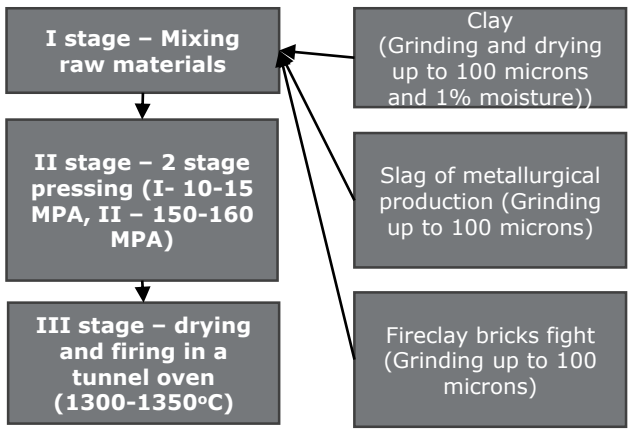


Location of the Project

Karagandy city, Karagandy oblast, Republic of Kazakhstan



Technical process



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% CaF2);
- manganese concentrate (37% content).

Initiator:

Muyunkum-Mineral LLP

Location:

Muyunkum district, Jambyl Region

Potential markets:

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

Market conditions:

Rich resource base

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

Pricing advantage

The favorable location of production plant near to its main consumers and tariffs imposed by the Eurasian Economic Union on 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.

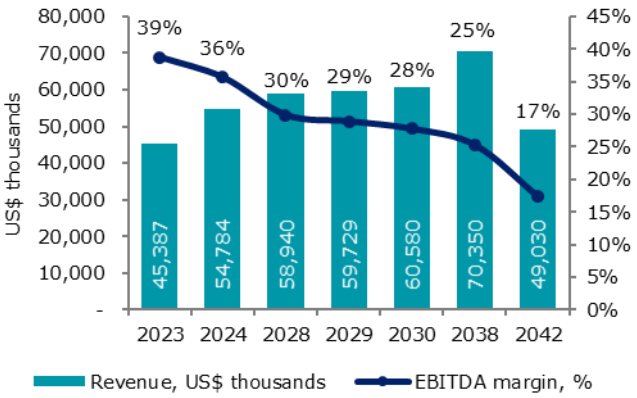
Low production cost

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
incl. development period, years	*3*
operational period, years	*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 Profitability



Project location: Muyunkum district, Jambyl Region

Deposit reserves, category C1+C2

Measure	Ore, thous. tons	Fluospar, thous. tons	Content, %
Vein deposits	5,764	1,667	28.92%
Stratified deposits	5,946	1,264	21.26%
Total	**11,710**	**2,931**	**25.02%**

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Metallurgy and mechanic engineering

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.

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.

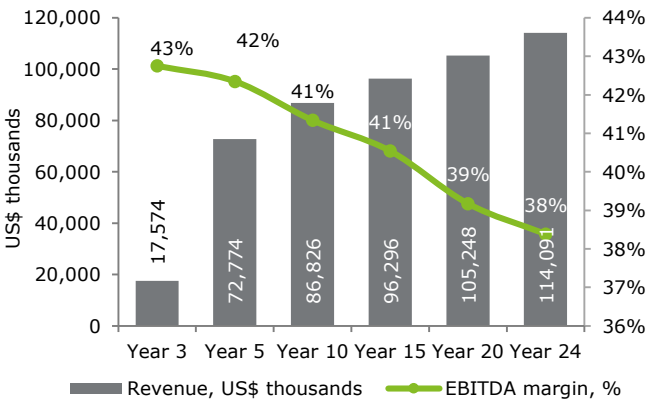
Low competition. The demand for FSA among steel producers is significant. Competition is made only by producers of ferrosilicon. However, the superiority of the FSA over the analogue will cover a significant share of domestic and foreign markets.

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.

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

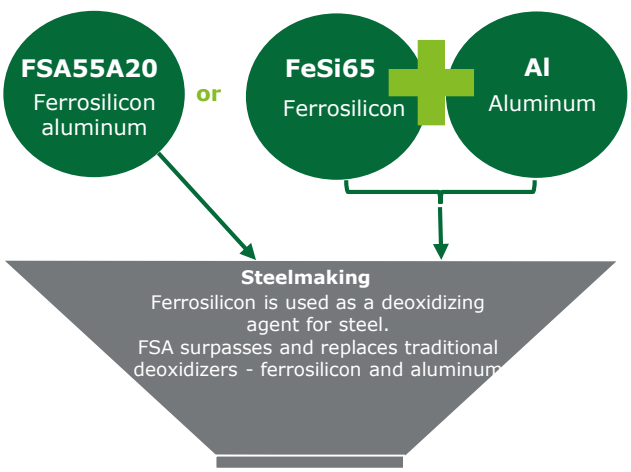
Project profitability



Location of the Project:

Ekibastuz, Pavlodar oblast

Ferrosilicon aluminum and its analogues:



Mining and metallurgical complex

Construction of Tymlai Mining, Chemical and Metallurgical Complex

Project overview:

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

Production volume:

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

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

Initiator: TENIR-Logistic LLP

Location: Zhambyl Region, Kordai District; SEZ Pavlodar

Potential customers: Kazakhstan, nearby countries

Market prerequisites:

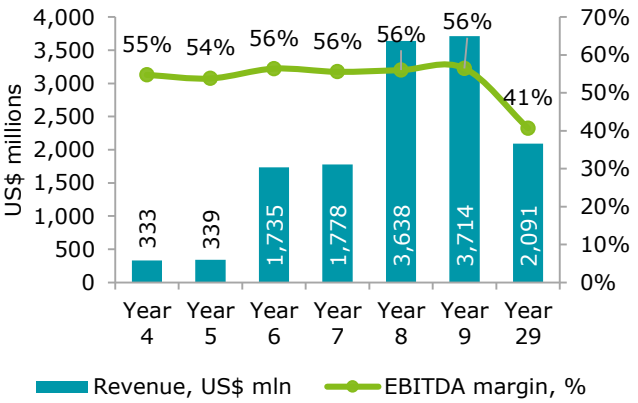
Stable demand. High historical production growth rates and strategic importance for the further development of industries using steel and titanium dioxide as raw materials create a steady demand for the products produced within the Project.

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.

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

Project profitability



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

Ore field reserves

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

Mining and metallurgical complex

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

Project description:

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

Product: intermediate pig iron.

Production process:

Mining – open-pit;

Processing – ROMELT, liquid phase recovery with energetic coals.

Initiator: Technogran Aktobe LLC.

Location: Mangystau district, Mangystau Oblast

Consumer markets: China, Russia

Annual production capacity:

250 thousand tonnes of pig iron.

Key investment indicators

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 implementation assumptions:

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

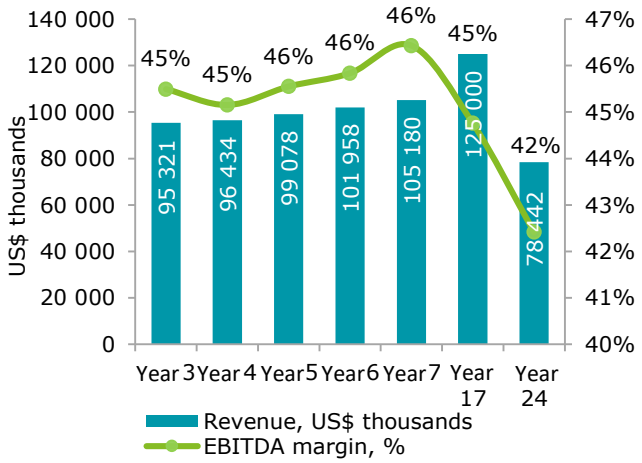
Positive price dynamics. After the downturn in 2014-2015, the last two years have shown prices for pig iron returning to a positive trend. According to the market analysts (available in the Bloomberg database), these prices will remain relatively stable in the medium term.

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

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

Project location: Mangystau district, Mangystau Oblast

Project profitability



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Mining and smelting industry

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

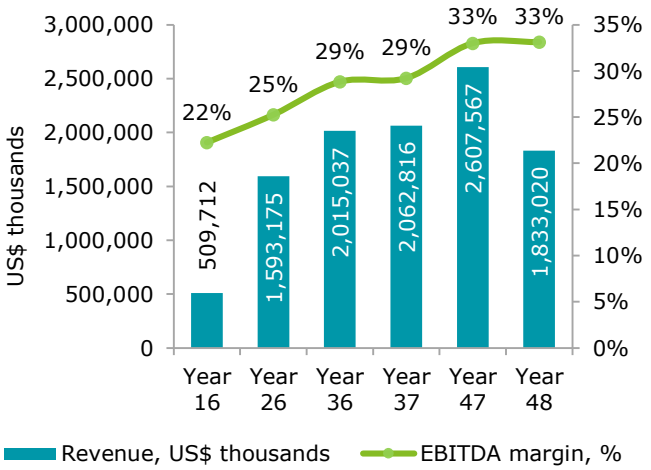
Project location: Ayagoz district, East-Kazakhstan Oblast

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
Reserves				
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



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Mining and metallurgical complex

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

Project overview:

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

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

Production process:

1) Mining – underground;

2) Ore beneficiation is planned at the Nikolayevsky plant, owned by Kazakhmys;

3) Refining of copper, gold and silver concentrates (obtaining a final product) will be carried out by the Balkhash smelting plant owned by Kazakhmys.

Initiator: Kazakhmys Barlau LLP.

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

Annual production capacity:
250 thousand tonnes of ore.

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

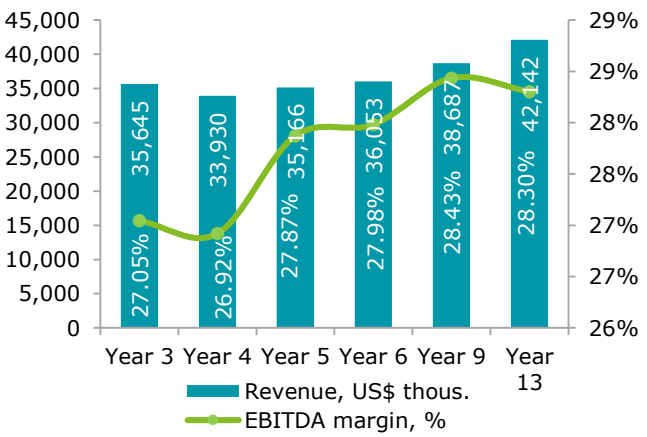
Indicator	Results
Amount of investments, US$ thousands	13,378
Project NPV, US$ thousands	30,009
IRR, %	42.2%
EBITDA margin, %	28%
Payback period, years	3.8
Discounted payback period, years	4.4

Deposit reserves, thousand tonnes

Ore/metal	On-balance reserves by category				
	A	B	C1	A+B+C1	C2
Ore	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
Ore	-	-	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 location: East Kazakhstan Oblast, Glubokovsky district

Project profitability



Deloitte.

Mining industry

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 Shatyrkul mine. Sulphide ores are going to be transported by truck to the station Berlik-1, then by rail to the Balkhash beneficiation plant (BOF). The copper concentrate obtained at the BOF will be processed at the Balkhash Metallurgical Plant.

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

Project location: Zhambyl Oblast, Shu district.

Annual production capacity :
600 thousand tonnes of ore.

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.

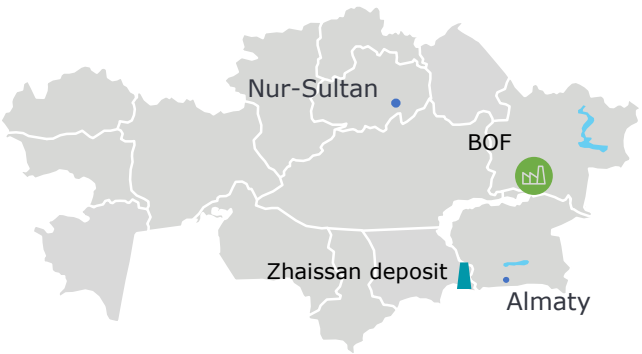
Key investment indicators

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

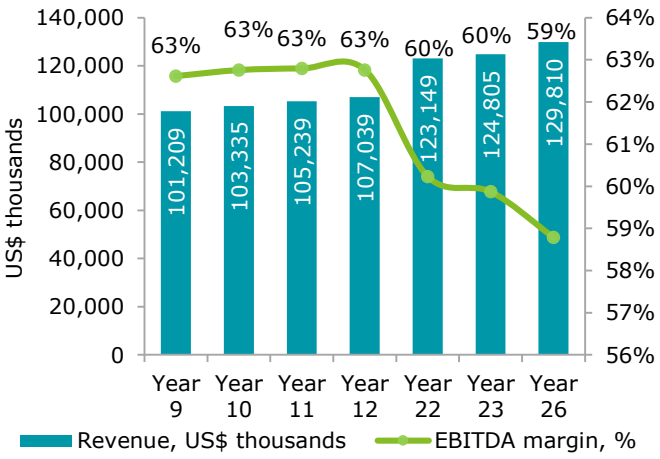
Deposit reserves

Index	Unit	Reserves
Zhaissan		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 location: Shu district, Zhambyl Oblast



Project profitability



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.

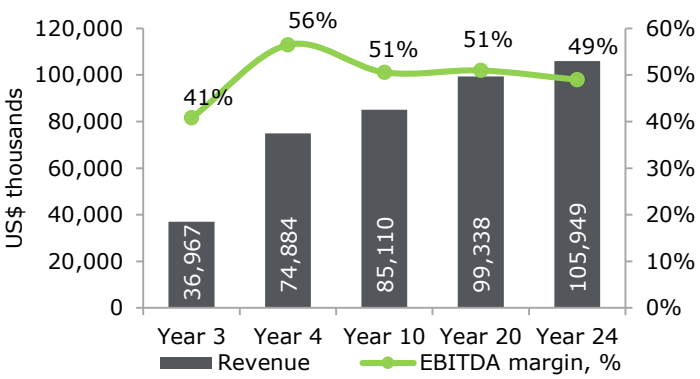
Further growth of demand for silicon dioxide. As forecasted by Technavio, the world market of precipitated silicon dioxide will grow up to US$ 3,313.2 mln by 2021. The growth rate of the world market of precipitated silicon dioxide is expected to accelerate in 2018-2021, and the compound annual growth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



Project implementation location: Pavlodar Oblast, Ekibastuz district

Innovative ASW processing technology

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

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

Mining and smelting industry

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

Project overview: construction of the mining and metallurgical facility to process 2 mln tonnes of ore at the Syrymbet deposit ("Project").

Processing capacity: 2 mln tonnes of ore a year

Raw materials: tin, copper and fluorite ore

Production:

Main products:

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

By-products:

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

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

Location: North-Kazakhstan Oblast

Sales market: Kazakhstan, China, Russia

Market assumptions:

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

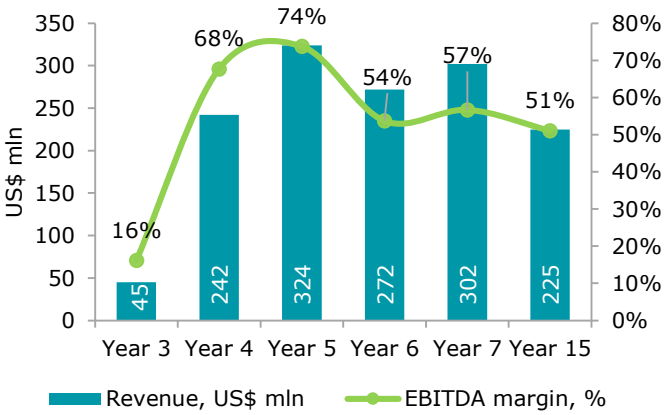
Import substitution and potential export – Tin is not produced in Kazakhstan, and the country is totally dependent on imports. Tin is imported from Indonesia, Russia, Belgium, Poland and China. The latter is the largest tin consumer and accounts for 48% of the overall import of tin products in the world.

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

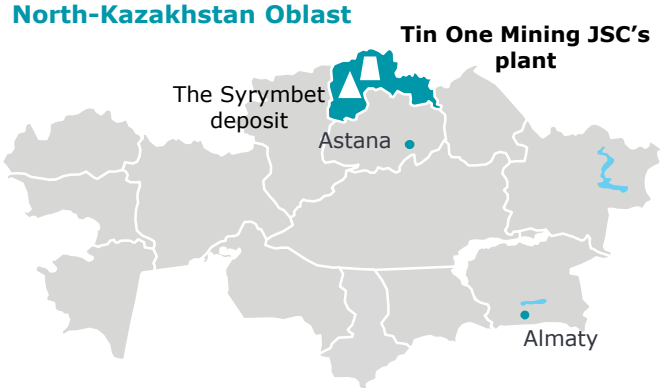
Key investment indicators

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

Project profitability



Project implementation location: North-Kazakhstan Oblast



Deposit reserves

Category	Ore, thousand tonnes	Tin, %	Tin, tonnes
Measured	46,552	0.46%	214,139
Indicated	9,164	0.33%	30,241
Probable	68,945	0.37%	256,632
Total	**124,661**	**0.40%**	**501,012**

Mining and metallurgical complex

Development of Batalinskoye and Krasnoarmeyskoye copper ore deposits

Project description:

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

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

Initiator: Mystau LLP.

Location: Denisovsky district, Kostanay Oblast.

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

Market conditions:

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

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

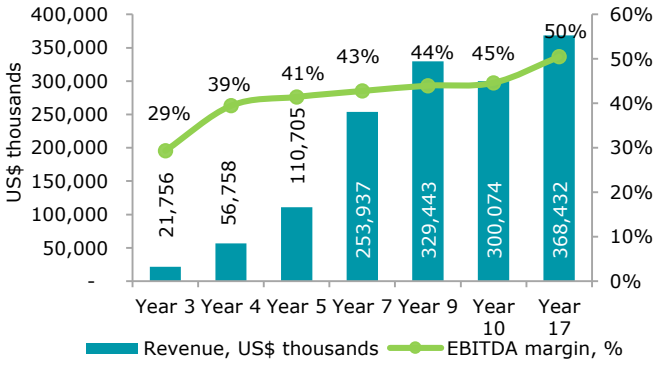
Price growth. Global market prices for refined copper demonstrate increasing dynamics related to increased demand for that product as a result of global economic stabilization. According to the forecasts, a moderate increase in copper prices is expected during the following years: 2020 – US$ 6833, 2021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

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

Key investment indicators of the Project

Indicator	Results
Project implementation period, years	17
incl. investment stage, years	*2*
operational stage, years	*15*
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

Project profitability



Project location: Denisovsky district, Kostanay Oblast

Deposit reserves

Indicator	Unit	Balance reserves by C2 category
Batalinskoye		
Copper	thous. Tonnes	561.7
Ore	thous. Tonnes	130,899.7
Content	%	0.43-0.45
Krasnoarmeyskoye		
Copper	thous. Tonnes	203.9
Ore	thous. tonnes	85,050.20
Content	%	0.24

Development of Nurbay, Besshocky and Sarybulak copper ore deposits

Project Description:

Construction of industrial complex for copper ore extraction at the Nurbay, Basskocky and Sarybulak deposits in East Kazakhstan oblast and copper cathode production in the amount of 12,500 tonnes per year

Product: Copper cathode

Capacity: Processing of 1 million tons of copper oxide ore per year. Further expansion is possible for the processing of sulphide ores.

Production volumes: Expected production of 12,500 tons of cathode copper per year.

Initiator: Ertis-Med' LLP.

Location: Ayagoz district, East-Kazakhstan Oblast.

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

Market conditions:

Availability of raw materials and subsoil use rights. The forecasted reserves of the complex of Nurbay-Basskocky-Sarybulak deposits amount to over 280 thous. tonnes of copper.

High demand. It is expected that the steady growth in demand for refined copper will continue in subsequent years, since copper is the most important resource and factor of production in a modern technological society. Annual growth in demand for refined copper is projected at 2% in 2019 and 1.5% in 2020.

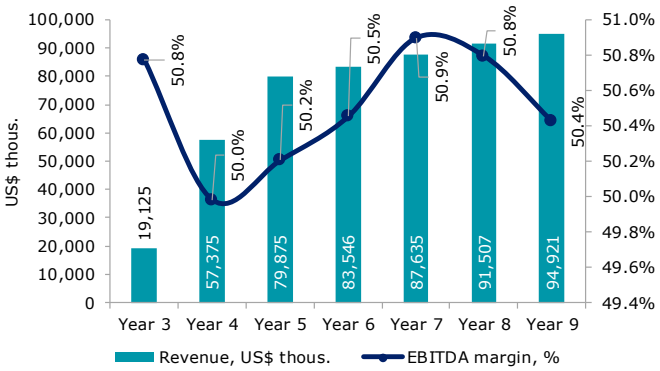
Price stabilization. According to analysts at Bloomberg, a moderate increase in refined copper prices is expected in the medium term, with subsequent stabilization of the price level: 2019 - $6,038.5; 2021 - $6,011; 2023 - $6,087 per tonne.

Export potential. The shortage of this product indicates the potential for import substitution. Also RK has an opportunity to increase exports to the PRC and other countries.

Key investment indicators of the Project

Indicator	Results
Project implementation period, years	9
incl. investment stage, years	*2*
operational stage, years	*7*
Investment amount, US$ thousands	43,845
Project NPV, US$ thousands	54,884
IRR, %	40.1%
EBITDA margin, %	51%
Payback period, years	4.5
Discounted payback period, years	5.2

Project profitability



Project location:
Ayagoz district, East-Kazakhstan Oblast

Deposit reserves

Indicators	Unit meas.	Reserves
Nurbay		(Presumably according to intelligence data from 1962)
Copper (C2)	'000 tonnes	180.00
Incl. oxidized	'000 tonnes	30.00
Basskocky		(According to the evaluation work)
Copper (P1) (oxidized)	'000 tonnes	20.00
Sarybulak		(According to intelligence)
Copper	'000 tonnes	75.00
Incl. C2 (oxidized)	'000 tonnes	15.00
Incl. P1 (oxidized)	'000 tonnes	60.00

Mining and metallurgical complex

Development of Alaigyr lead-silver deposit

Project overview:

This investment project provides for the exploitation and development of Alaigyr lead-silver deposit ("Project").

Raw material:

lead-silver ores

Product:

Concentrate containing:

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

Initiator:

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

Location:

Karaganda Oblast, on the border between Shetsky and Karkaralinsky districts

Potential market:

Domestic market, KazZinc LLP

Market assumptions:

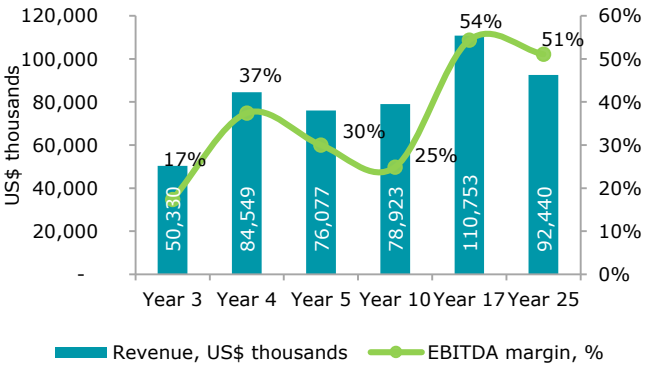
Growing demand. According to BMI Research, the world primary market of lead will experience shortfall by 2019 amid gradual supply cuts: lead consumption will exceed its production by 10 thousand tonnes in 2019. According to the Silver Institute, the last five years are characterised by a global silver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

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

Key investment data

Index	Results
Project implementation period, years	25
including investment period, years	*2*
operation period, years	*23*
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

Project profitability



Project implementation location: Karaganda Oblast

Deposit reserves approved by Kazakhstan State Reserves Committee

Category	Ore, thousands of tonnes	Grade		Amount	
		Pb, %	Ag, g/t	Pb, tonnes	Ag, kg
C1	13,160	5.69	27.6	784,500	362,600
C2	5,358	4.70	22.4	251,700	120,200
Total	**18,518**	**5.60**	**26.1**	**1,036,200**	**482,800**

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.

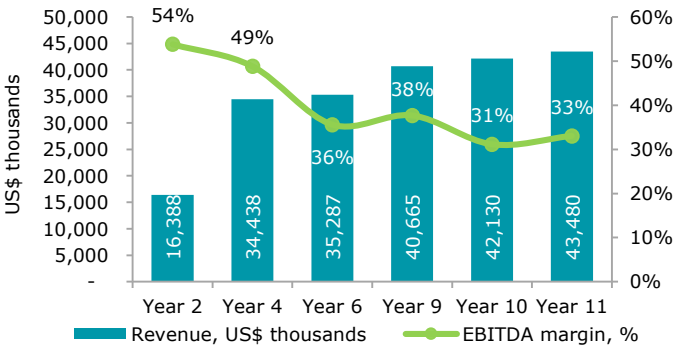
Price growth. Global market prices for refined copper demonstrate increasing dynamics related to increased demand for that product as a result of global economic stabilization. According to the forecasts, a moderate increase in copper prices is expected during the following years: 2020 – US$ 6997, 2021 – 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
Incl. Investment stage, years	*1*
Operational stage, years	*10*
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

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.

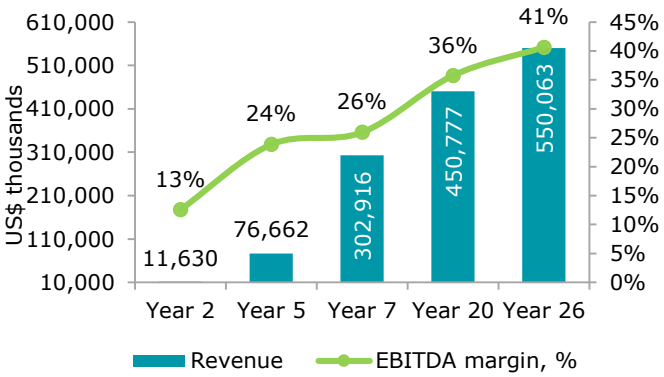
Rising metal prices. In the last three years, the lithium oxide price has increased 2.5 times due to growing demand. Average prices for molybdenum trioxide grew 20% in the same period. Prices for tungsten derivatives are currently growing. The lack of available financing and low metal content in ore 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
including the investment stage, years	1
operational stage, years	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 economics



Project location: Kostanai Oblast

Drozhilov field reserves

	Reserves, mln tonnes	Metals, thousand tonnes			Content, %		
		Mo	W	Li	Mo	W	Li
Proven	140	263	64.3		0.19	0.05	
Calculated	131	78	88.3	121	0.06	0.03	0.45
Estimated	300	150	150		0.05	0.05	

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.

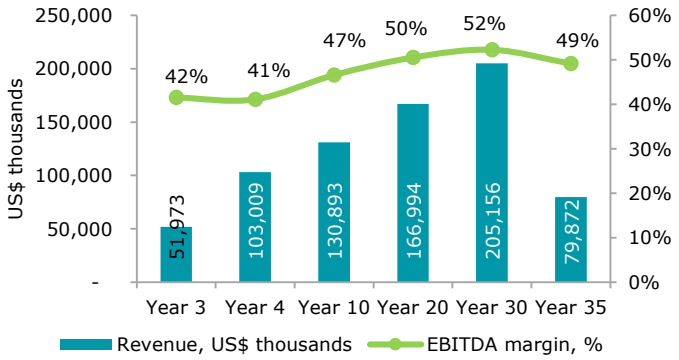
Metal price growth – The lack of readily available financing and low metal content in the ore deposits are the main reasons for the limited supply of metal in the market, which in the future, may serve as an incentive for further price increases for tungsten and molybdenum.

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
Incl. Investment stage, years	*2*
Operational stage, years	*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

Mining and smelting industry

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.

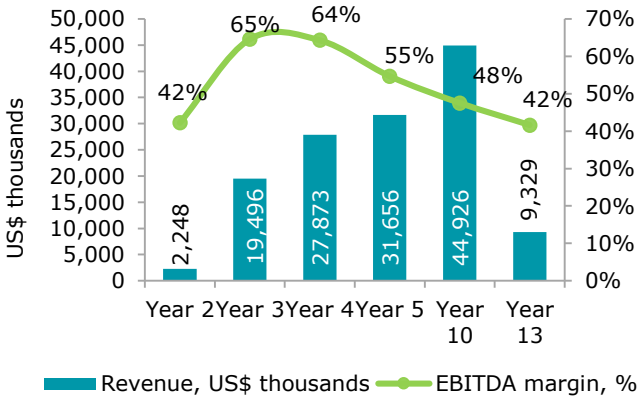
***Import substitution*.** Industry analysis shows that the production capacity in Kazakhstan does not cover the domestic demand for gold. Average annual growth in imports of gold ore in the period from 2010 to 2014 was equal to 93%. Also, despite the observed stable growth in the volumes of lead and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

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.

Market assumptions:

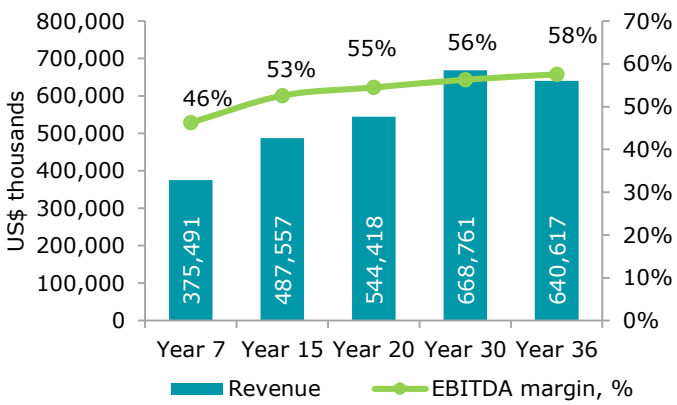
High demand. Demand for iron ore, primarily due to the demand for steel, directly reflects the development trends of the world economy. According to estimates from The Economist Intelligence Unit («EIU»), in the foreseeable future, steel production will grow by 4% in 2019 amounting to 1692 million tonnes.

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.

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 Profitability



Project location: Kurchumsky district, East Kazakhstan Oblast

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 (ТОО ИЦЭТИ) in November 2017.

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.

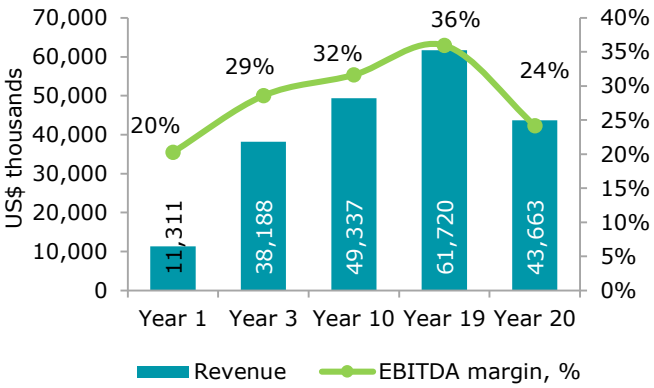
Rising metal prices – According to the forecast data of the World Bank, it is expected of rising of the price of copper (2018 – US$ 6,800; 2021 - US$ 6,849). As of from 2018 to 2022 the average nickel price per year will increase by 3%.

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
incl. investment stage, years	2
operational stage, years	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 Profitability



Project Location: Abay District, East Kazakhstan oblast

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
Всего	**43.5 mln**	**0.41**	**0.33**

Mining and metallurgical complex

Steel production at the Velikhovskoye deposit in Aktobe Oblast

Project Description:

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

Raw materials:

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

Initiator: Aktobe-Temir-VS Subsidiary, JSC

Location: Kargalinsky district, Aktobe oblast

Potential markets: Kazakhstan, Russia, China

Market assumptions:

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

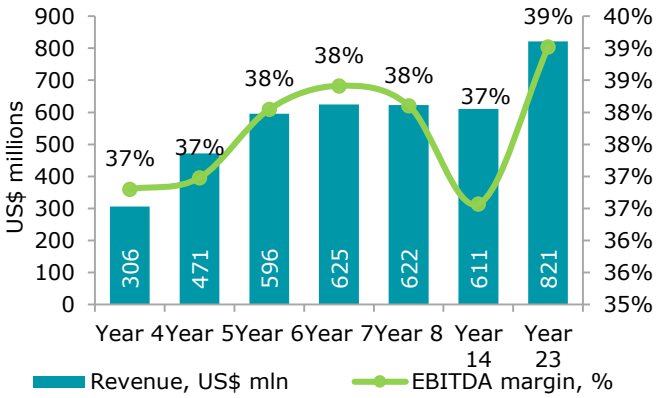
***Further growth in demand for steel*.** According to the forecasts of the International Steel Association, the global volume of demand for steel and steel products will increase by 1.8% and 0.7% in 2018 and 2019 respectively.

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

Key investment indicators

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

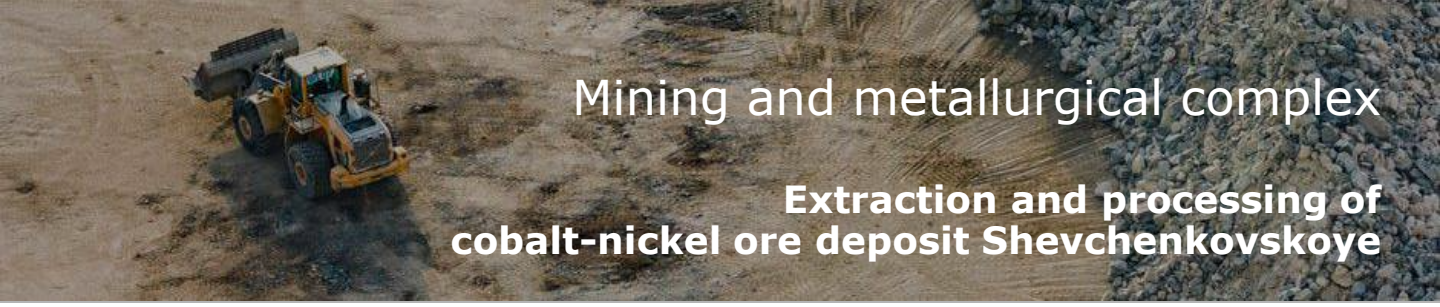


Project location: Kargalinsky district, Aktobe Oblast

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
Total	**-**	**-**	**494,461,430**	**20.43**

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



Mining and metallurgical complex

Extraction and processing of cobalt-nickel ore deposit Shevchenkovskoye

Project Description

Extraction and processing of cobalt-nickel ores from Shevchenkovskoye deposit

Project Initiator

"KazCobalt" LLP, subsoil user of the deposit JSC Qazgeology

Production

Ferronickel

Reserves

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

Project location:

50 km to the south west of Zhetikara, Kostanay Oblast

Potential consumer markets

Kazakhstan, China

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.

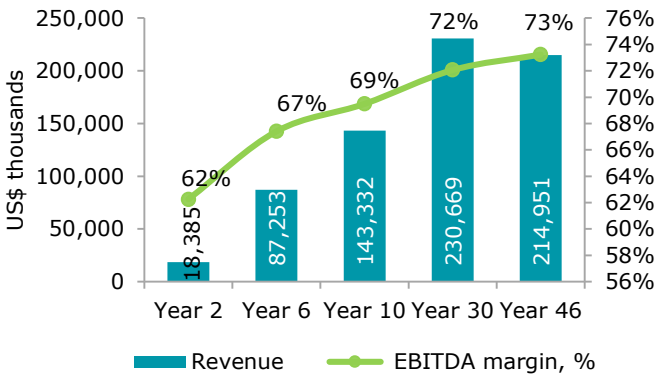
Rising demand for metals – Development of industries (e.g. production of electronic devices, medical equipment and electric vehicles), that use nickel batteries, will provide long-term demand for the metal. According to WMBS, in 2017, the deficit of refined nickel on the world market amounted to around 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
incl. investment stage, years	*1*
operational stage, years	*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
Proven	*21.4 million*
Possible	*83 million*
Nickel	825 thousand (0.79%)
Cobalt	47 thousand (0.0455)

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

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:

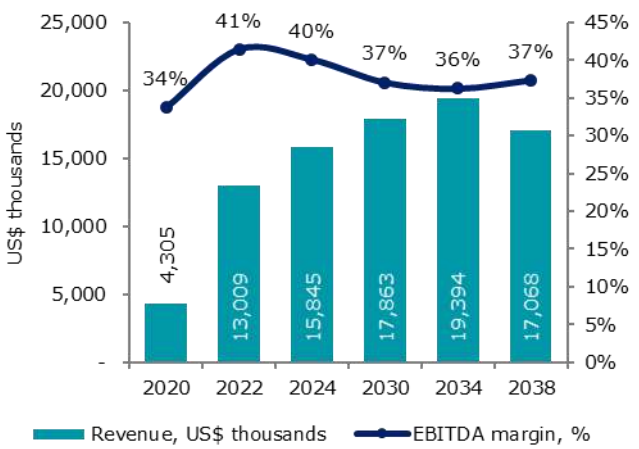
Existence of a rich resource base.
The Aurtas deposit, located in Mangistau Oblast, is the largest barite ore deposit with a balance stock of 3.5 million tons of ore. Additionally, ore reserves may increase during additional geological exploration of the area during mining operations.

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

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

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

Project profitability



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

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.

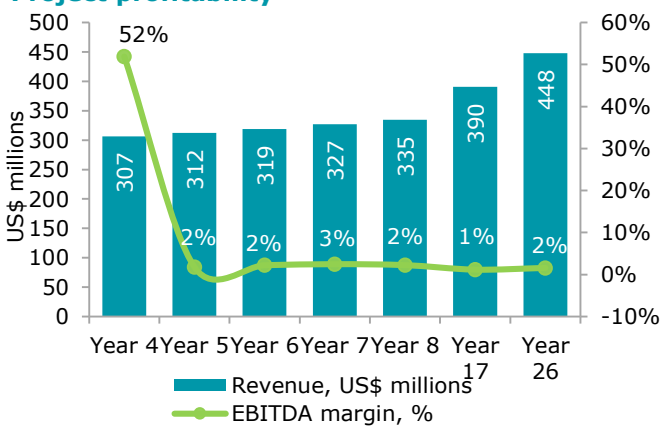
Potential for pig iron exporting. Currently, in Kazakhstan, the export of pig iron is underdeveloped. In particular, exports to China are completely non-existent. Moreover, the import of pig iron in Russia and China is growing rapidly, thereby creating exporting potential for producers in Kazakhstan.

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 location: Shalkar district, Aktobe Oblast

Project profitability



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 Samarsroye deposit). In China, a policy is being implemented to reduce coal production. These factors suggest an existence of opportunity for exporting to those markets.

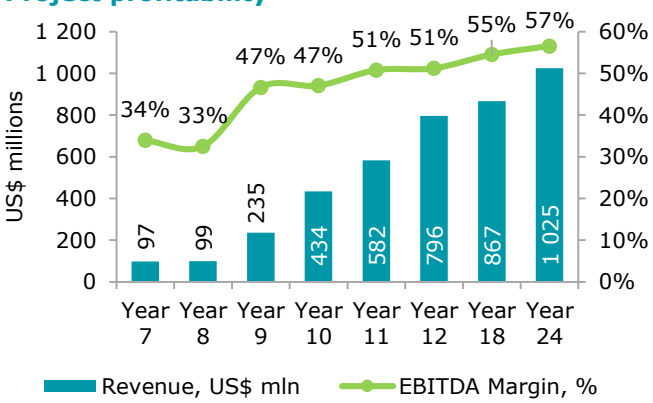
Constantly growing prices. Recently, the market has seen an increase in prices for both coal and products processed from it (namely a coal coke as a result of higher prices for coking coal). In the period of 2013-2017, the average increase in producer prices for coal and brown coal was 12% and 5%, respectively.

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

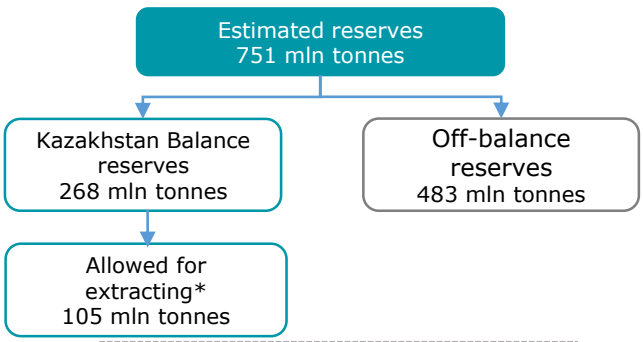
Project profitability



Project location: Nurinsky district, Karaganda Oblast

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

Deposit resources



- *Volatile – 34-40%*
  Sulfur – 1,8-2,2%
- *Phosphorus – 0,03-0,06%*
- *A, % - 9%*
- *Y, mm - 22*

Deloitte.

Mining and smelting industry

Extraction and processing of nickel-cobalt ore deposit Bogetkol

Project Description

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

Project goals:

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

Project Initiator

Mining company "Sary Arka" LLP

Production

- Nickel concentrate;
- Cobalt concentrate.

Annual production capacity:

Nickel – from 4,508 to 9,125 tons, Cobalt – from 281 to 580 tons.

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, Aktobe region

Market prerequisites:

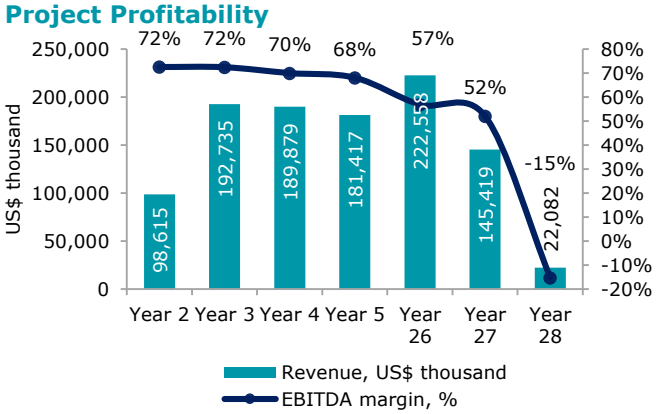
Rising prices for nickel and cobalt. According to forecasts by Bloomberg analysts, the average nickel price in 2019 will increase by 27% and amount to US$ 13,550 per ton, and for the period 2019 – 2022, the average annual price will increase yearly by 9% and rise to US$ 15,900 per ton by 2027.

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

In-situ recovery (ISR) method of mining with sulphurous acid leaching: The extracted productive solution (which contain nickel and cobalt ores) then goes to the processing plant. Received productive solution further goes through the following stages:

- Nickel/cobalt extraction from pregnant solutions by ion exchange;
- Eluate neutralization;
- Nickel/cobalt sulphate purification and recovery;
- Tailings neutralisation, storage and evaporation.

Project Profitability



Field Reserves

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

Extraction and processing of gold-bearing ores at Shokpar and Gagarin deposits

Project overview:

Extraction and processing of gold-bearing ores of the Shokpar and Gagarin deposits (the "Project")

Commercial product: bulk concentrates of gold and silver.

Output capacity: 17,531 kg of gold and 90,764 kg of silver over the whole project operating period.

Production process: *Mining* – open-pit and underground; *Processing* – direct collective flotation

Project implementation period: 14 years, incl. the development of deposits in the meantime.

Initiator:

Tau-Ken Samruk National Mining Company LLP – national operator of mining assets in Kazakhstan, which has a priority right to acquire a license for exploration and extraction of mineral resources.

Project implementation location: Zhambyl Oblast

Potential markets: Kazakhstan

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 fieds.

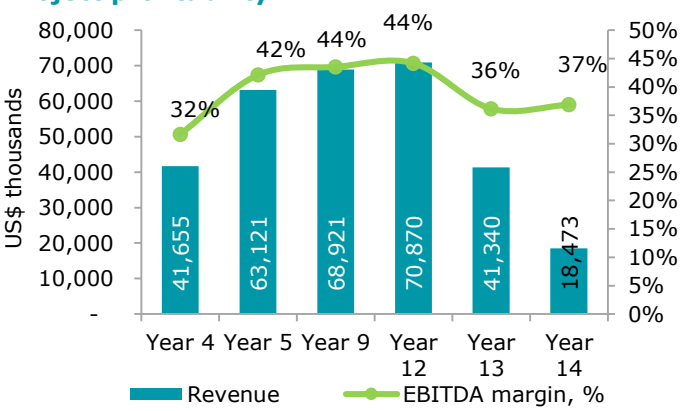
Export potential – Taking into account the fact that 24% of the global demand for gold comes from China, Kazakhstan has a huge export potential. Kazakhstan has exported 4,500 tonnes of gold-bearing ore to China in 2017. Also, one of the other main importers of Kazakhstan gold is Russia, which has imported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

Index	Results
Project implementation period, years	14
incl. investment stage, years	*2*
operational stage, years	*12*
Investment amount, US$ thousands	63,346
Project NPV, US$ thousands	37,391
IRR, %	21.1%
EBITDA margin, %	42%
Payback period, years	6.1
Discounted payback period, years	7.6

Project profitability



Project location: Zhambyl Oblast

Shokpar field reserves and resources

	Reserves	Resources
	C2	P1
Ore	2,105 thous. tonnes	2,121.8 thous. tonnes
Gold	15,151.8 kg (7.2 g/tonne)	15,600 kg (7.4 g/tonne)
Silver	89.7 tonnes (42.6 g/tonne)	78.6 tonnes (37 g/tonne)

Gagarin field reserves and resources

	Reserves
	C2
Ore	1,659.6 thous. tonnes
Gold	9,430.3 kg (5.7 g/tonne)
Silver	85.4 tonnes (51.5 g/tonne)

Mining and smelting industry

Deloitte.

Kogadyr-6 gold ore deposits

Project overview:

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

Investment amount: US$ 111,362 thousand

Capacity: 300,000 tonne/year

Product: Dore gold

Location:

Dzhambul Oblast, Kordai District, Kogadyr

Project implementation period:

13 years and the possibility of subsurface management license extension

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

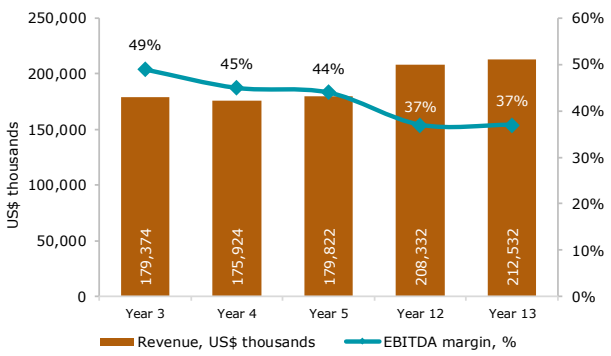
Market prerequisites:

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

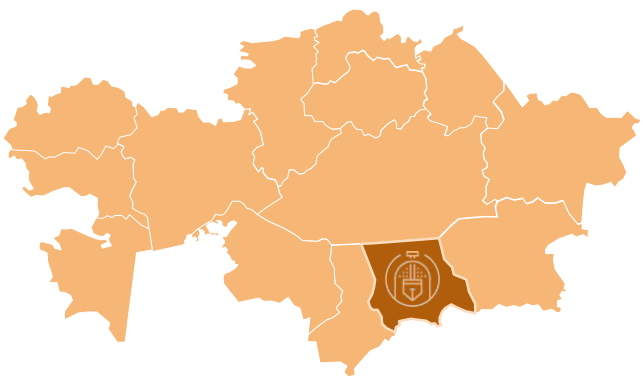
Key investment indicators

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

Project profitability



Project location: Dzhambul Oblast, Kordai District



Kogadyr-6 deposit reserves

Class	Type	Tones (Mt)	Au (g/t)	Contained Metal (koz Au)	Contained Metal (tones Au)
Indicated	Transition	4.1	0.91	120	3.7
	Fresh	7.9	0.98	248	7.7
Subtotal Measured + Indicated	**Transition**	**4.1**	**0.91**	**120**	**3.7**
	Fresh	**7.9**	**0.98**	**248**	**7.7**
Inferred	Transition	0.7	1.12	25	0.8
	Fresh	17.7	1.28	730	22.7
Total Measured + Indicated + Inferred	**Transition**	**4.8**	**0.94**	**145**	**4.5**
	Fresh	**25.6**	**1.19**	**978**	**30.4**

Deloitte.

Mining and metallurgical complex

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

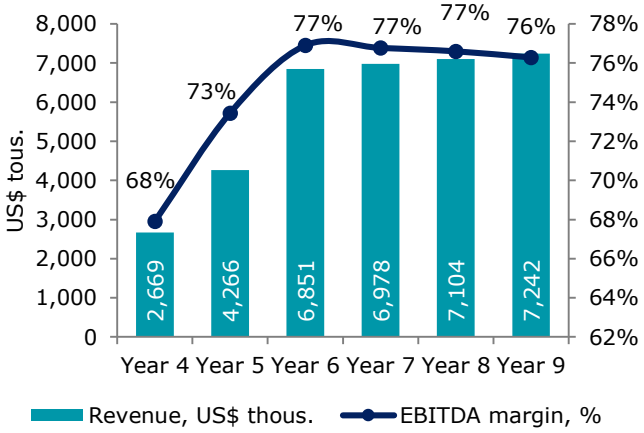
Indicator	Results
Investment amount, US$ thous.	10,114
Project NPV, US$ thous.	5,651
IRR, %	24.04%
EBITDA yield, %	75.2%
Payback period, years	6.48
Discounted payback period, years	8.22

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 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

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.

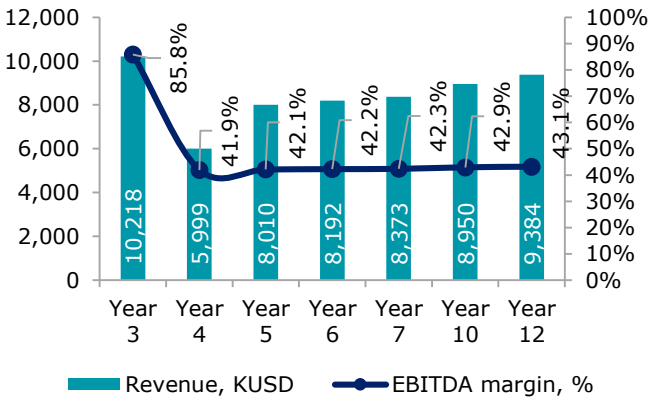
Import substitution – Domestic production facilities cannot meet the demand for gold. Despite the decline in imports during the period from 2013 to 2017, in 2018, 210 thousand tons of metal were imported.

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.

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 profitability



Project location: Karagandy region

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

Mining and smelting industry

Deloitte.

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

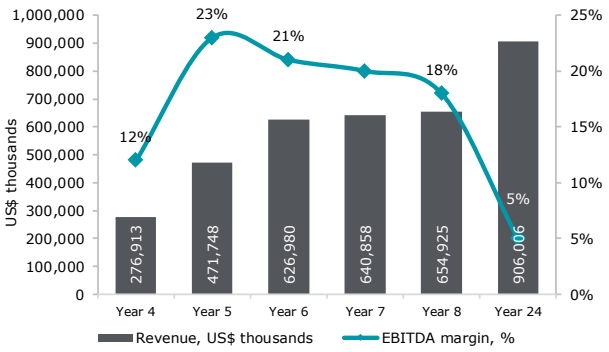
Market prerequisites:

- *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 profitability



Project location: Aktobe Oblast, Shalkar district

Kokbulak deposit reserves

Class	Reserves, million tonnes	Fe, %	P_2O_5, %	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

Mining and smelting industry

Tokhtar, South Tokhtar and STB gold ore deposits

Deloitte.

Project overview:

The extraction of gold ore from considerable measured resources at the Tokhtar, South Tokhtar and South-Tokhtar-Barambayev (hereinafter STB) deposits. It also involves developing a mine at the Tokhtar deposit and a new mine at the South Tokhtar deposit.

Investment amount: US$ 322,034 thousand

Capacity: 450,000 tonne/year

Product: Cathodic gold

Location:
Kostanai Oblast, Zhetikara

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

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

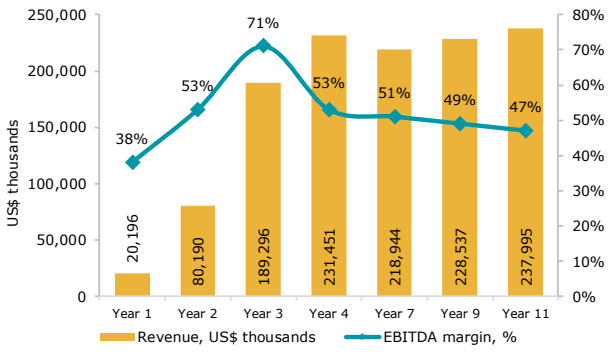
Market prerequisites:

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

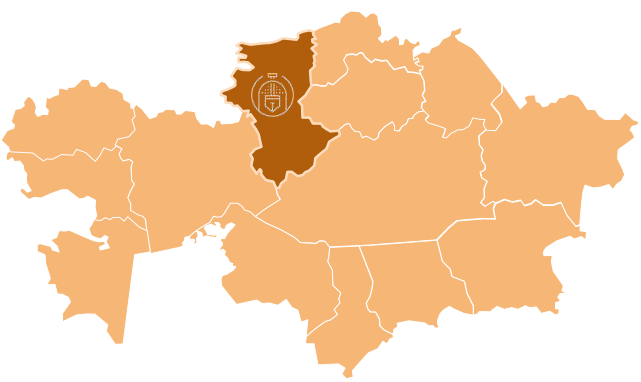
Key investment indicators

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

Project profitability



Project location: Kostanai Oblast, Zhetikara



Deposit reserves

Indicator	Unit of measurement	On-balance reserves		
		C_1	C_2	C_1+C_2
Tokhtar				
Gold	kg	1,662	10,055	11,717
Content	g/tonne	8.2	10	9.7
South Tokhtar				
Gold	kg	3,509	20,806	24,315
Content	g/tonne	4.9	5.4	5.3
STB				
Gold	kg	-	12,353	12,353
Content	g/tonne	-	2.6	2.6

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.

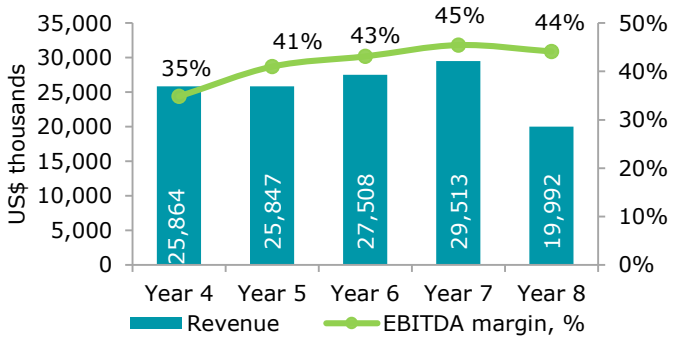
In China (the largest consumer of zinc), the demand for refined zinc is expected to grow from 6,596 thousand tonnes in 2018 to 7,257 thousand tonnes in 2020. Kazakhstan, unlike Peru and Australia, has a convenient geographical location for exporting products to China.

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_1–C_2	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*

Chemical and petrochemical industry

Construction of the base oil production plant in Turkestan Oblast

Project overview:

Construction of Group I, II and III base oil production plant in Turkestan oblast

Raw materials:

Straight-run fuel oil from "PetroKazakhstan Oil Products" (PKOP) oil refinery.

Commercial products:

high-quality base oils of Group I (1200SN), Group II (60N, 150N, 350N), and Group III (650N)

Output capacity:

255 thousand tonnes of base oils per annum

Initiator:

HILL Corporation Group, the only major producer of lubricating oils in Kazakhstan.

Project location:

Turkestan Oblast, Shymkent city industrial zone

Consumer markets:

Kazakhstan, China

Market assumptions:

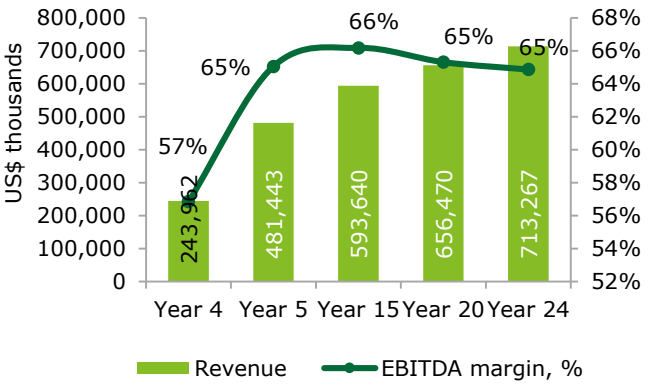
Availability of customers and raw materials - There is a need to supply raw materials to HILL Corporation's operating plant for compounding lubricating oils. Straight-run fuel oil is the main raw material for the Project, which will be supplied by PetroKazakhstan Oil Products LLP ("PKOP"), an oil refinery 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.

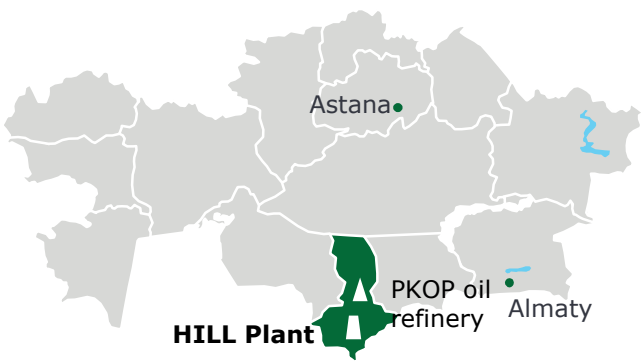
Key investment data

Index	Results
Project implementation period, years	24
incl. the investment stage, years	*4*
operational stage, years	*20*
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

Project profitability



Project location: Turkestan Oblast, Shymkent city industrial zone



Planned output capacity

Product	Volume, tonnes	Share
Base oils	**254,738**	**100%**
Base oil 60N	20,000	8%
Base oil 350N	36,044	14%
Base oil SN1200	40,470	16%
Base oil 650N	60,950	24%
Base oil 150N	97,274	38%
Secondary products	**240,000**	**100%**
Drilling fluid	18,000	8%
Naphtha	50,542	21%
Deasphaltizate	75,074	31%
Diesel fuel	96,026	40%

Deloitte.

Chemistry and petrochemistry

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

Project overview:

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

Commercial products and annual output:

- AA class methanol: 1,800 thousand tonnes per year;
- Olefins: 600 thousand tonnes per year (propylene - 360 thousand tonnes, ethylene - 240 thousand tonnes).

Initiator:

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

Project location: Mangystau Oblast, Aktau

Consumer markets: domestic market, Europe, Russia.

Market assumptions:

Growing demand for methanol and olefins

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

Import substitution

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

Export potential

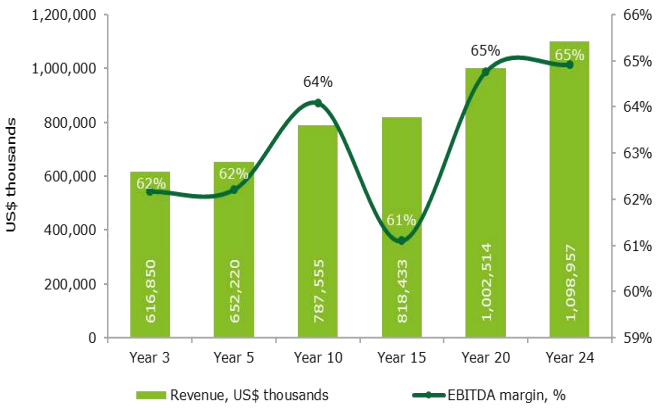
Besides sales, products will also be exported. The external market is attractive for sales due to the growing demand and availability of cheap raw materials, which opens up significant prospects for the organization of export of the Project's products.

Key investment indicators

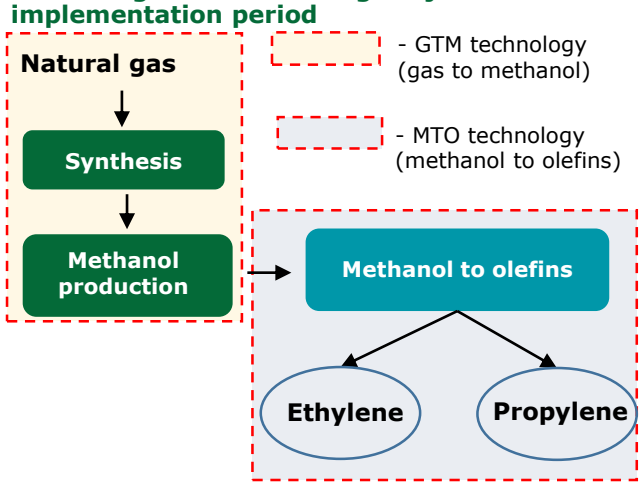
Indicator	Results
Investment, US$ thousands	1,800,000
Project NPV, US$ thousands	1,068,605
IRR, %	21.2%
EBITDA returns, %	63%
Payback period, amount of years from the start of production	6.9
Discounted payback period, amount of years from the start of production	9.7

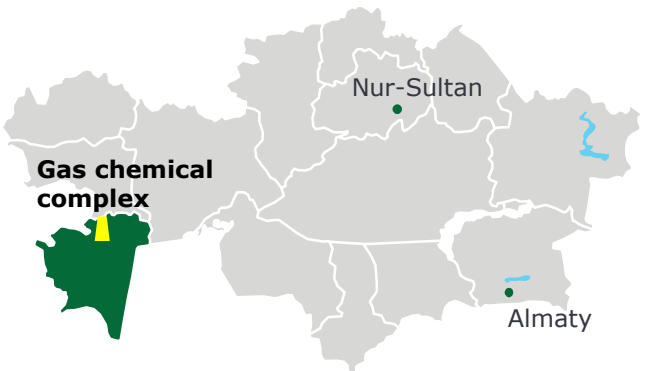
Project location: Mangystau Oblast, Aktau

Project profitability



Technological flows during Project implementation period





Chemical and petrochemical industry

Construction of gas chemical complex on the Karachaganak field

Project overview:

Construction of a gas chemical complex for processing of separated and stabilized gases, containing acid gas (C02+ H2S). Separated and stabilized gases will be produced by production facilities at Karachaganak deposit.

Raw material:

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

Commercial producs and annual output:

- Liquefied petroleum gas (LPG) – 622 thousand tonnes;
- Polyethylene – 241 thousand tonnes;
- Pyrolysis petrol – 7 thousand tonnes.

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

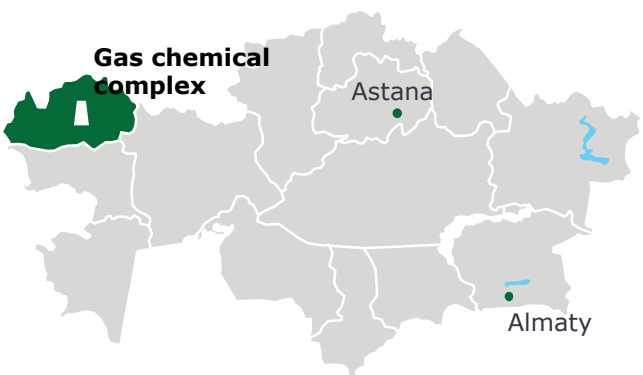
Project location: West Kazakhstan Oblast, 12 km from the town of Aksay.

Consumer markets: Kazakhstan, Europe, China and India.

Key investment indicators

Indicator	Results
Project implementation period, years	24
incl. investment stage, years	*5*
operational stage, years	*19*
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

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



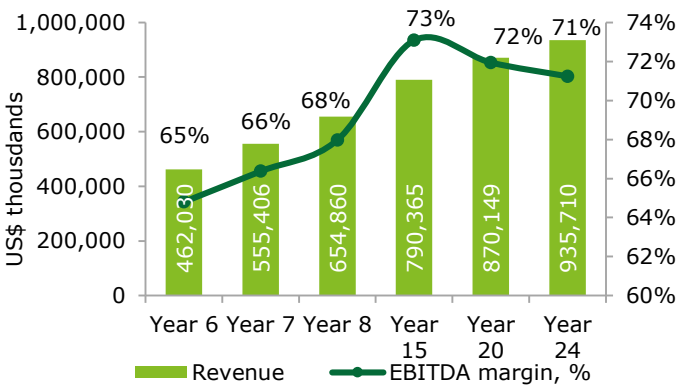
Market assumptions:

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

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

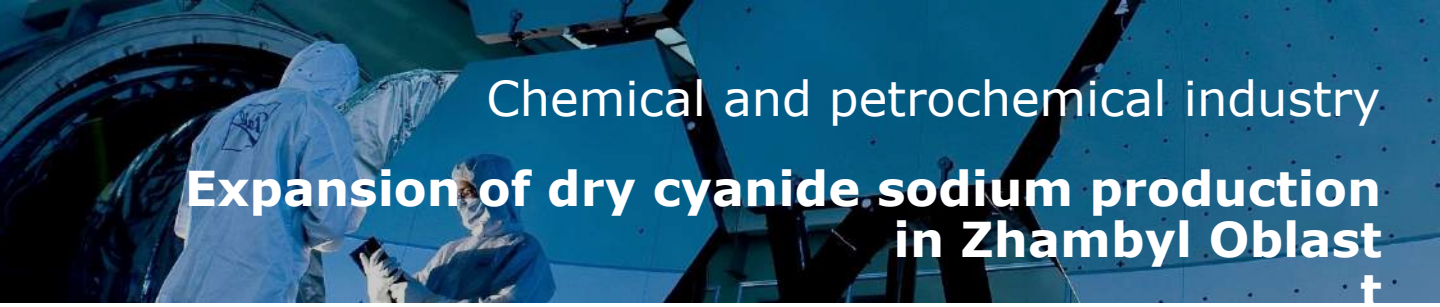
Export potential– In neighboring countries, there is a growing demand for petrochemical products (particularly for polymers). According to Bloomberg forecasts, China's demand for polyethylene will grow by 26.6% and will reach 13.4 million tonnes per year by 2021.

Project profitability



Technological flows during Project implementation period

1. Fat acid gas from KPC
2. Dry acid gas returning from the gas chemical complex
3. Condensate returning from a gas chemical complex to KPO



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

Commerical 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:

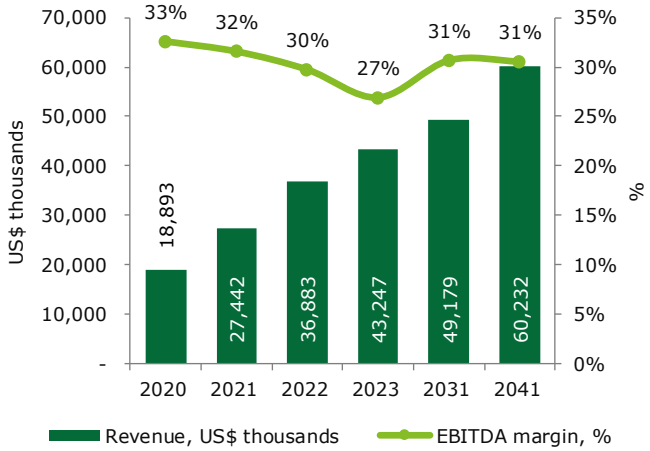
Growing demand – 85 tonnes of gold produced in 2017 by domestic gold mining companies required more than 40 thousand tonnes of reagents, which is 3 times higher than production output of sodium cyanide in Kazakhstan.

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
including the investment stage, years	*3*
Operational stage, years	*21*
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

Talas Investment Company LLP

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
	Current capacity		*+Future capacity*		

Deloitte.

Chemistry and petrochemistry

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 30 thousand tonnes 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

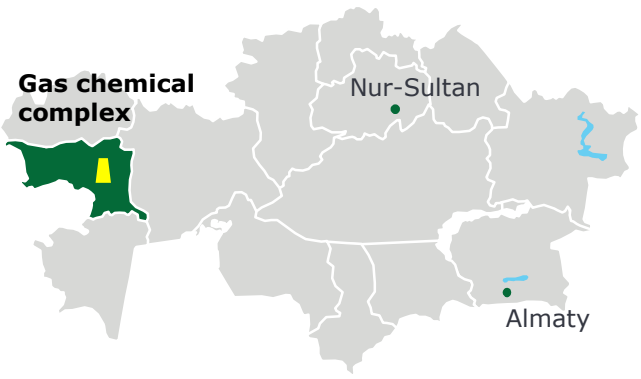
Project location: SEZ "NIPT", Atyrau Oblast

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.

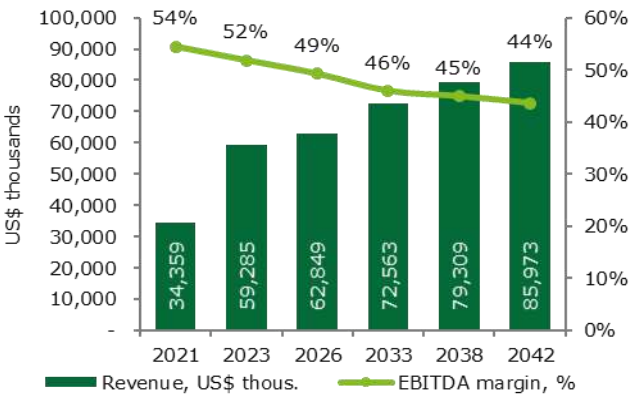
Import substitution

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

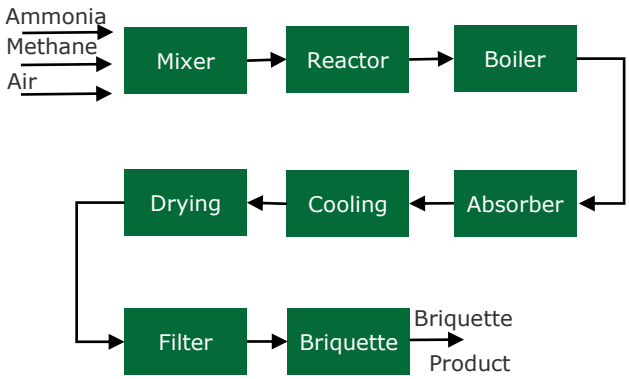
In 2014-2018 the average annual growth rate of world gold production was equal to 2%. At the same time, the neighboring countries, such as China and Russia, are the largest producing countries of the precious metal, which account for about 15% and 8% of world production, respectively.

Project profitability



Technological flows of the Project

direct production method



Deloitte.

Chemistry and petrochemistry

Construction of a plant for the assembly and production of non-electric initiation systems and emulsion explosives

Project overview:

This investment project provides for the construction of a plant for the assembly and production of non-electric initiation systems and a mobile plant for the production of emulsion explosives ("Project").

This project is considered as innovative, since there is a construction of the first plant in Kazakhstan for the full-cycle production of NEIS.

Commercial products and annual output:

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

Initiator:

Nitro-Kazakhstan LLP

Project location: Karaganda Oblast, Satpayev

Consumer markets:

domestic market, Russia and Uzbekistan.

Market assumptions:

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

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

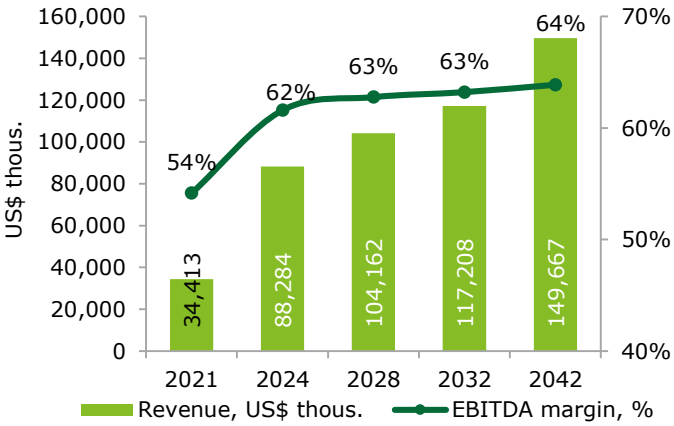
Exporting potential Production of explosives and NEIS in the Karaganda Oblast will allow covering the country's MMC market, as well as exporting products while increasing volumes to Turkey, Russia, Uzbekistan and Kyrgyzstan.

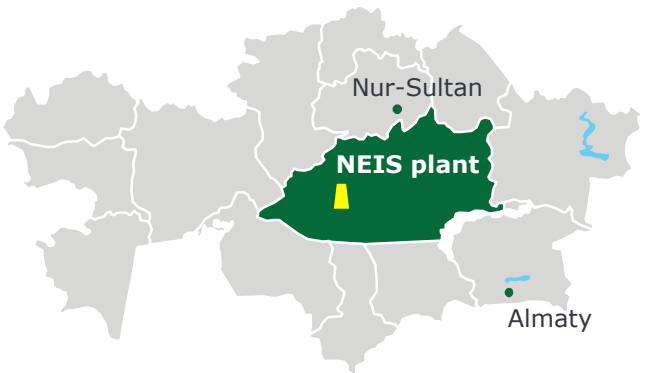
Key investment indicators

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

Project location: Karaganda Oblast, Satpayev

Project profitability





Products and services provided within the framework of the Project:

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

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

Other services:
Blasting and drilling operations

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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.

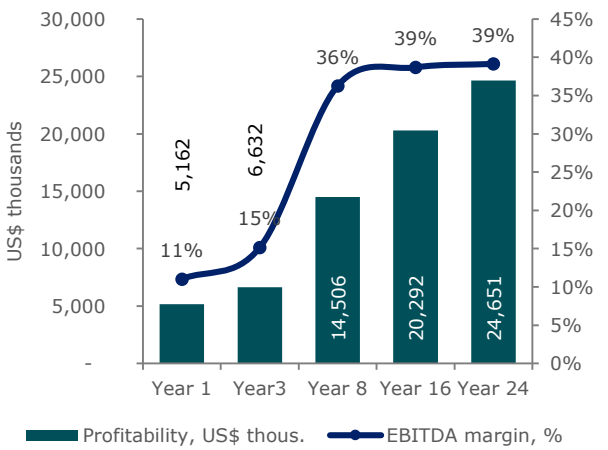
Air cargo services:

- 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

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Transport and logistics

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

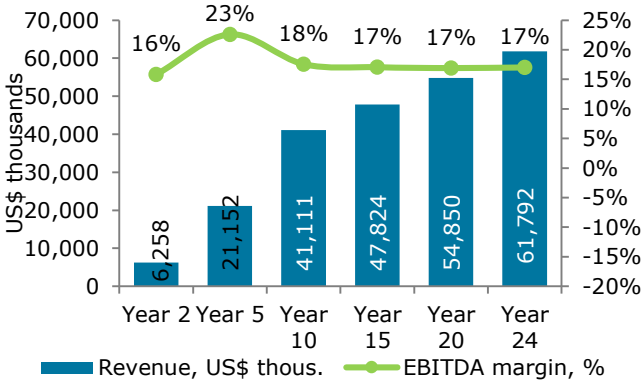
Market prerequisites:

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.

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Transport and logistics

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 servies		
	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, 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
Total	**-**	**1,630**	**1,348**	**7,688**

Market prerequisites:

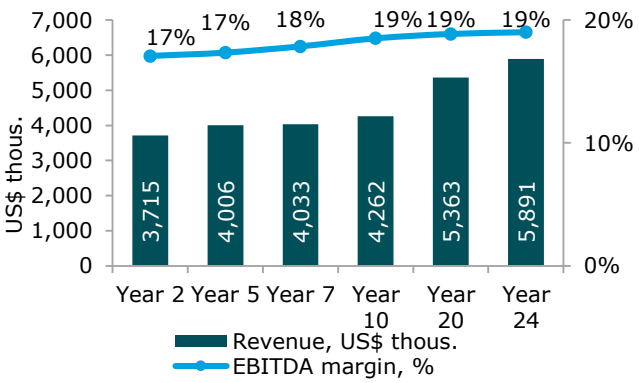
Growing demand for cars. Over the past 10 years, the average annual increase in the number of cars in the country amounted to 5%. According to forecasts, the car fleet will grow from 4.3 million units in 2018 to 10 million units by 2045-2050. The country has also increased passenger and cargo turnover 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.

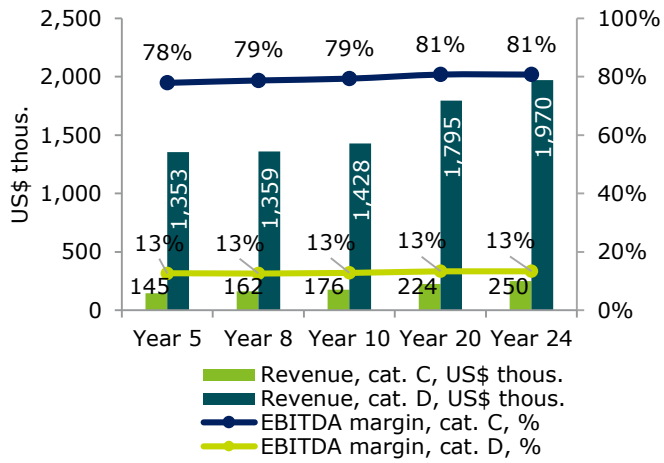
Extensive customer base. In 2018, the share of cargo transportation by land was 30%, and the share of passenger turnover was 88%.

Project profitability

Categories "A" and "B"



Categories "C" and "D"



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%.

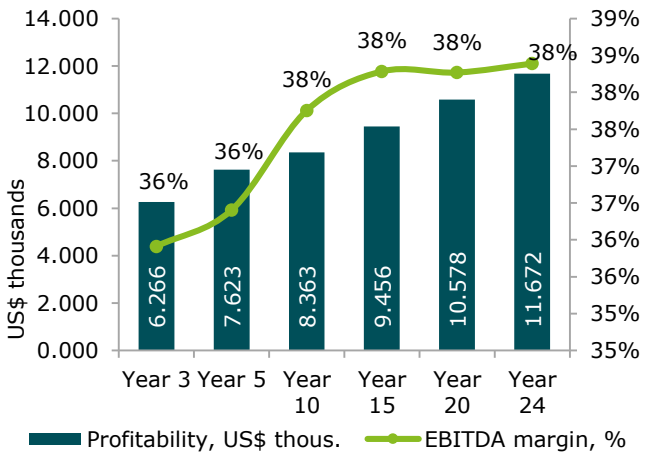
Low competition in the field of transport and logistics in the West Kazakhstan region

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 Aktobe regions, which are the country's oil and gas centers, and where the total population is over 1.5 million people. Within a radius of 200 km are the nearest four cities of the Russian Federation with a total number of more than 5 million people.

Project profitability



Energy Sector

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
incl. investment stage, years	*3*
operational stage, years	*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.

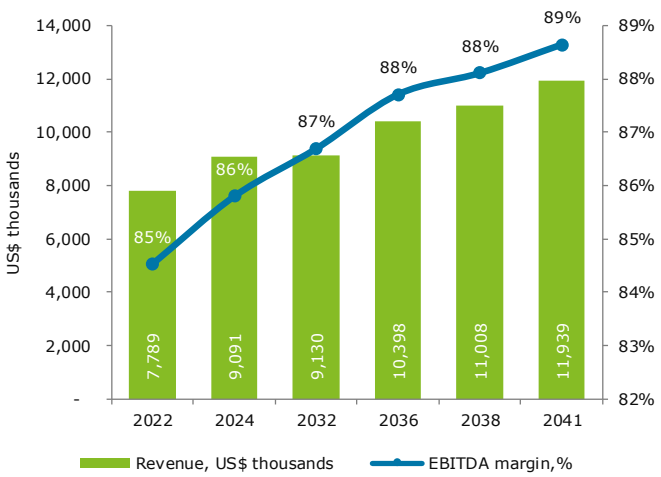
The growth of electricity consumption

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



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MSW recycling

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.

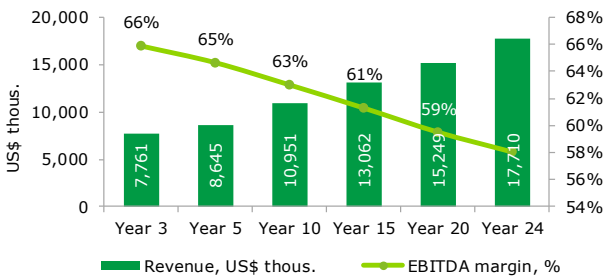
Lack of competition in the region. The Karaganda Oblast does not have the enterprises engaged with the recycling of MSW by production of biogas, while the total volume of wastes continues to increase annually. Thus, by the end of 2017, more than 350 thousand tonnes of MSW was generated in the Karaganda 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.

Deloitte.

MSW recycling

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

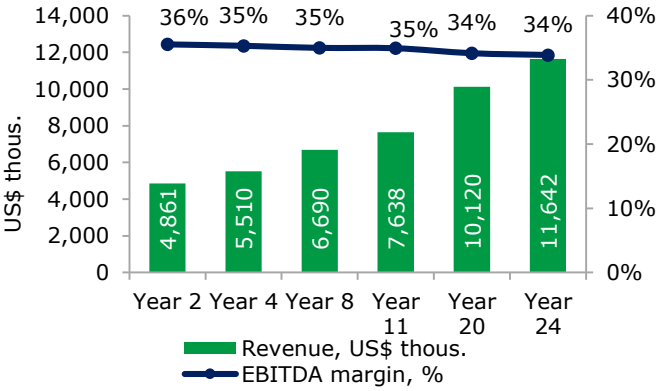
Market assumptions

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%.

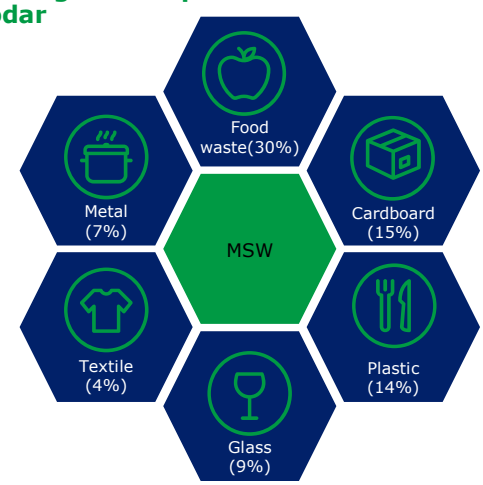
Increased public awareness of waste management. The number of landfills and their area is growing rapidly, having a negative impact on the environment. At present, in Kazakhstan there are more than four thousand landfills, of which only 13% comply with sanitary standards and have a permit for emissions 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



Expansion of a poultry meat production complex

Project description

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

Project location

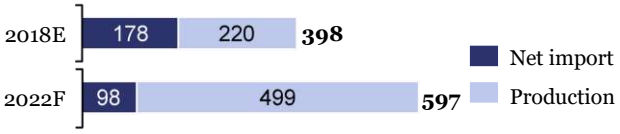
Investment highlights

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

Market analysis

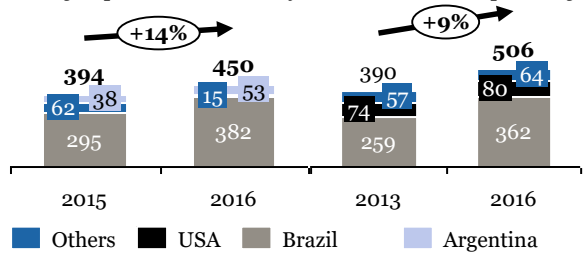
I. 50% of poultry meat consumed in Kazakhstan is imported. Also, a forecasted growth in consumption presents a case for safe-haven **hinter market**.

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



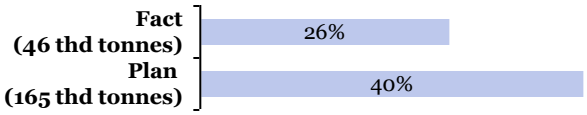
Target Investor Mandate

- 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: Alel, ameral fresh, tasty chick and own parent flock, feed mill and equipment of leading technology suppliers.

Value proposition

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

Sources: EU Commission, Statistics Committee of the Ministry for national economy of the RK, Union of Poultry Farmers of Kazakhstan

Expansion of a poultry meat production complex

Project description

The current production capacity of 8 thd tonnes p.a. is to be increased to 20 thd tonnes p.a. The existing company already exports its product to Kyrgyzstan. Thus, the end markets are Kazakhstan (80%) and Kyrgyzstan (20%). The project owner has a land plot of 536 hectares and the necessary infrastructure. The initiator expressed willingness to cover part of the required upfront investment.

Project location

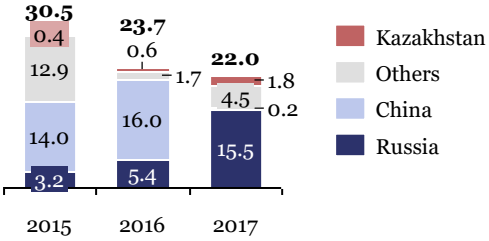
Investment highlights

Upfront investment	$34 MM
NPV	$21 MM
IRR	24%
Payback period	6 years

Market analysis

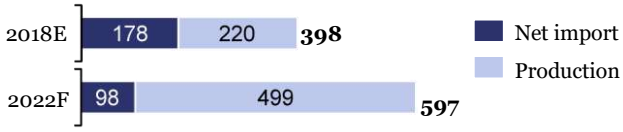
I. **Kyrgyzstan imports** >60% of poultry meat it consumes. Kazakhstan only supplied about 8% of Kyrgyzstan's total import.

Importers of poultry meat to Kyrgyzstan, thd tonnes



II. Kazakhstan imports ~50% of poultry meat consumption. This and the forecasted growth in consumption present a case for a safe-haven **hinter market**.

Poultry meat, 2018E and 2022F, thd tonnes



Target Investor Mandate

- Supply of broiler technologies
- Foreign distributor

Competitive advantage

I. The initiator has a well-established sales of products to Kyrgyzstan, which accounts for 20% of the total production.

II. Close proximity to sales markets: 270 km. To Bishkek (the capital of Kyrgyzstan).

III. Price advantage when exporting to Kyrgyzstan.

Prices by countries exporting to Kyrgyzstan in 2017, thd USD/ tonne

Value proposition

This project allows to capitalize on **existing trade relationship** with Kyrgyzstan by expanding the production volume and provide **import substitution**.

Sources: EU Commission, Statistics Committee of the Ministry for national economy of the RK, Union of Poultry Farmers of Kazakhstan

Construction of a broiler poultry farm

Project description

The project consists of a construction of a full-cycle broiler poultry farm with a floor housing and capacity of 20 000 tonnes of poultry meat p.a. At least 50% of the total production will be sold chilled and at least 50% of the output will be exported to the Eurasian Customs Union, Central Asia and Middle East countries. the Initiator of the project already owns a well-developed poultry farm with a 120 mln annual eggs production and a distribution network for poultry products.

Project location

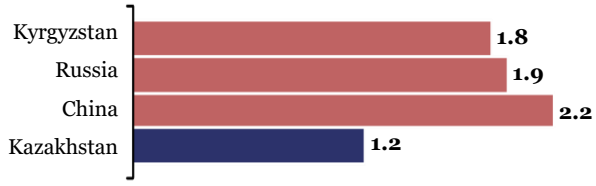
Investment highlights

Upfront investment	$34 MM
NPV	$27 MM
IRR	27%
Payback period	7 years

Market analysis

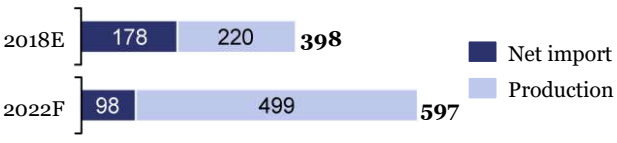
I. Export prices will be notably higher than the prices for domestic sale. This and the low export level of poultry meat (about 6 thd tonnes) favour the case of **exporting** the end product.

Prices by offtaking countries in 2017, thd USD/tonne



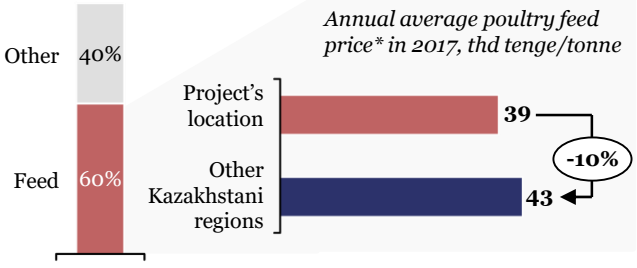
II. Kazakhstan imports ~50% of poultry meat consumption. This and the forecasted growth in consumption present a case for safe-haven **hinter market**.

Poultry meat in 2018E and 2022F, thd tonnes



Competitive advantage

Cost of feed takes up **60%** of the total production cost of poultry meat. Feed is **50%** wheat.



*wheat of class 4

Value proposition

This project allows to capitalize on existing **low cost feed** compared to the rest of the country, know-how and provides **safe marketing option**.

Target Investor Mandate

- Supply of broiler technologies
- Long-term growth
- Foreign distributor

Sources: EU Commission, "Kazakh-Zerno" informational and analytical agency, Statistics Committee of the Ministry for national economy of the RK, Union of Poultry Farmers of Kazakhstan

Construction of a feed yard and a cattle meat processing plant

Project description

The project plan is to expand existing meat production and processing (steaks, sausages, offals) for export. The company exports 6 thd heads of sheep to Iran and more than 300 heads of cattle to Uzbekistan p.a. The company has already 20 ha land plot and estimates to sell 40 thd heads equivalent amount of meat p.a. The initiator was recognized as one of "100 new persons of Kazakhstan" for his business achievements and trusted relations with buyers.

Project location

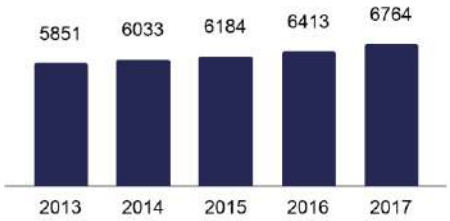
Investment highlights

Upfront investment	$16 MM
NPV	$15 MM
IRR	25%
Payback period	7 years

Market analysis

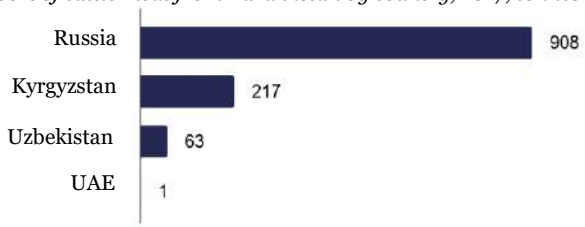
On the domestic beef market in Kazakhstan, meat is provided by more than 90%.

Volumes of cattle of the Kazakhstan market, thousand heads



The main markets for Kazakhstan meat are Russia, Kyrgyzstan and Uzbekistan.

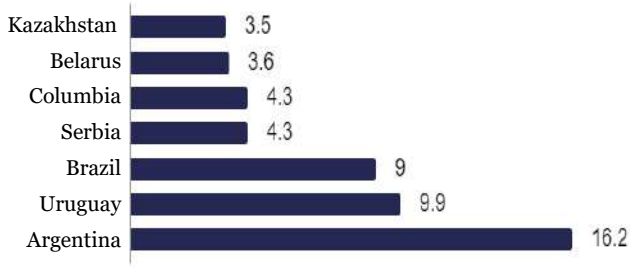
Export of cattle meat from Kazakhstan by country, 2017, tonnes



Competitive advantage

The cost of exported beef has a price advantage in the global market.

Price advantage in the Russian market in 2017, USD/kg



Value proposition

This project allows an investor to take advantage of growing export of meat to Iran and Uzbekistan. Price and quality are key potential drivers of sales.

Target Investor Mandate

- Able to provide an offtake contract
- A supplier of technologies

Source: Interntaional Trade Centre (ITC), economy.gov.kz, worldbank.org, stat.uz

Construction of a cattle feedlot

Project description

The project aim is to expand existing feedlot from 3,500 cattle to 25,000 cattle of rapid fattening, followed by the production of meat, meat products and sausages to 4,500 tonnes per year. The construction of plant was started in 2014, as well as the introduction of advanced breeding technologies, keeping and fattening livestock. It is also planned to purchase fodder crops, which will be sown on the feed area for intensive fattening of livestock.

Project location

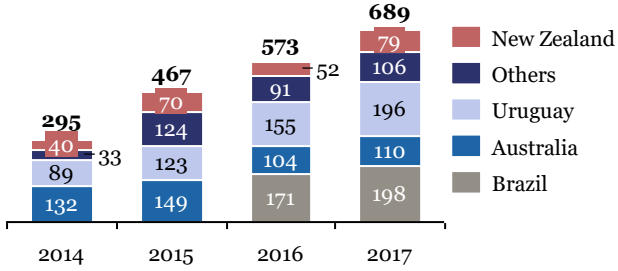
Investment highlights

Upfront investment	$19 MM
NPV	$10 MM
IRR	18%
Payback period	7 years

Market analysis

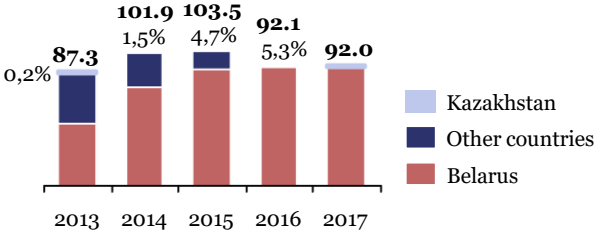
I. China is a fast-growing and lucrative market.

Import volumes of frozen meat in China 2014-2017, thd tonnes



II. Another perspective offtaker of bovine meat is Russia.

Bovine meat import in Russia, thd tonnes



Target Investor Mandate

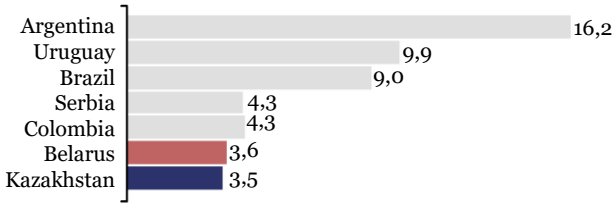
- Long cheap financial resources
- Technologies

Competitive advantage

The price of Kazakhstani bovine meat is compatible with other importers to China and Russia.

Bovine meat (frozen) import prices of China in 2017, USD/tonne

Bovine meat (fresh and chilled) import prices of Russia, 2017, thd USD/tonne



Value proposition

This project allows to take advantage of **exporting** to China while having **cost competitive advantage** within China's importer countries.

Source: International Trade Centre (ITC), Ministry for national economy of the RK, Statistics Committee of the Ministry for national economy of the RK, UN Comtrade

Production of tomato paste

Project description

The project plan is construction of a tomato processing plant, the final product of which will be tomato paste. The initiator of the project already has a land plot of 3 thd ha and building. The projected processing capacity is 1.5 thousand tonnes of tomato per day, which would provide 200-250 tonnes of tomato paste.

Besides import phasing, the owners target at exporting the end product to CIS countries, China, and Europe.

Project location

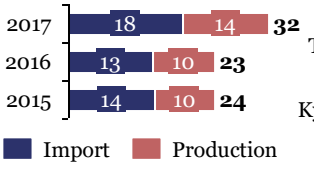
Investment highlights

Upfront investment	$23 MM
NPV	$63 MM
IRR	43%
Payback period	4 years

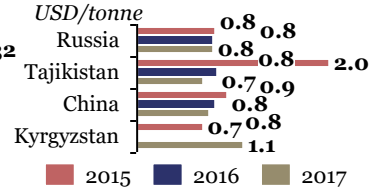
Market analysis

Kazakhstan imports more than half of its tomato paste consumption. Only 5-8% of production is exported. **The total harvest of tomatoes in Kazakhstan was** ~740 thd tonnes **in 2017**. This presents a case for safe-haven **hinter market**.

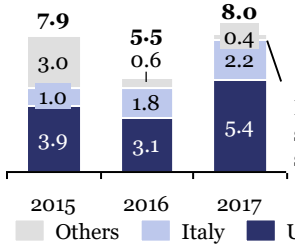
Tomato paste consumption in Kazakhstan, thd tonnes



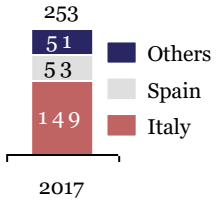
Kazakhstan's export unit value, USD/tonne



Tomato paste imports by China, thd tonnes



Tomato paste imports by Germany, thd tonnes



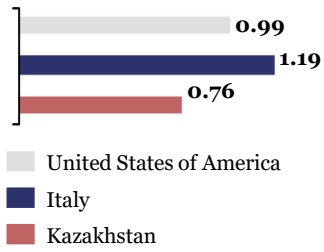
Target Investor Mandate

- Supply of production technologies
- Access to external markets

Competitive advantage

Kazakhstan exports paste to China in limited amounts, but at a lower price than China's main suppliers – USA and Italy.

Import prices of China, USD/kg



Similar situation in volumes potential is observed in Germany, so that Kazakhstan has an opportunity to engage in exports of tomato paste to Europe.

Value proposition

This project allows to take advantage of **import substitution** in Kazakhstan and **exporting potential** with cost advantage compared to other importers.

Sources: Statistics Committee of the Ministry for national economy of the RK, International Trade Centre (ITC)

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

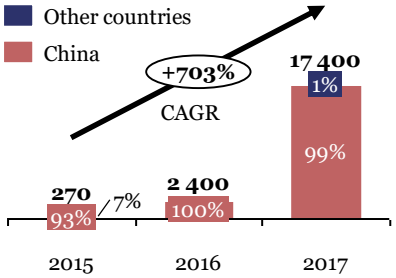
Investment highlights

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

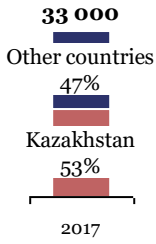
Market analysis

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.

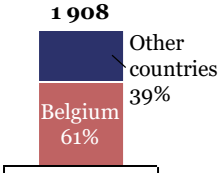
Flax oil export, tonnes



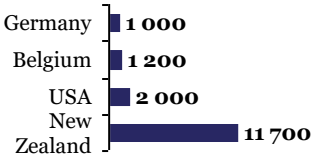
China's import volume, tonnes



Japan import, tonnes



Japan `s oil import prices, USD/tonne



Target Investor Mandate

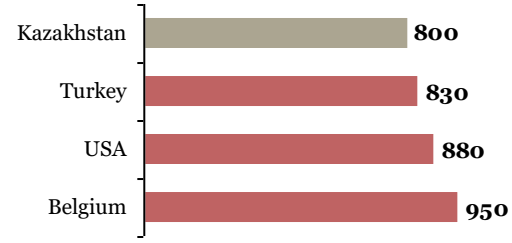
- Offtake large volumes of oil
- Be a supplier of technologies
- Long-term investments

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.

Sources: Statistics Committee of the Ministry for national economy of the RK, UN Comtrade

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

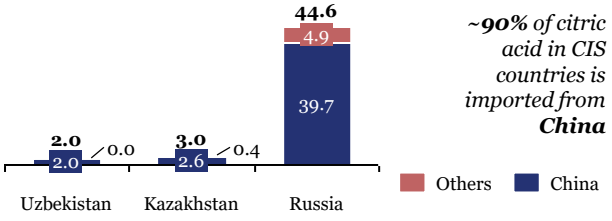
Investment highlights

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

Market analysis

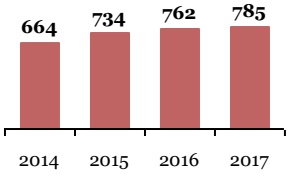
The share of import of citric acid consumption in most CIS countries is ~90%. Raw material for citric acid is maize, which has annual increase in production of ~5% in Kazakhstan.

Import of citric acid, thd tonnes

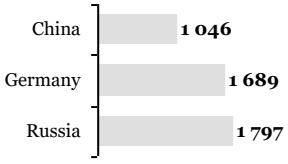


~90%** of citric acid in CIS countries is imported from **China

Production of maize in Kazakhstan, thd tonnes



Import prices in Kazakhstan in 2017, USD/tonne

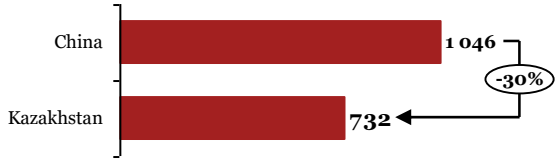


Competitive advantage

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

Sources: Statistics Committee of the Ministry for national economy of the RK, UN Comtrade

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

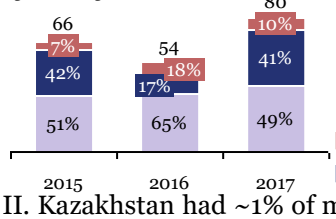
Investment highlights

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

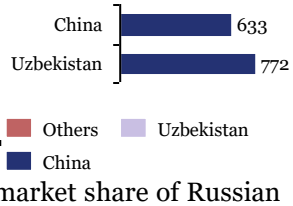
Market analysis

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

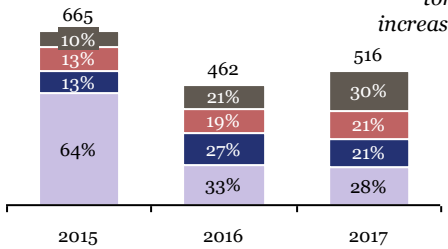


Average import prices of tomatoes, USD/tonne



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

Target Investor Mandate

Long cheap financial resources

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.

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

Construction of a trout farm

Project description

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

Project location

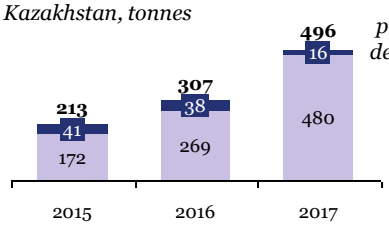
Investment highlights

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%.

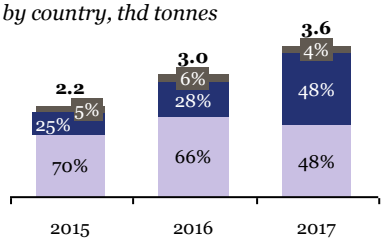
Trout fish import and production in Kazakhstan, tonnes



*Import of trout fish products to Kazakhstan declined ~**2,4** times and production increased ~**2,8** times during 2015-2017*

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



*During 2015-2017, import of trout fish products to Russia increased **2,4** times*

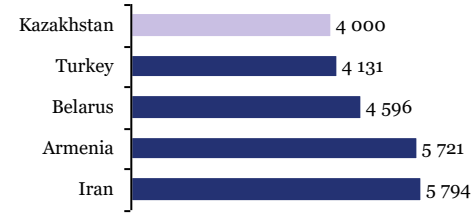
Target Investor Mandate

Long cheap financial resources

Competitive advantage

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

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



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

Value proposition

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

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

Construction of a broiler poultry farm

Project description

The project plan is a construction of a very efficient and brand new full-cycle broiler poultry farm based on floor housing. The maximum capacity of the production line is 10 thd tonnes of quality and very delicious poultry meat p.a. Investing in this business is particularly lucrative at the moment and the business is an unparalled investment vehicle since the initiator of the project has designed the farm using leading edge technologies. Currently, the company plans to sell its produce to inner market and neighboring countries including Kyrgyzstan and Uzbekistan.

Project location

Investment highlights

Upfront investment	$22 MM
NPV	$10 MM
IRR	18%
Payback period	10 years

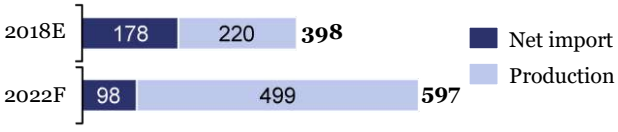
Market analysis

I. Export prices will be notably higher than the prices of domestic sales. This and the low export level of poultry meat (about 6 thd tonnes) favour the case of **exporting** the end product.

Prices by offtaking countries in 2017, thd USD/tonne

II. Kazakhstan imports ~50% of poultry meat consumption. This and the forecasted growth in consumption present a case for safe-haven **hinter market**.

Poultry meat in 2018E and 2022F, thd tonnes



Competitive advantage

Kazakhstan exports poultry meat to Kyrgyzstan in small amounts, but at a lower price than Kyrgyzstan's main supplier – Russia.

Prices by countries exporting to Kyrgyzstan in 2017, thd USD/tonne

Value proposition

This project allows to capitalize on the **existing trade relationship** with Kyrgyzstan by expanding the production volume and provide **import substitution**.

Target Investor Mandate

- Supply of broiler technologies
- Long-term supply of capital
- Foreign distributor

Sources: Statistics Committee of the Ministry for national economy of the RK, Union of Poultry Farmers of Kazakhstan, International Trade Centre (ITC)

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

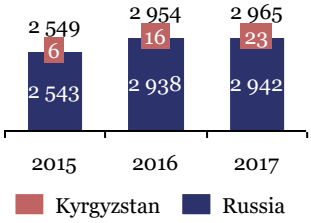
Investment highlights

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

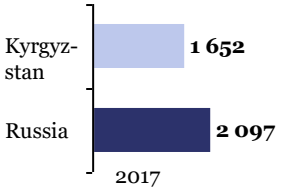
Market analysis

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

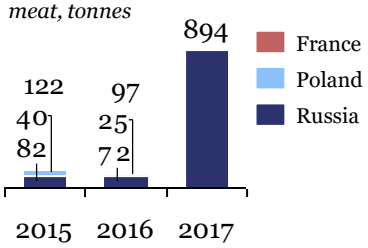
Kazakhstan's export of turkey meat, tonnes



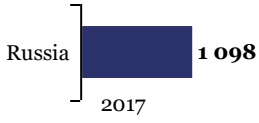
Kazakhstan's export price of turkey meat, USD/tonne



Kazakhstan's import of turkey meat, tonnes



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



Target Investor Mandate

- Supply of technologies
- Access to external markets

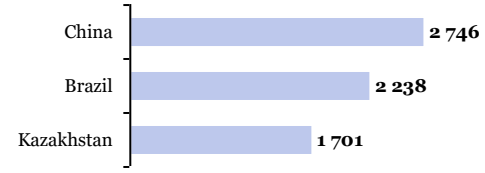
Competitive advantage

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

Value proposition

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

Sources: Statistics Committee of the Ministry for national economy of the RK, UN Comtrade

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

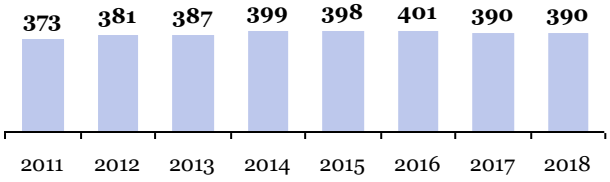
Investment highlights

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

Market analysis

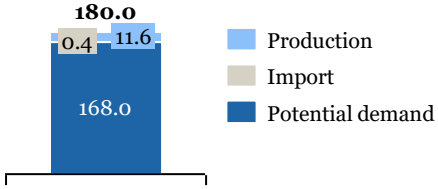
One of the factors in the demand for baby food is a steady increase in the birth rate.

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

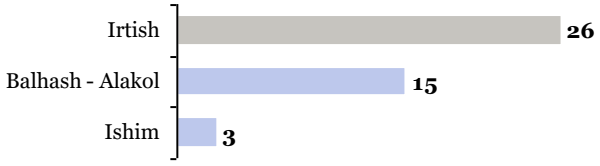
Competency to transfer technologies

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: Irtish river basin has substantial amount of water and has average water flow of* 9 bln m³ a year. High quality milk can be achieved due to Irtish 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.

Sources: Committee on Statistics of the Republic of Kazakhstan, General Scheme for Integrated Use and Protection of Water Resources

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

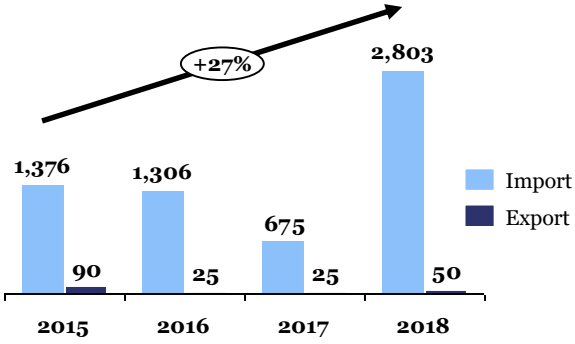
Investment highlights

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

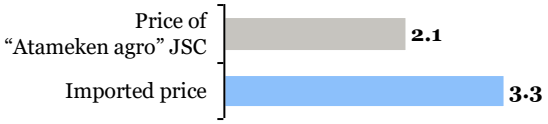
Target Investor Mandate

Competency to transfer technologies

Competitive advantage

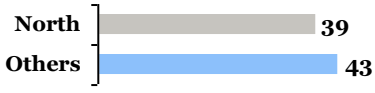
I. The sale price of duck meat, which JSC "Atameken agro" charges, is 35% lower than the price of imported duck meat.

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.

Sources: Statistics Committee of the Ministry for national economy of the RK, Union of Poultry Farmers of Kazakhstan

Construction of a greenhouse complex

Project description

The project plan is construction of a greenhouse complex of 12 ha located in Uralsk, West Kazakhstan region. The complex will allow to grow up to 4 400 tonnes of cucumbers and 3 400 tonnes of tomatoes per year. 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 is planning to export their product to Russia.

Project location

Investment highlights

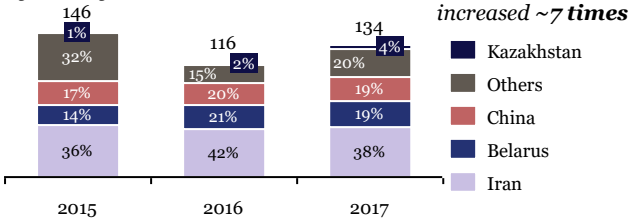
Upfront investment	$39 MM
NPV	$14 MM
IRR	16%
Payback period	8 years

Market analysis

I. Kazakhstan had ~4% of market share of Russian import of cucumbers in 2017.

Cucumbers import to Russia by country, thd tonnes

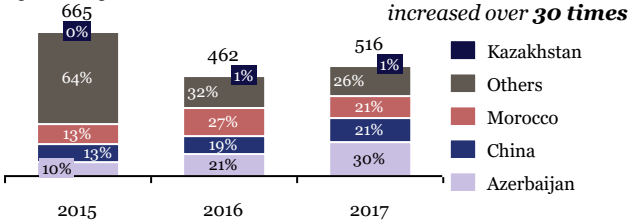
During 2015-2017, Kazakhstan's export of cucumbers to Russia increased ~7 ***times***



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 over ***30 times***



Target Investor Mandate

Long cheap financial resources preferably in Russia's ruble

Competitive advantage

1. Long-term offtake contracts: company has long-term offtake contracts for the whole amount of produced vegetables, which exports to Russia.

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

Import prices of vegetables to Russia, 2017, USD/tonne

Top-3 suppliers of tomatoes (share ~70%) and Kazakhstan

Top-3 suppliers of cucumbers (share ~75%) and Kazakhstan

Value proposition

This project allows to capitalize **export** of vegetables through having competitive export prices.

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

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

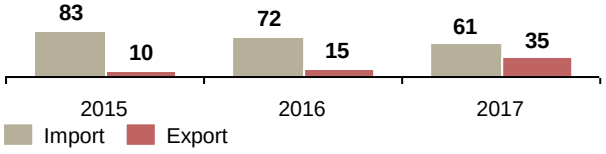
Investment highlights

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

Market analysis

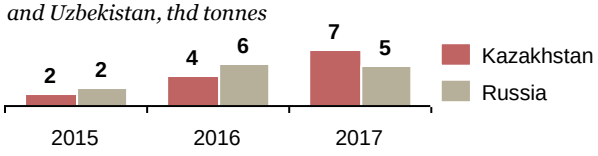
I. Russia accounts for more than 99% of total imports of sunflower oil. Eurasian Foods Corporation is a major consumer of Russian sunflower oil. But the price of exporters is much higher than the cost of production of the initiator.

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



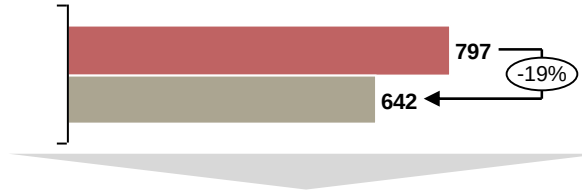
Competitive advantage

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.

Target Investor Mandate

An investor should:

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

Sources: Statistics Committee of the Ministry for national economy of the RK

Construction of feedlot and meat processing plant in West Kazakhstan

Project description

The project plan is to construct a meat processing plant with a capacity of 80-120 heads per shift and feedlot for 10 thousand heads per year. The initiator has a land plot of 37.5 hectares and a building for a plant in the village of Yanaykino, Zelenovsky district in the West Kazakhstan region. It is planned to purchase equipment for the meat processing plant, create a feedlot, purchase livestock and carry out construction and installation work. The planned market for products will be Kazakhstan and China.

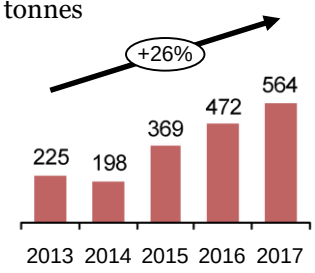
Project location

Investment highlights

Upfront investment	$17 MM
NPV	$28 MM
IRR	58%
Payback period	1 year

Market analysis

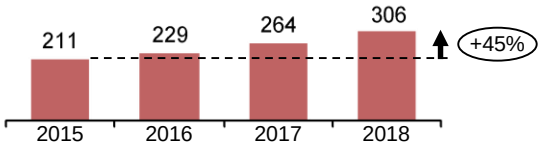
I. Import of frozen bovine (boneless) to China, thd. tonnes



Over the past 4 years Import of bovine in China grew more than 2.5 times, CAGR is 26%

II. Over the past 4 years, the average growth of the livestock population of cattle farms WK is 13%, which is a favorable condition for the project in the form of - a growing resource base.

The dynamics of the amount of cattle in West Kazakhstan farms, thousand heads



Target Investor Mandate

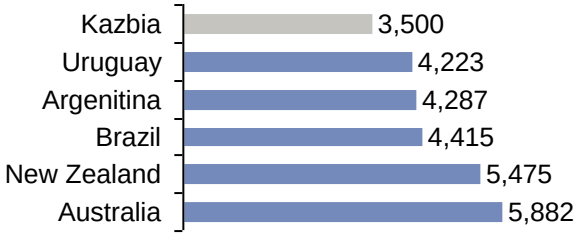
- Long cheap financial resources
- Meat Distribution Channels to China
- Ability to provide an offtake contract
- Experience in Chinese market

Competitive advantage

I. Subsidies that cover 25% of all capital expenditures and pay $ 0.55 per kg (per 1 kg increase in live weight).

II. Kazbia has a competitive advantage in price, the proposed price of products is 17% lower than that of a competitor with the lowest price.

Prices of the main importer countries in China for 2017, US dollars / tonnes



Value proposition

Participation in this project will allow investor to export frozen beef to China and monetize the growth of consumer demand for meat in China.

Sources: Statistics Committee of the Ministry for National Economy of the RK, International Trade Centre

Production of bovine meat

Project description

The project plan is expansion of the feedlot to 30 000 heads, followed by the production of meat, meat subproducts, sausages and prefabricated meat products with a total volume of more than 11 000 tonnes. For implementation of the project, the initiator already has 1 200 hectares of land, in the villages Kosshy and Novomarkovka, and feedlot for 3 000 heads. The company also already has 2 meat processing plants, each of which has a production capacity of 50 heads per shift.

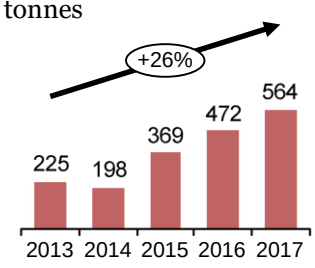
Project location

Investment highlights

Upfront investment	$24 MM
NPV	$36 MM
IRR	28%
Payback period	4 years

Market analysis

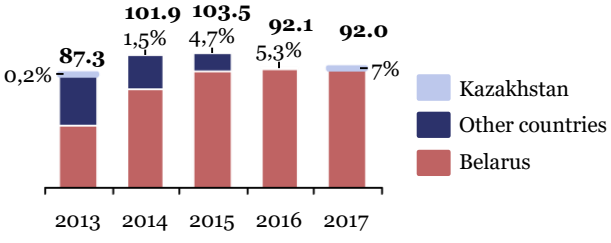
I. Import of frozen bovine (boneless) to China, thd. tonnes



Over the past 4 years Import of bovine in China grew more than 2.5 times, CAGR is 26%

II. One of the most perspective markets is Russia.

Bovine meat import in Russia, thd tonnes



Target Investor Mandate

- Long cheap financial resources
- Mandate in investing into developing markets and markets of Central Asia
- Ability to provide an offtake contract

Competitive advantage

I. Subsidies that cover 25% of all capital expenditures and pay $ 0.55 per kg (per 1 kg increase in live weight).

II. Kazbia has a competitive advantage in price, the proposed price of products is 17% lower than that of a competitor with the lowest price.

Prices of the main importer countries in China for 2017, US dollars / tonnes

Value proposition

Participation in this project will allow a foreign investor to export frozen beef to China using the existing value chain and monetize the growth of consumer demand for meat in China.

Sources: Statistics Committee of the Ministry for National Economy of the RK, International Trade Centre

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

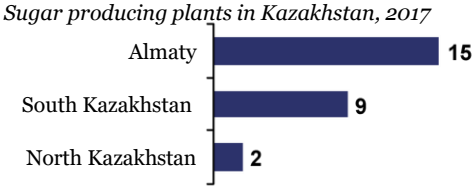
Investment highlights

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

Market analysis

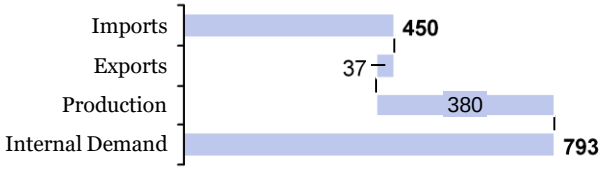
I. Currently the market is concentrated and one large player controls 99% of the market, which creates market entry for more efficient companies.

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

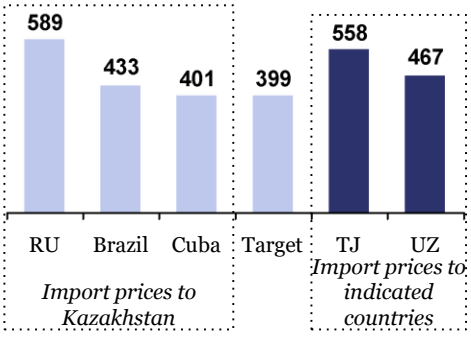


III. Sugar beet cultivation is attractive with **subsidies on fertilisers (up to 50%) and water (20-90%)**.

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.

Target Investor Mandate

- Competency to transfer technologies
- Established distribution in export markets

Sources: Statistics Committee of the Ministry for National Economy of the Republic of Kazakhstan, zakon.kz, sugar.ru, ITC, AgroBusiness 2020

Production of bovine meat

Project description

The project plan is expansion of the feedlot to 30 000 heads, followed by the production of meat, meat subproducts, sausages and prefabricated meat products with a total volume of more than 11 000 tonnes. For implementation of the project, the initiator already has 1 200 hectares of land, in the villages Kosshy and Novomarkovka, and feedlot for 3 000 heads. The company also already has 2 meat processing plants, each of which has a production capacity of 50 heads per shift.

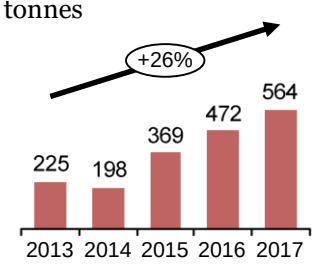
Project location

Investment highlights

Upfront investment	$24 MM
NPV	$36 MM
IRR	28%
Payback period	4 years

Market analysis

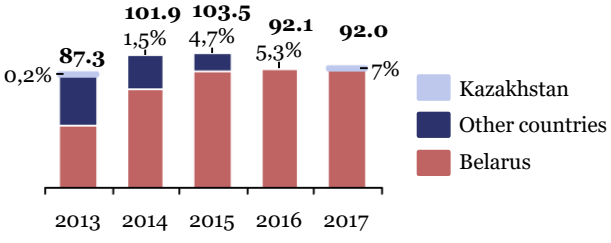
I. Import of frozen bovine (boneless) to China, thd. tonnes



Over the past 4 years Import of bovine in China grew more than 2.5 times, CAGR is 26%

II. One of the most perspective markets is Russia.

Bovine meat import in Russia, thd tonnes



Competitive advantage

I. Subsidies that cover 25% of all capital expenditures and pay $ 0.55 per kg (per 1 kg increase in live weight).

II. Kazbia has a competitive advantage in price, the proposed price of products is 17% lower than that of a competitor with the lowest price.

Prices of the main importer countries in China for 2017, US dollars / tonnes

Value proposition

Participation in this project will allow a foreign investor to export frozen beef to China using the existing value chain and monetize the growth of consumer demand for meat in China.

Target Investor Mandate

- Long cheap financial resources
- Mandate in investing into developing markets and markets of Central Asia
- Ability to provide an offtake contract

Sources: Statistics Committee of the Ministry for National Economy of the RK, International Trade Centre

Agriculture

Production of potato starch

Project description:

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

Planned production capacity:

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

Location:

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

Project initiator:

«Kereku Agro» LLP

Market prerequisites

Export potential

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

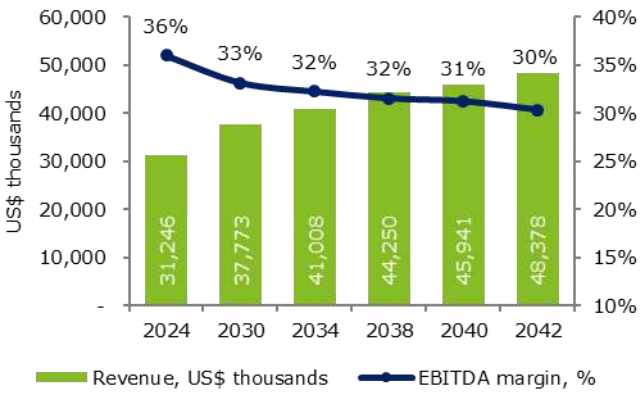
No local production and high level of import dependency

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

Key investment 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

Project profitability:



Key facilities of the Complex:

Irrigation system

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

Starch plant

Production of potato starch with a capacity of 15,000 potatoes per hour and more than 2,000 starch per hour.

Cattle fattening site

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

Location of the Project: Pavlodar oblast

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

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.

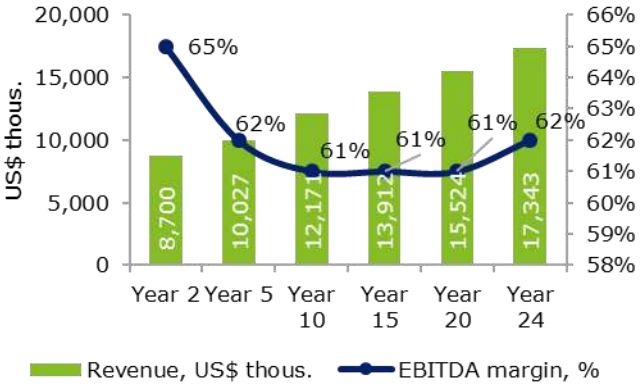
Thus, in 2018, Kazakhstan imported 30 thousand tonnes of frozen fish, which is 5 times higher than its own production.

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.

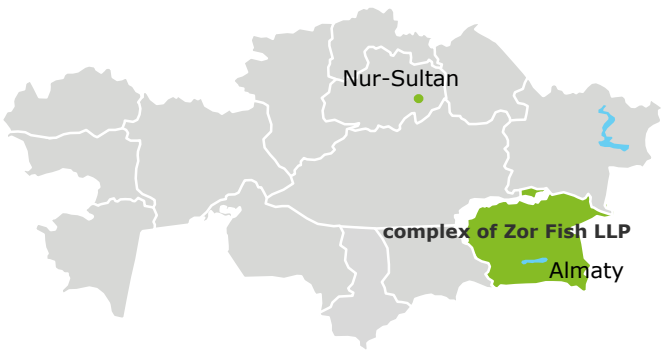
Key investment indicators

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
Total	**80,979**

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

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

Рост 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.

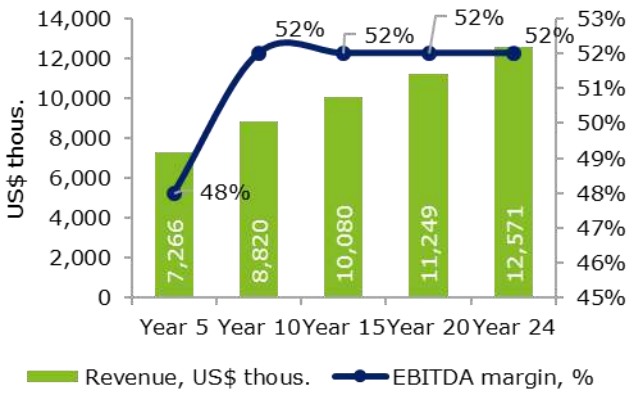
Thus, in 2018, Kazakhstan imported 30 thousand tonnes of frozen fish, which is 5 times higher than its own production.

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

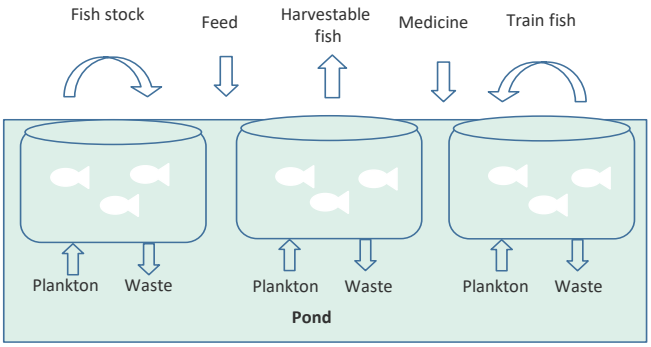
Indicator	Results
Investment, US$ thousands	10,982
Project NPV, US$ thousands	13,613
IRR, %	22.9%
EBITDA returns, %	52%
Payback period, amount of years from the start of production	6.7
Discounted payback period, amount of years from the start of production	9.1

Project profitability



Project location: Atyrau Oblast

The scheme of the typical construction of the cage line



Mixed crop-livestock cattle farming complex

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

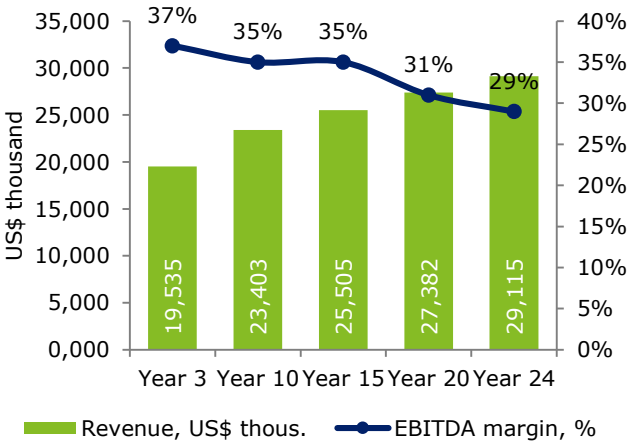
Increase in pork imports to China - Over the past 5 years, China's pork imports have more than doubled, and in 2018, they amounted to 1.1 million tonnes worth US$ 2 billion. According to OECD forecasts, pork production in China will slightly lag behind consumption, and in the near future, China will 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



Rainbow Trout Production 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

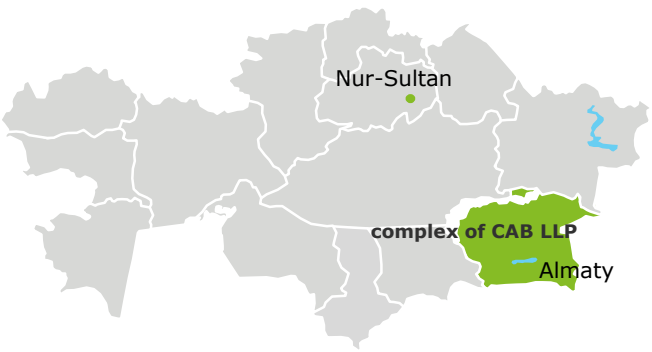
Production process:

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.

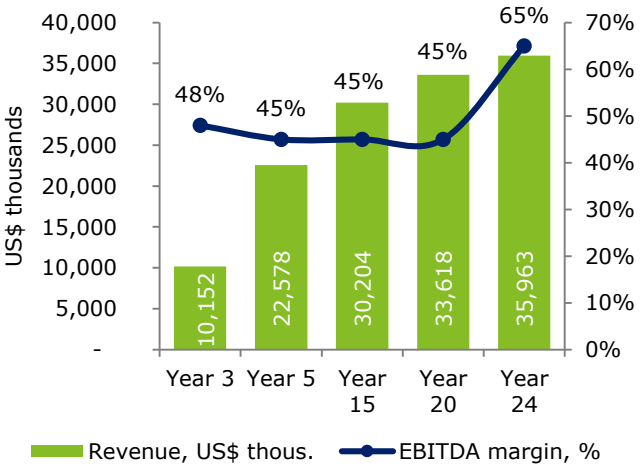
Export potential - Kazakhstan also sends fish products of organic origin for export. In 2018, the volume of fish exports amounted to 12.5 thousand tons, showing an increase of 64% compared with 2013.

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

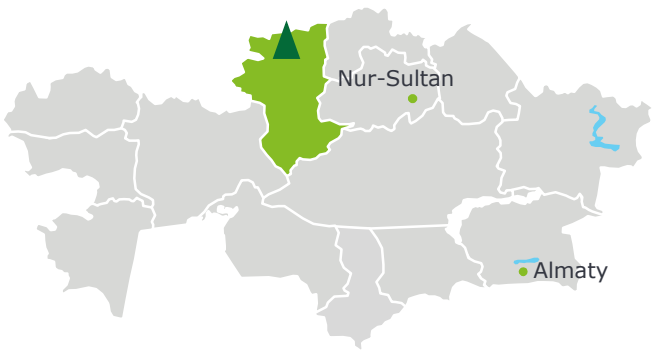
Production process:

- 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



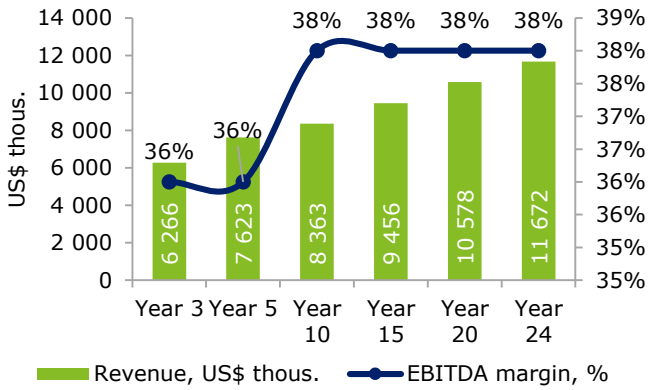
Market prerequisites

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
Total	**46,178**	**200,000**	**246,178**

Mixed crop-livestock cattle farming complex

About the Project

Construction and establishment of a cattle breeding farming complex.

Objectives & Scope:

Creating a sustainable, developing bovine breeding and fattening enterprise, for further slaughter, processing and sale.

Grain cultivation will diversify cattle feed supply and the Project itself, resulting in a sustainable enterprise.

Project location:

Karasu village Amangeldy district Kostanay oblast

Principal products:

beef, wheat, barley, oats, hay

Project's peak capacity:

up to 100 000 heads of breeding livestock by 2030

Prerequisites for implementation of the Project

Rising global demand for beef - OECD forecasts indicate an increase in total global consumption of beef. Compound annual growth rate for 2019-2023 is projected to be at around 1.14%.

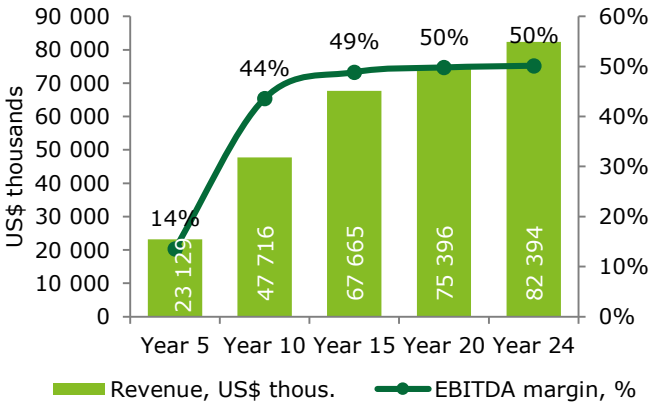
Price differential with neighboring countries - The average price of beef Russian Federation's bordering regions, are 11% higher than in Kazakhstan. The average price in Chinese markets amounted to $ 10.56 per kg, which is more than double of average price of beef in Kazakhstan.

Increasing export volumes – Kazakhstan's beef export volumes are growing continuously in recent years. The volume of exported Kazakhstani beef increased almost 7 times compared to 2017, mostly due to the start of large shipments to Uzbekistan. More than 10% of all exports are also sent to Russia. In 2017, Kazakhstan first exported beef to the UAE.

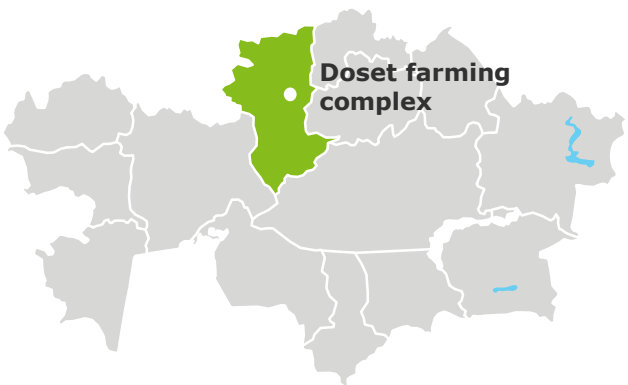
Investment attractiveness of the Project

Indicator	Results
Investment amount, US$ thous.	22,804
Project NPV, US$ thous.	67,542
IRR, %	19.8%
EBITDA yield, %	44%
Payback period, years	9.8
Discounted payback period, years	13.0

Project Profitability



Project Location: Kostanay oblast



Buildings and structures for the Project

Item	Quan-tity	Length	Width	Area, m2
Calf barn	10	130	24	~ 3,120
Cow barn	40	130	30	~ 3,900
Hangar for equipment	1	100	24	~ 2,400
Grain warehouses	1	100	24	~ 2,400
Laboratory	1	24	24	~576
Slaughterhouse	1	100	24	~2,400
Cattle feedlot	1	-	-	~1,500
Total	**55**			**~196,476**

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

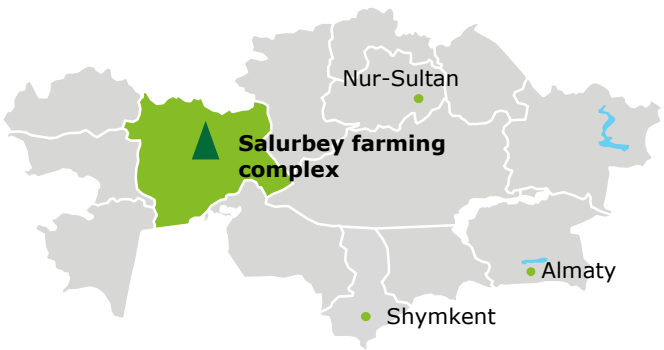
Maximum capacity: 90,000 heads of breeding stock

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

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 Location: Aktobe region



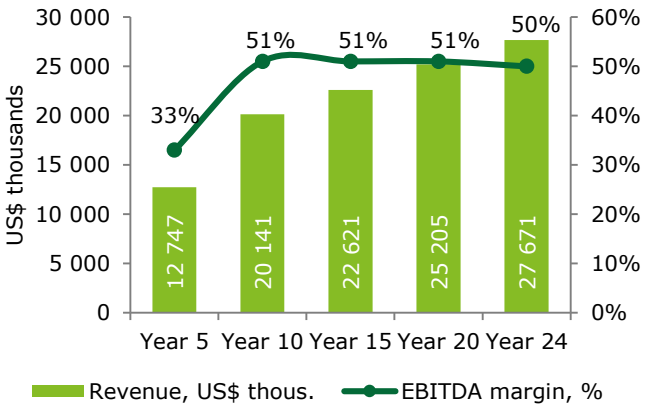
Prerequisites for implementation of the Project

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.

Project Profitability



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
Total	**10,000**

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

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.

Project location:

Shymkent, Republic of Kazakhstan.

Project Initiator:

ANM group LLP

Production technology:

The production of non-alcoholic drinks is planned to be made using BRFC technology (Blowing Rinsing Filing Capping).

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.

Commercial products:

Bottled drinking water, natural juices and juice drinks, iced teas and coffee drinks, carbonated soft drinks. Concentrates and purees.

Market assumptions

Growing demand for non-alcoholic drinks

According to Mordor Intelligence forecasts, there is an increase in the total level of consumption of non-alcoholic drinks in the world. Average annual growth rate (CAGR) for 2019-2024 will be equal to 4.7%. In Kazakhstan, the average annual growth rate of consumption will be equal to 8.3%.

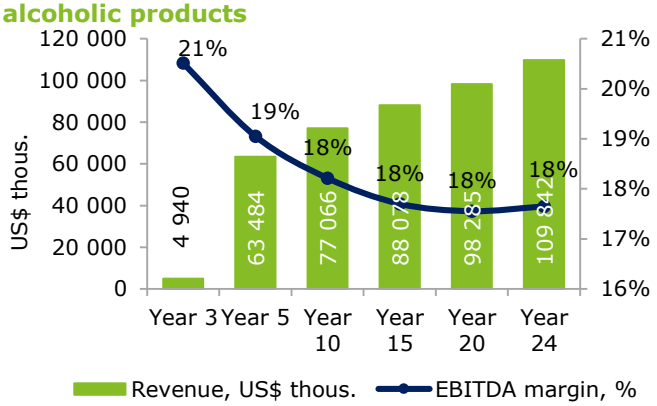
Growing demand for fruit concentrate

According to Mordor Intelligence forecasts, there is an increase in the global consumption of nectar, fruit and vegetable juices. Average annual growth rate (CAGR) in 2019-2024 will be equal to 3.2%.

Import substitution

The volume of imports over the past 5 years equals to 105.5 thousand tonnes, which is 3.5 times higher than in 2014, given that domestic production in the country is 1.6 times less than the consumption of non-alcoholic drinks.

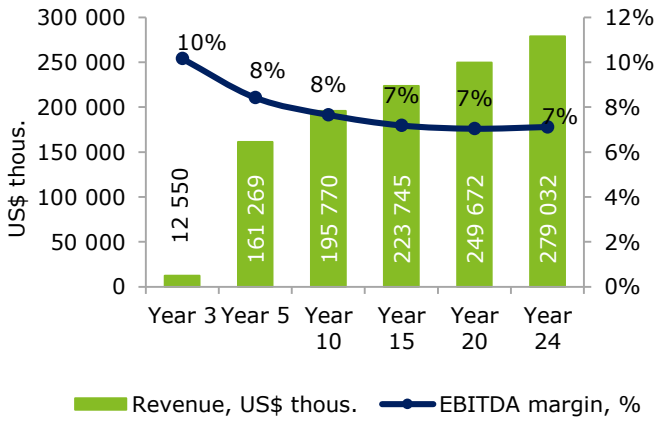
Project profitability for the production of non-alcoholic products



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

Project profitability for the production of concentrates and puree



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:

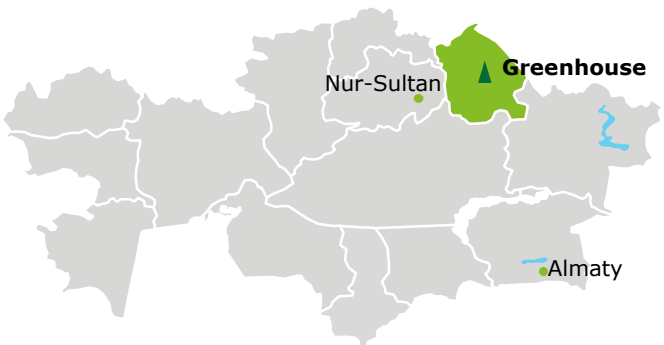
Pavlodar oblast, city of Ekibastuz

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

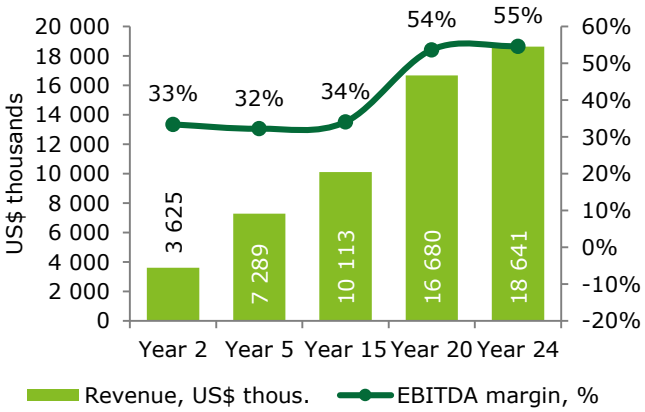
Dependence of the country on imports of tomatoes and cucumbers - Due to the climatic features of most regions of Kazakhstan during the off-season, there is a shortage of tomatoes and cucumbers. The deficit is covered by imports, which amounted to 65 thousand tons of tomatoes and 14.5 thousand tons of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

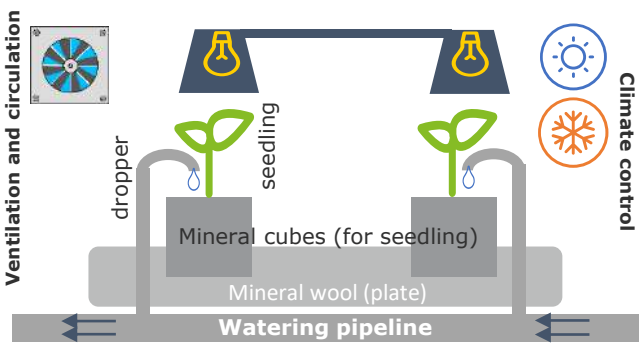
Project profitability



Technical process

Photo culture (electric illumination)

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



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. The second stage suggests extension up to 10 ha.

Target markets:

Petropavlovsk and border regions of Russia.

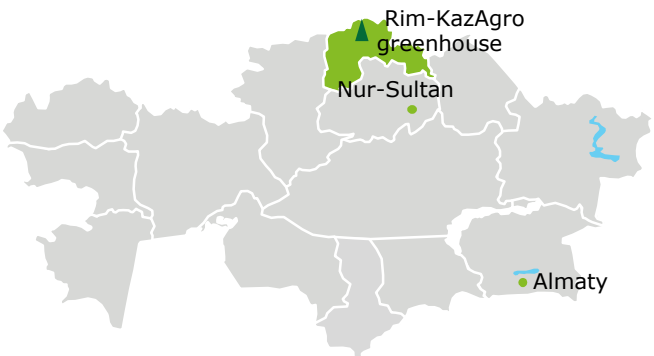
Location:

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

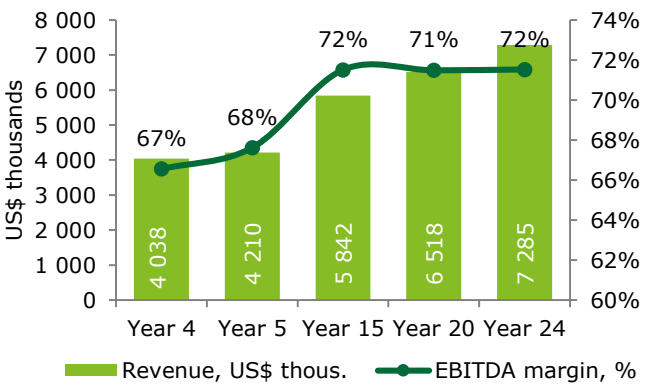
Dependence of the country on imports - Due to the climatic features of most regions of RK during the off-season there is a shortage of tomatoes and cucumbers. The deficit is covered by imports, which amounted to 65 thousand tons of tomatoes and 14.5 thousand tons of cucumbers in 2018.

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.

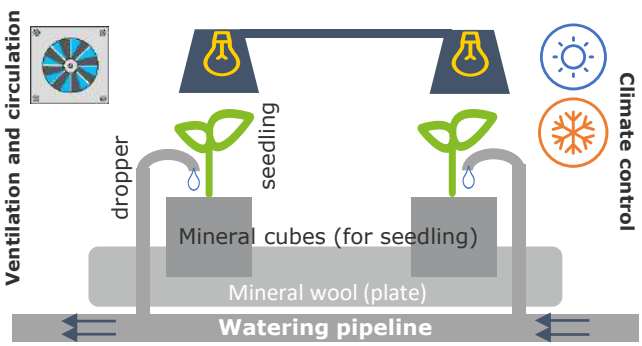
Project profitability



Technical process

Photo culture (electric illumination)

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



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

Project description:

Construction of an automatic sturgeon 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

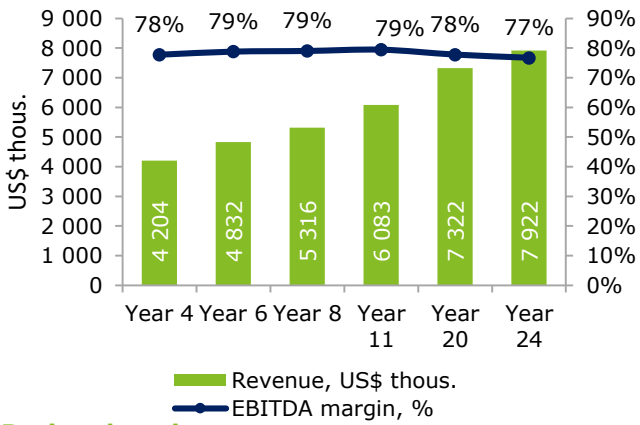
Growing demand for fish and sturgeon caviar. According to forecasts by the OECD and UN FAO, there will be an increase in the total level of fish consumption in the world. Average annual growth rate (CAGR) in 2019-2025 will be 1.8%. Thus, whilst in 2018 fish consumption per capita amounted to 20.3 kg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

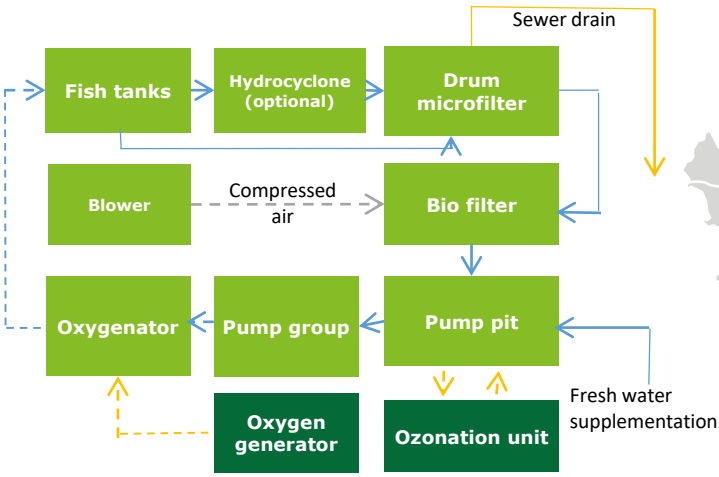
Key investment indicators of the Project

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

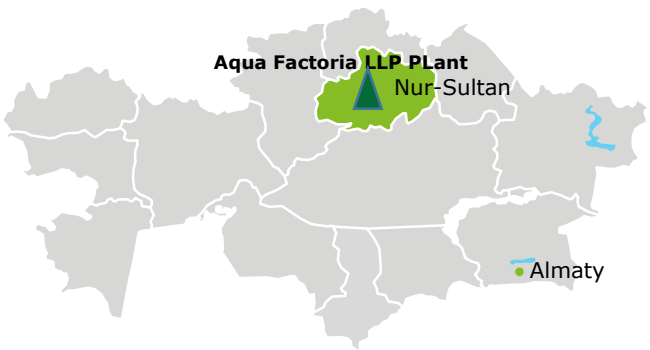
Project profitability

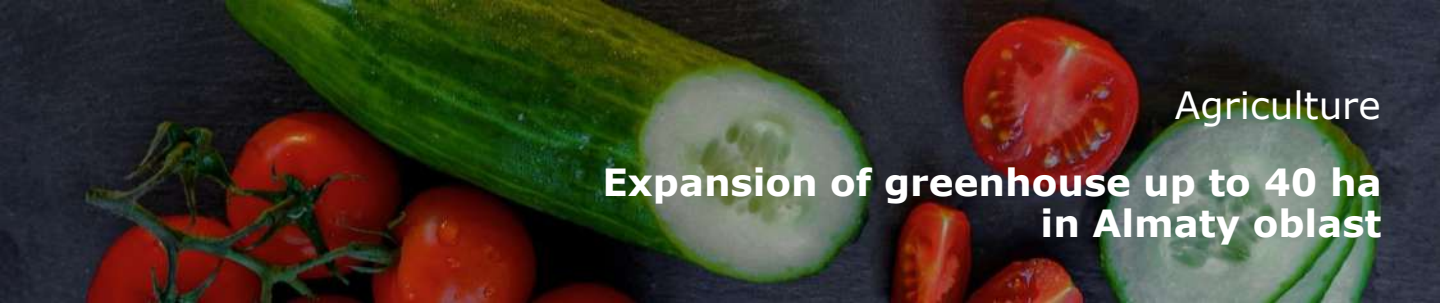


Scheme of a typical design of an RWS



Project location





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%.

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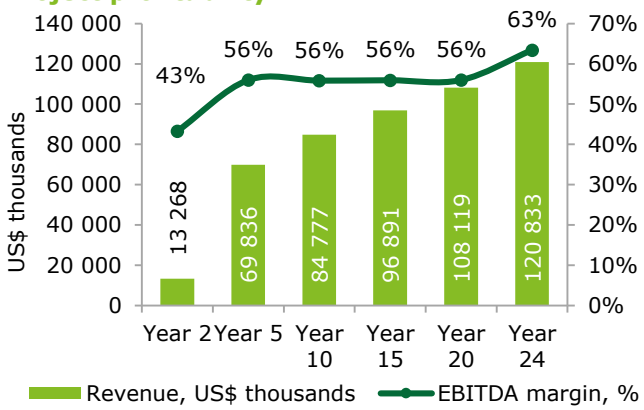
Proximity to the Russia, a major importer of tomatoes and cucumbers, provides easy access to the target market. In 2018 Russia imported 578 thousand tons of tomatoes and 123 thousand tons of cucumbers.

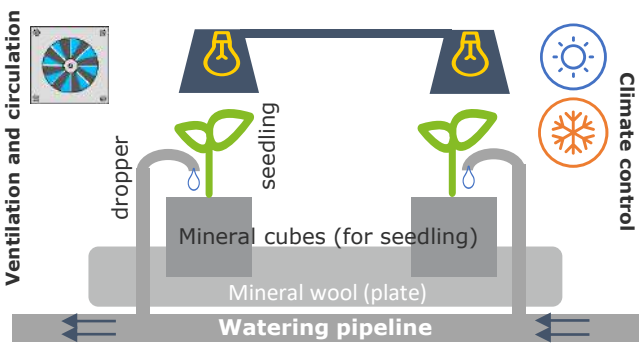
Project profitability



Technical process

Photo culture (electric illumination)

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



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:

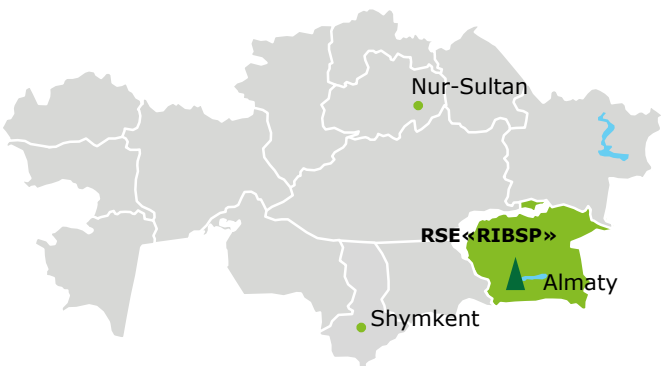
- Smallpox vaccine – 3,750 thousand doses;
- Avian influenza vaccine – 2,250 thousand doses;
- Cattle Nodular Dermatitis Vaccine – 3,000 thousand doses;
- Cattle Plague Vaccine – 2,250 thousand doses;
- Small Cattle Ecthyma Vaccine – 1 500 thousand doses;
- Animal Brucellosis Vaccine – 2,250 thousand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

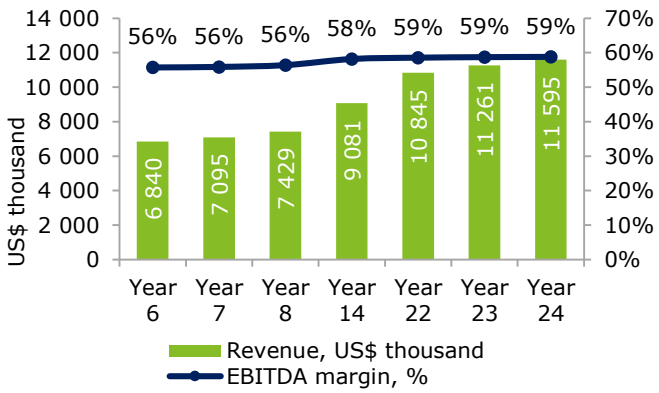
The growth of cattle, small cattle and poultry

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.

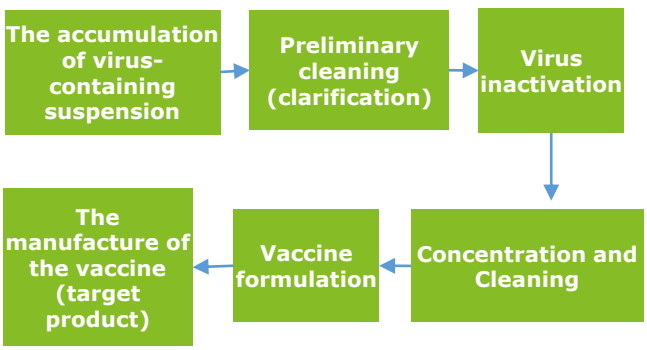
Import substitution

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



Organization and development of the production of vegetable oils

Description of the Project:

Organization and development of the production of vegetable oils. Sales of finished products will be realized on the markets of CIS countries, China, Turkey, India and Iran.

Project goals:

Completion of the plant construction in the industrial zone of Taldykorgan and further development of modern production of high-quality vegetable oils.

Release and effective promotion of finished products on the market, profit making.

Products and production capacity:

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

Initiator:

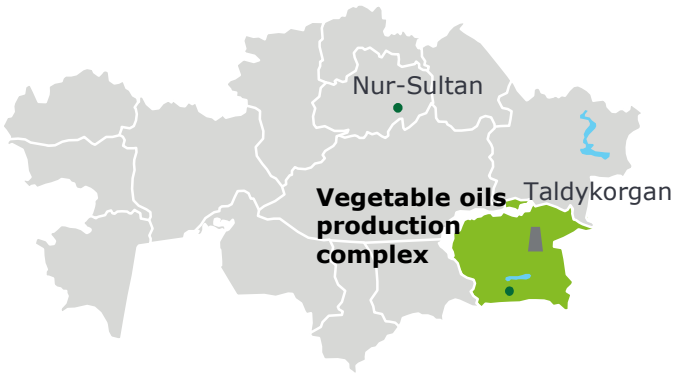
«ZhetysuMazhiko» agricultural complex - project company specializing in the production of vegetable oils

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

Location of the Project:

20B, Shevchenko St., Industrial zone, Taldykorgan, Almaty Oblast, Kazakhstan.

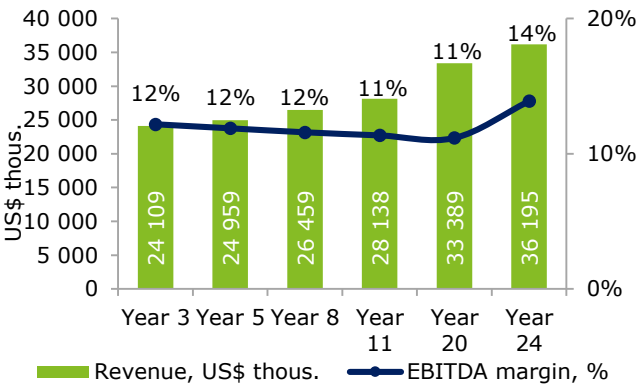


Market background:

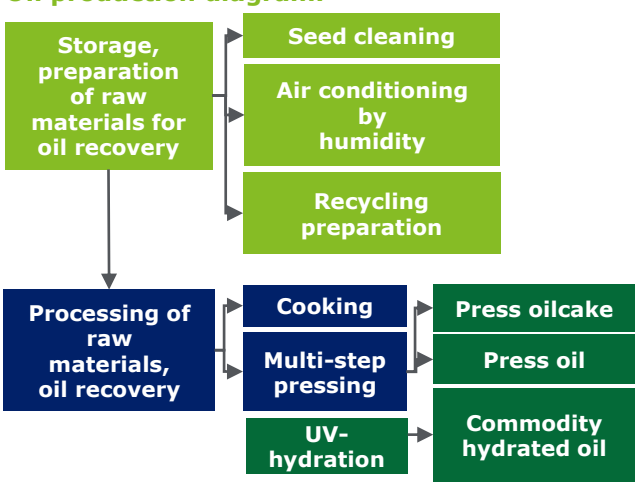
Growing demand for vegetable oil and oilcake in the domestic and global markets. There is an increased demand for vegetable oils. Also, oilcake is used in preparation of feed for livestock, which generally contributes to the realization of the project. Compound annual growth rate (CAGR) of oilseed consumption is projected to be 1.95% by 2023. Global vegetable oil consumption reached 188 million tonnes in 2018.

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. Sunflower dominates (36.9%, or 849 thousand hectares) among other oil seed crops produced in the country. In the structure of world production of vegetable oils, rapeseed oil occupies the third position among all types of oil, with a share of 15.0%.

Project profitability



Oil production diagram:



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:
Agro-Invest-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.

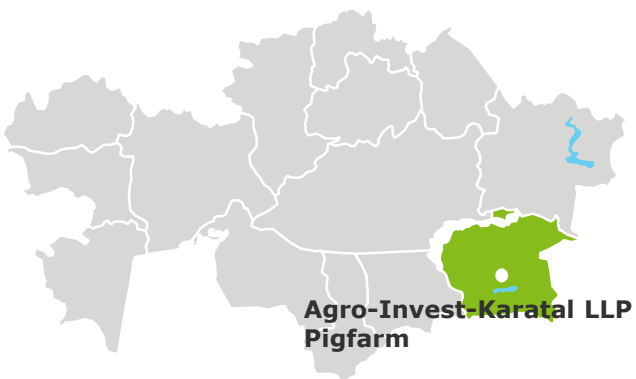
Sales Markets:
Russia, China and the domestic market

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

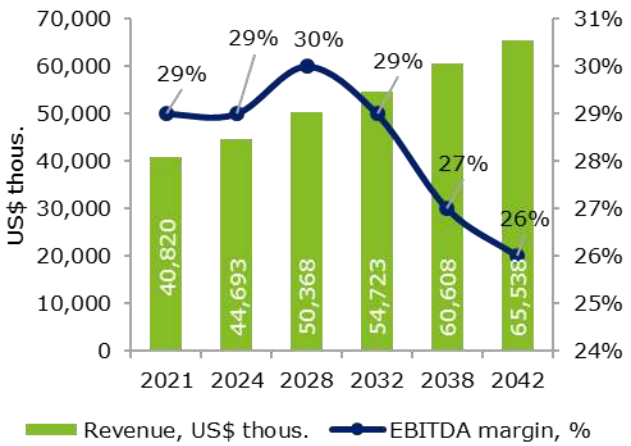
The extensive and cheap fodder base for the Project - agricultural enterprises in Almaty Oblast and other regions of Kazakhstan - will significantly reduce the cost of fattening and the maintenance of pigs. Also, the costs of manure disposal, water tariffs and employee wages are several times lower than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



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

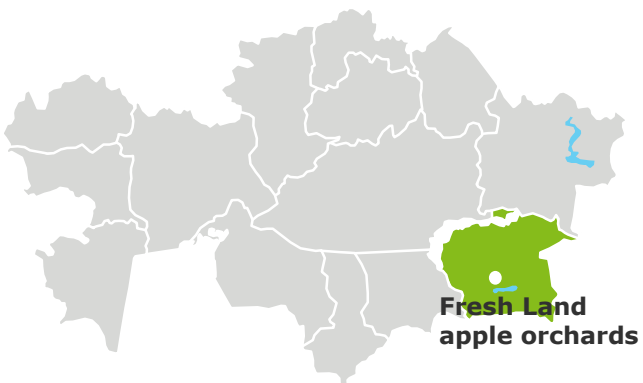
Seedling Suppliers:

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.

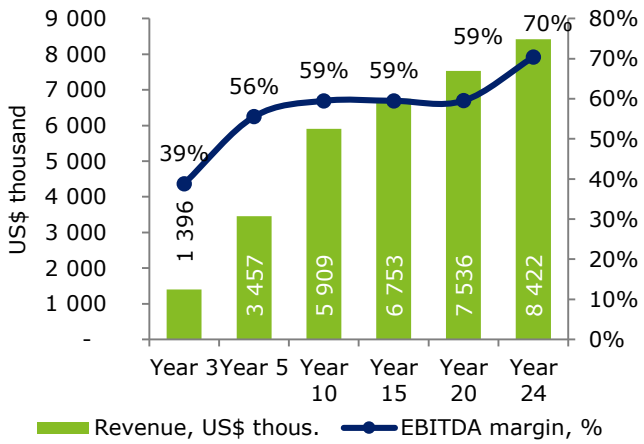
Price differential with neighboring countries

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 irrigation infrastructure

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.

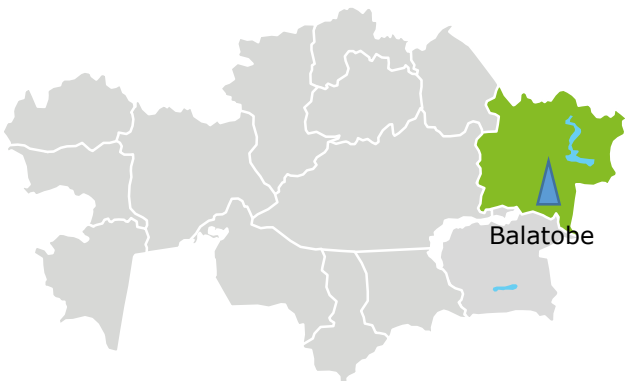
Production capacity:

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.

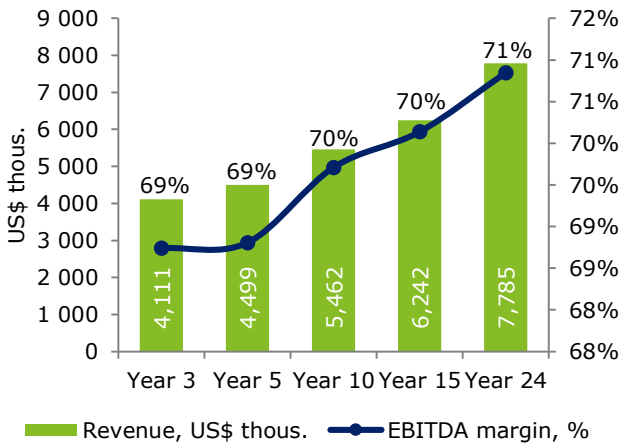
Export potential

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



Construction of a soybean processing plant

Project description:
Creation of a modern production complex for processing of self-grown soybeans.

Initiator: KEA LLP

Targets:

- Creation of an effective integrated Kazakhstan business for growing and supplying non-GMO soy and its derivatives to the domestic and neighboring markets;
- Obtaining high-quality, export-oriented, competitive products using advanced proven technologies for production, supply and distribution.

Processing method: Mechanical method (pressing).

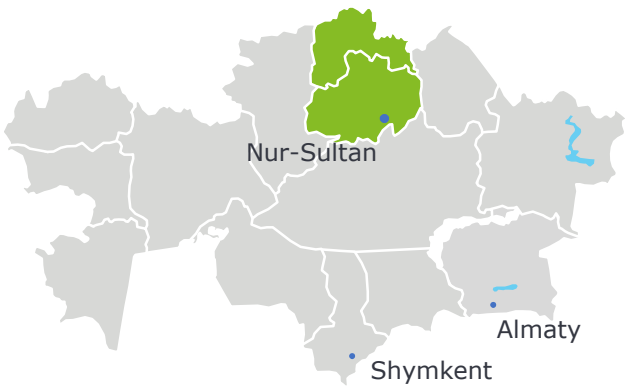
Commercial products: Soybean oil, soybean meal

Production capacity: Processing 100 thousand tons of soybeans per year,

Key investment indicators of the Project

Indicator	Results
Investment amount, thous. USD	32,620
Project NPV, thous. USD	69,373
IRR, %	28.3%
EBITDA margin, %	23.8%
Payback period, years	5.1
Discounted payback period, years	6.4

Project location: North-Kazakhstan Oblast, Akmola Oblast



Prerequisites for Project implementation

Export potential

The current difficult trade relations between China and the United States, a major supplier of soy and its derivatives to China, create a unique opportunity for Kazakhstan to occupy a certain share in this market. Also, the presence of the Kazakhstan port in China and the remoteness of the main suppliers of soybean meal from it's main importers create favorable conditions for the development of export of soybean meal.

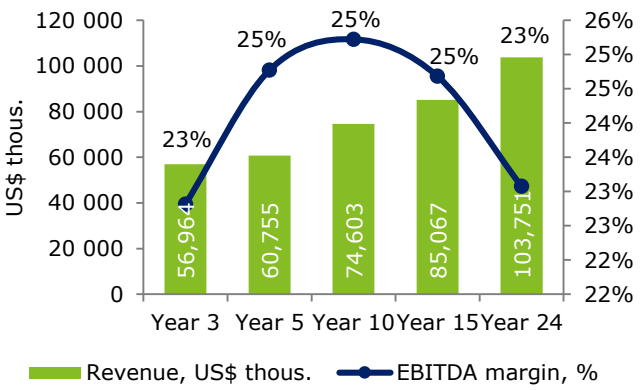
Potential for improved fertility

The soil and climatic conditions of northern Kazakhstan allow the cultivation of early and ultra-ripening soybean varieties with a vegetation period of 85 to 100 days.

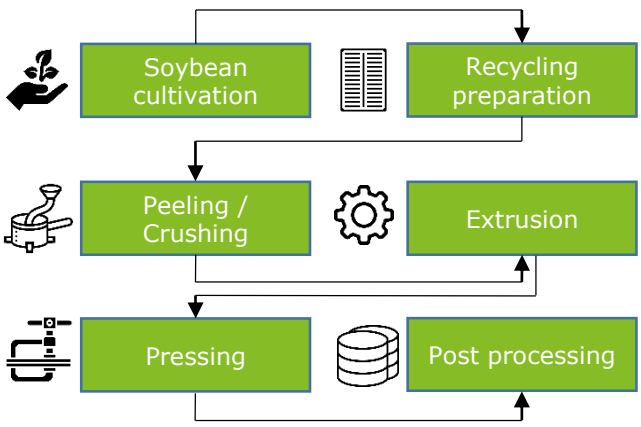
Own raw material base

The initiator's extensive own raw material base will reduce raw material costs. The presence of our own raw materials base will also allow us to directly control the stability of supplies and the quality of raw materials used in processing.

Project profitability



Production technology



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.

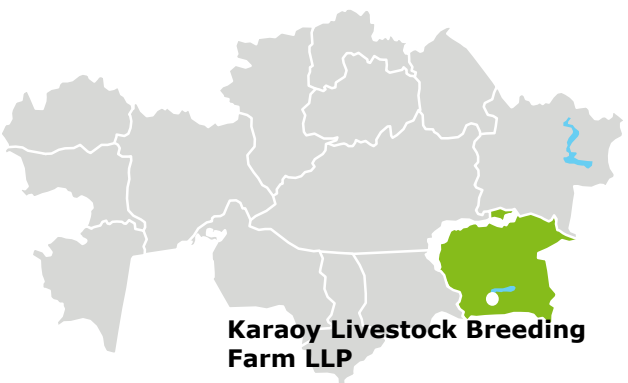
Sales Markets:

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.

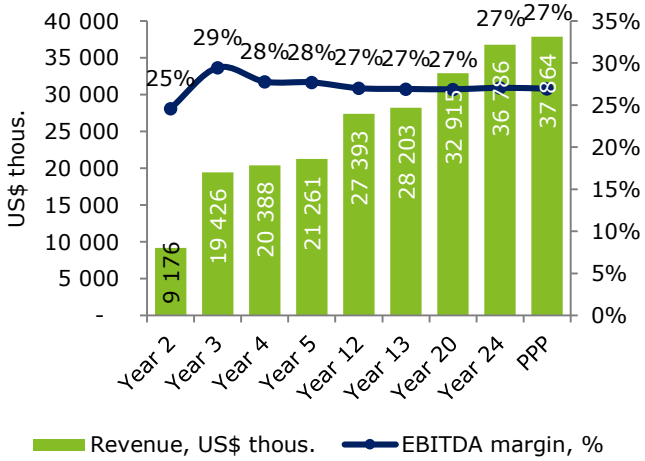
Export of premium products

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



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.

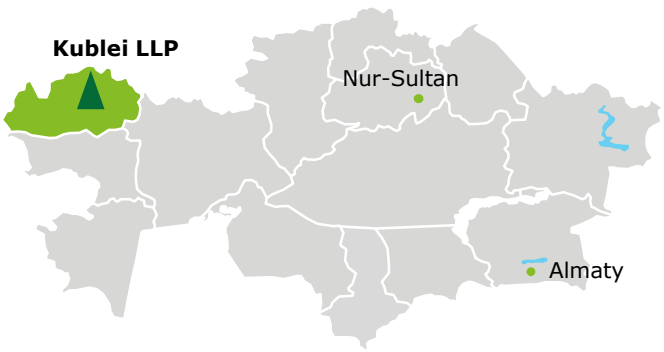
Project Initiator: Kublei LLP is one of the largest processing enterprises in Kazakhstan, engaged in the production of freshly chilled meat: horse meat, beef, lamb, as well as the production of canned products.

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:

Growng 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.

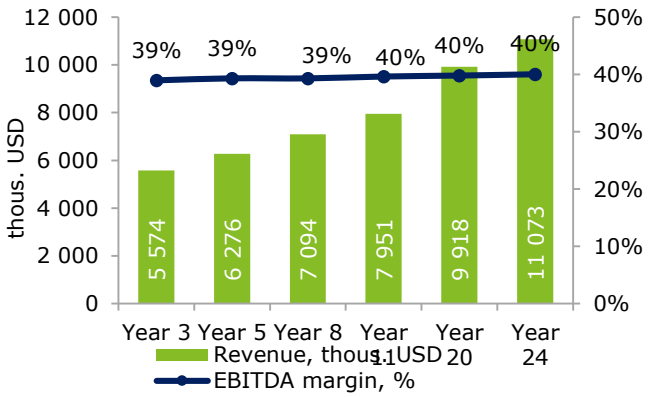
Growth of demand for beef. According to forecasts by the OECD and UN FAO, there will be an increase in the overall level of beef consumption in the world.

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.

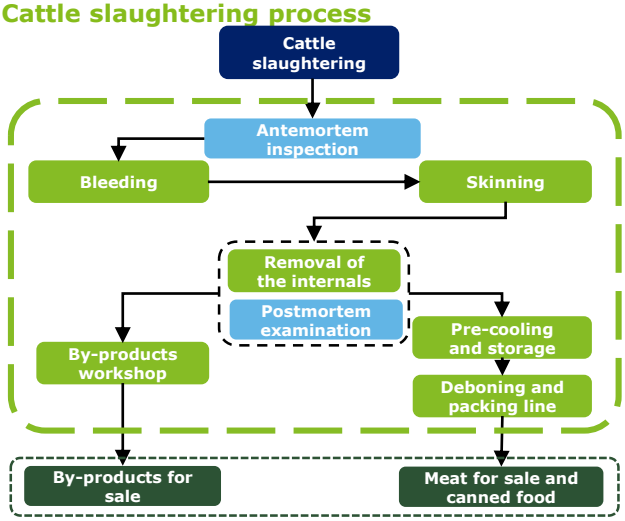
Export development. The volume of canned meat export from lamb and horse meat in 2018 amounted to 212 tonnes, which is 135.5% higher than the previous year.

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



Construction of an oil extraction plant in the East Kazakhstan region

Project description:

Construction of an oil extraction plant for the production of vegetable oils and meal.

Initiator: QAZAQ-ASTYQ GROUP JSC

Targets:

Creation of a new competitive and highly profitable enterprise with a powerful production base;

Commercial products and production capacity:

- Unrefined sunflower oil - 121.7 thousand tons;
- Sunflower meal - 103.1 thousand tons;
- Sunflower phosphatide concentrate - 590 tons;
- Crude rapeseed oil - 20.2 thousand tons;
- Rapeseed meal - 27.7 thousand tons..

Prerequisites for Project implementation

Growing demand for vegetable oil and oilcake in the domestic and global markets

There is an increased consumer demand for vegetable oils, as well as cake is used in the preparation of feed for livestock, which generally contributes to the implementation of the project. The average annual growth rate (CAGR) of oilseed consumption is projected at 1.95% by 2023. Total global consumption of vegetable oil reached 188 million tons in 2018.

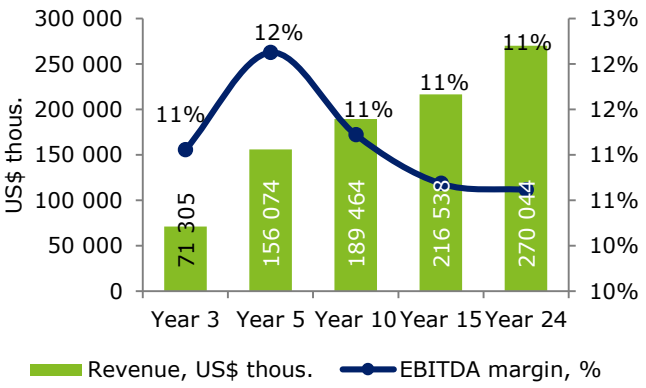
Export potential

The available raw material base in the country corresponds to the creation of highly efficient plants for the production of vegetable oils. In the structure of oilseed crops of the country, the leader is sunflower, whose share is 36.9% or 849 thousand hectares. In the structure of world production of vegetable oils, rapeseed oil occupies the third position, with a share of 15.0% of the output of all types of oils.

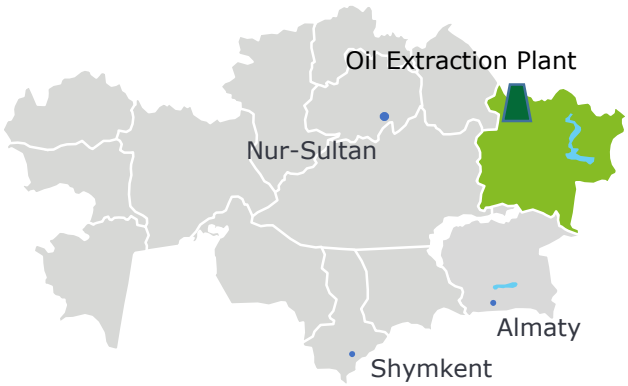
Key investment indicators of the Project

Indicator	Results
Investment amount, thous. USD	50,179
Project NPV, thous. USD	42,898
IRR, %	17.6%
EBITDA margin, %	10.8%
Payback period, years	7.5
Discounted payback period, years	10.3

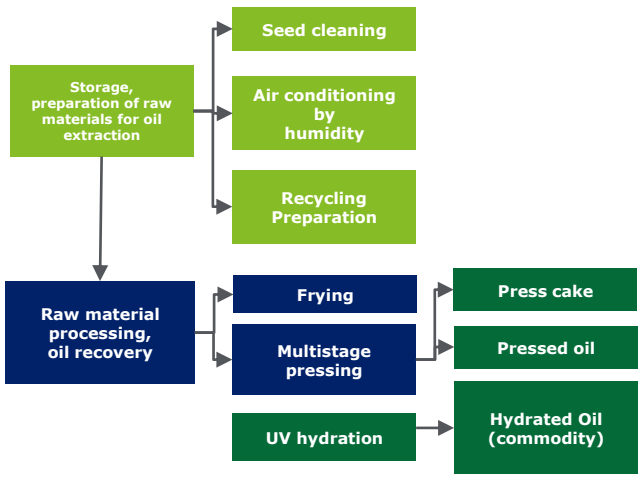
Project profitability



Project location: EKO, Semey city



Production technology



Agro-Industrial Complex

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:

Agro-Invest-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

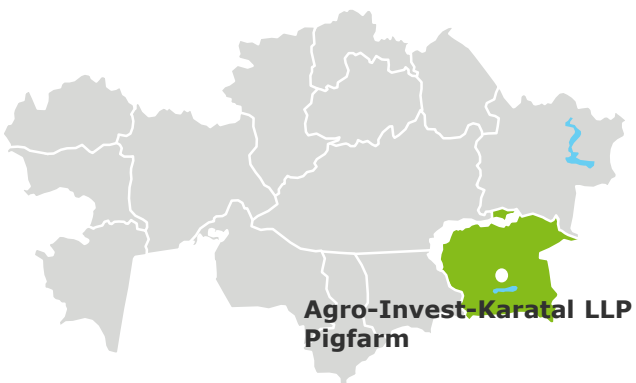
Livestock Suppliers:

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, 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

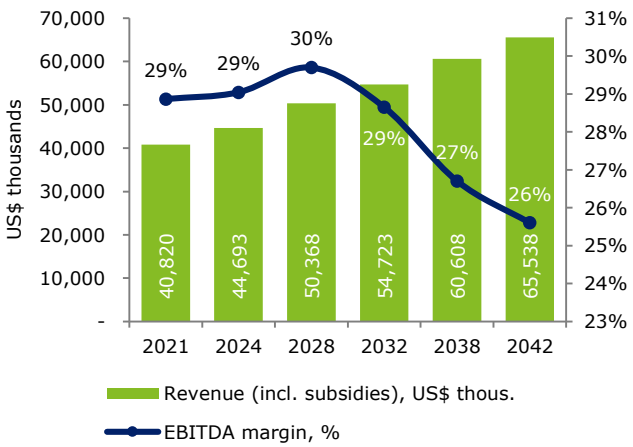
The extensive and cheap fodder base for the Project - agricultural enterprises of Almaty Oblast and northern Kazakhstan - will significantly reduce the cost of pig fattening. Also, the costs of manure disposal, water tariffs and employee wages are several times lower than at EU enterprises or other producers.

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 potentially infected pigs.

Project Profitability



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

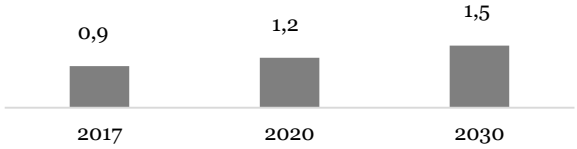
Investment highlights

Upfront investment	$35 MM
NPV	$22 MM
IRR	19%
Payback period	7 years

Market analysis

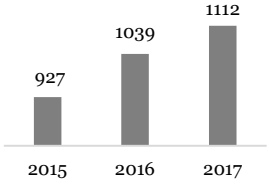
Expected urbanization in Astana drives demand for recreational spaces. Expansion of market will boost necessity for range of variety and number of services available for recreational purposes.

Population growth forecasts in Astana, mln people

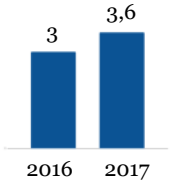


Number of visitors to touristic areas in the region is increasing. There is also a steady growth of foreign tourists in Kazakhstan, who are also expected to be resort visitors.

Number of residents in selected touristic area, thd people



Number of foreign tourists in Kazakhstan, mln people



Target Investor Mandate

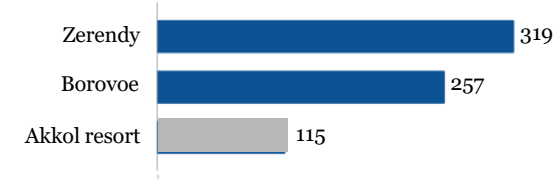
Long cheap financial resources

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.

Sources: Statistics Committee of the Ministry for national economy of the RK

Construction of "Kokterek" resort town

Project description

The project plan is to build a new resort town "Kokterek" (in the village "Saryagash") in order to develop health tourism by providing services with mineral and thermal waters. The project includes a hotel, a sanatorium, indoor and outdoor swimming pools (thermal water) and spa. The advantage of this project is its proximity to Uzbekistan, source of current tourists in Kazakhstan. Also, the availability of natural mineral water Saryagash.

Project location

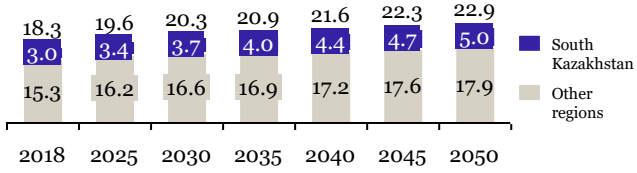
Investment highlights

Upfront investment	$162 MM
NPV	$16 MM
IRR	11%
Payback period	12 years

Market analysis

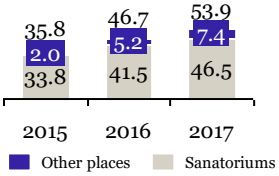
Expected population growth creates demand for increase in domestic tourism.

Forecast of population growth in short-term in Turkestan region, mln people

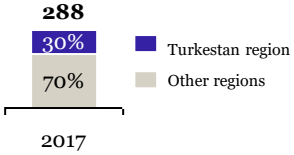


Growth of visitors in the resort sanatorium of the Turkestan region from 2015-2017. increased by **50%**.

Number of users served in sanatoriums Saryagash region, thousand people



Share of Turkestan region served n the sanatorium, thousand people



Target Investor Mandate

- Long cheap financial resources
- Transfer of advanced technologies

Competitive advantage

I. Share of visitors to resort organizations: the largest region in Kazakhstan by the volume of visitors in resort organizations is SKO, - 30% of the market, most of which, ~55% is in the region of Saryagash.

II. Advantageous geographical location: the resort area is near historical places of Kazakhstan and in 15 km. from Uzbekistan, which will additionally provide growth of foreign tourists.

III. Favorable natural conditions: the project is located near the unique sources of mineral waters of Saryagash, where tourists have been coming from around the world for about 6 years.

Value proposition

The project provides opportunity to use unique location in Kazakhstan and develop both internal and external tourism.

Sources: Statistics Committee of the Ministry for national economy of the RK

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 untill 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 accomodation 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: 3-4.

Leisure and entertainment facilities

- Aqua-park and Marina Club;
- The ski arena;
- Center for learning and entertainment;
- Health recreational center;
- City center with commercial areas;
- Sports complex.

Residential area

- 340 cottage houses;
- 84 villas.

Construction of all of the facilities of the Complex is divided into 3 phases, with the planned completion of all construction works in 2030.

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.

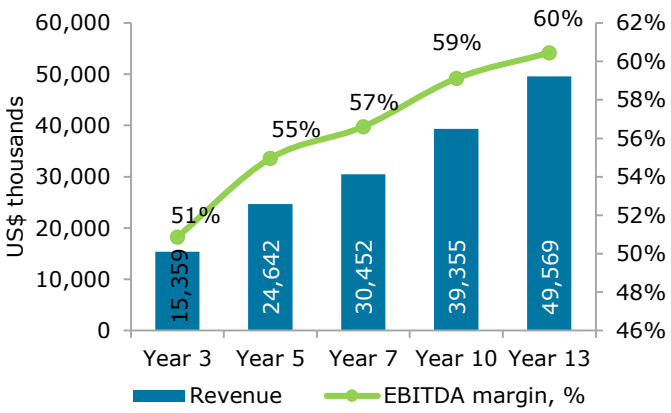
Geographical location – The park will be located 20 km from the center of Shymkent with a population of 1.8 million people The target audience of the project covers 162 million people – Kazakhstan, Central Asia, border regions of Russia, China and the Caucasus.

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.

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

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.

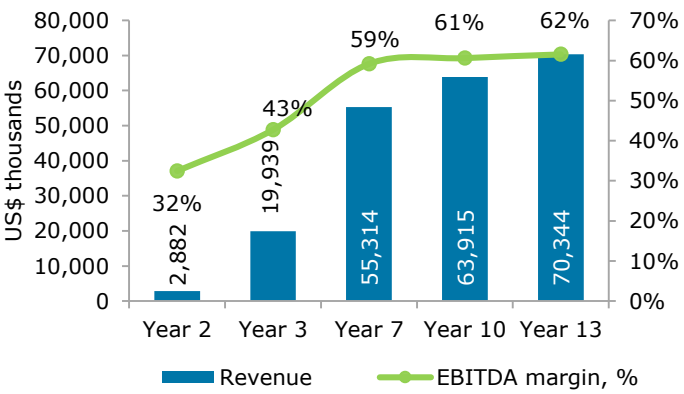
Geographical location – The park will be located near the largest megacity of Kazakhstan with a population of 1.8 million people alongside the new highway Almaty – Kapshagai. The target audience of the project covers 162 million people – Kazakhstan, Central Asia, border regions of Russia, China and the 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.

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

Project Profitability



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.

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.