

**KAZAKH
INVEST**



**Investment
opportunities of Kazakhstan**
Niche projects



Introduction

In order to increase investment attractiveness of the Republic of Kazakhstan and stimulate investments into the national economy, "National Company" Kazakh Invest" JSC in collaboration with Deloitte has prepared investment proposals for 50 niche projects in various priority sectors of the national economy.

Niche projects - are investment projects that allow restoring different stages of a full production cycle (gaps in the value-added chain) in production of goods, and provision of services demanded on the market. These projects are aimed at modernizing and diversifying the national economy, as well as at developing and promoting the country's export potential.

The choice of niche projects was based on the strategic documents of the Republic of Kazakhstan such as the "National Investment Strategy", "Kazakhstan 2050", the "Strategic Plan for Development of the Republic of Kazakhstan until 2020", etc. In selecting projects, quantitative and qualitative investment attractiveness criteria were considered.

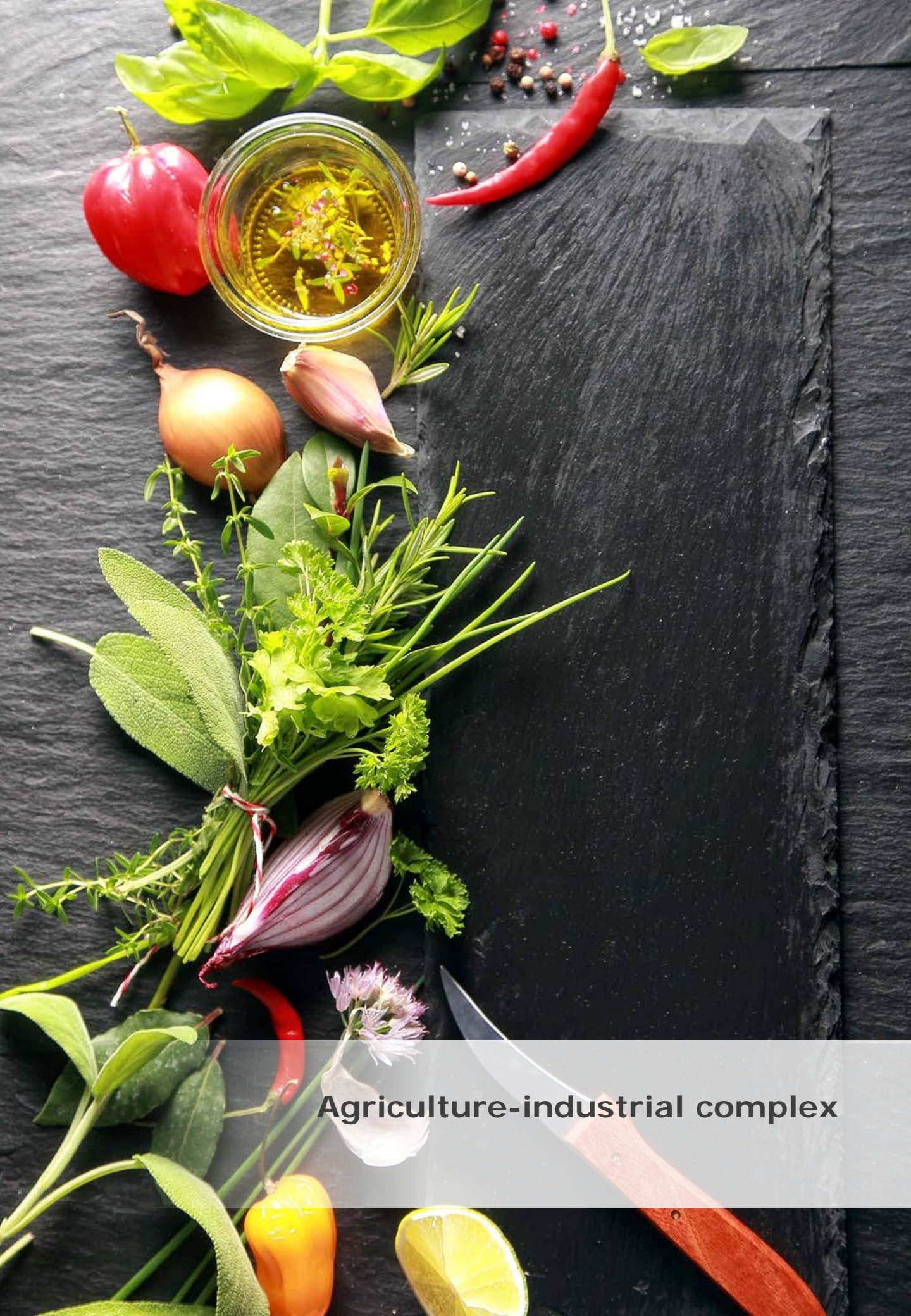
During the course of this analysis, the following sectors of the economy were considered as priority sectors:

- Agriculture-industrial complex;
- Chemical industry;
- Machinery construction and metallurgy;
- Public-private partnerships;
- Mining and smelting industry;
- Other sectors.

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Agriculture-industrial complex



Agriculture-industrial complex

Agriculture and food industry are among the most important sectors of Kazakhstan economy, providing more than 7% of gross domestic output.

Over the past five years, the volume of consumption of agricultural products and food products in Kazakhstan has been growing by an average of 7.6% per year and by the end of 2016 it reached US\$ 12 billion. At the same time, agriculture-industrial complex of the Republic of Kazakhstan is characterized by high import dependence (the share of agricultural product imports is about 30%) and low level of product processing (the share of product processing is about 24%). The promising sub-sectors of agricultural industry of Kazakhstan include: milk and dairy products, fruits and vegetables, oilseeds, deep processing of wheat, meat and organic products.

Among the comparative advantages of the agriculture-industrial complex of the Republic of Kazakhstan are:

- Sufficiency of land, pastures and areas under cultivation (Kazakhstan is the 9th largest country in the world. Over 80% of the land, or more than 210 million hectares, is used for agricultural purposes);
- Climatic conditions of the country make it possible to produce solid types of wheat, which has a stable demand on the world market (Kazakhstan has secured a status of a grain producing powerhouse, annually supplying 5-8 million tons of grain to the markets of more than 70 countries);
- Geographical proximity to large agricultural product consumers (countries of South-East Asia and China);
- Ecologically clean products (use of chemical fertilizers not exceeding 100 kgs per hectare of cultivated areas);
- High level of state support for the agriculture-industrial complex.

Agriculture-industrial complex

Deep processing of wheat grain

Project description:

Construction of a plant for processing wheat grain into valuable food and chemical products

Investment amount:

US\$ 51,552 – 103,624 thousand

Capacity: Processing of 150 to 300 тыс. thousand tons of grain per year

Project location:

The Project can be implemented commercially in 6 regions of the country

Realization period:

24 years, including construction period

Target markets: Kazakhstan

Suppliers: Kazakhstan grain companies and traders

Consumers: meat processing and cattle breeding enterprises, manufacturers of textiles, medical preparations, bread, bakery and confectionery products

Market background:

- *Growing domestic demand* - the total nationwide consumption of these products exceeded 118,800 tones in 2016;
- *Import substitution* - the country does not have own production facilities for deep processing of wheat;
- *State support* - investment preferences, soft loans, subsidies, tax and customs privileges;
- *Low production cost* is achieved due to the availability of cheap raw materials (the annual gross wheat harvest of 14-15 million tones makes Kazakhstan one of the world's major wheat producers).

The volume of output, tons

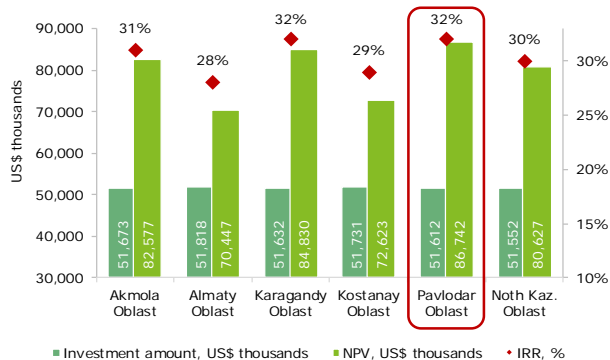
Production	150,000 tons of wheat grain	300,000 tons of wheat grain
2nd grade flour	20,000	40,000
Gluten	10,000	20,000
Modified starch	10,000	20,000
Glucose	45,000	90,000
Starch B	15,000	30,000
Mixed feed	150,000	300,000

Prospective regions



Regions with the best investment indicators

Key investment indicators*



Quality indicators of the project

	Market density	The level of access to raw materials	Transportation expenses	Competitors
Akmola Oblast	High	+	Low	Absent
Almaty Oblast	High	-	High	Present
Karagandy Oblast	Average	+	Low	Absent
Kostanay Oblast	Average	+	Low	Absent
Pavlodar Oblast	Average	+	Low	Absent
North Kaz. Oblast	Average	+	Low	Absent

*at a plant capacity of 150,000 tons

Agriculture-industrial complex

Potato starch production

Project description:

Construction of an industrial complex for processing potatoes and production of starch and protein, to be used as a livestock feed

Investment amount:

US\$ 46,172 – 46,205 thousand

Production capacity: over 10 thousand tones of potato starch and 8.8 thousand potato protein

Project location:

Implementation of Project on an industrial scale is possible in 2 regions of the Republic of Kazakhstan

Implementation period:

24 years, including 1 year of construction

Target markets: Kazakhstan, China, Russia, Uzbekistan

Suppliers: representatives of collective farms, farm and households

Consumers: food industry, pulp and paper industry, textile industry, pharmaceutical industry, chemical industry

Market background:

- *Import substitution* – the starch market in Kazakhstan shows high dependence on import and growing demand. Annual consumption of starch and starch products amounts to 49 thousand tonnes;
- *No production of potato starch exists in Kazakhstan;*
- *Potential for exporting* – import growth in neighbouring countries opens up opportunities for taking over a target niche in the starch markets of China, Russia and Uzbekistan;
- *Availability of raw materials* – low production cost of products can be achieved due to existence of cheap raw materials in sufficient amounts (gross potato harvest in Kazakhstan amounted to 3,546 thousand tonnes in 2016).

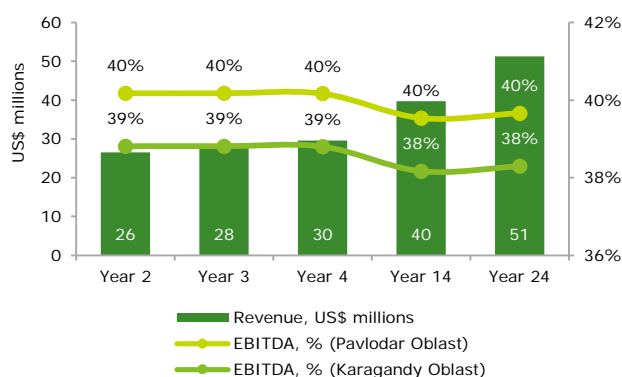
Key investment indicators

Region	Investment amount, US\$ thousand	NPV, US\$ thousand	IRR, %	Payback period, years	Discounted payback period, years
Karagandy Oblast	46,205	19,365	23%	4.9	8.5
Pavlodar Oblast	46,172	21,986	24%	4.8	7.9

Quality indicators of the project

Indicator	Karagandy Oblast	Pavlodar Oblast
Potential for exporting	Medium	High
Climatic conditions	Favorable	Favorable
Market in a region	Medium	Medium
Availability of raw materials	High	High

Revenue forecast



- *Potential for exporting.* High export potential of Pavlodar Oblast is determined by the proximity of export markets (Russia and China).
- *Availability of raw materials.* By the end of 2016, the bulk of the entire potato crop was in the Pavlodar Oblast (11.5%).
- *The climatic conditions* of the Karaganda Oblast and Pavlodar Oblast are the most favorable in the RK for growing potatoes.

Agriculture-industrial complex

Trout farming

Project overview:

A full cycle of trout production, including incubation of larvae, cultivation of commercial fish in cage lines and subsequent processing of fish in the refrigeration facilities

Investment amount: US\$ 22,299 thousand

Capacity: 1,450 tonnes of frozen and chilled rainbow trout per year

Location: Implementation of the Project on an industrial scale is possible in 14 regions of the Republic of Kazakhstan

Project implementation period:

24 years, including 1 year of construction

Target markets: Kazakhstan

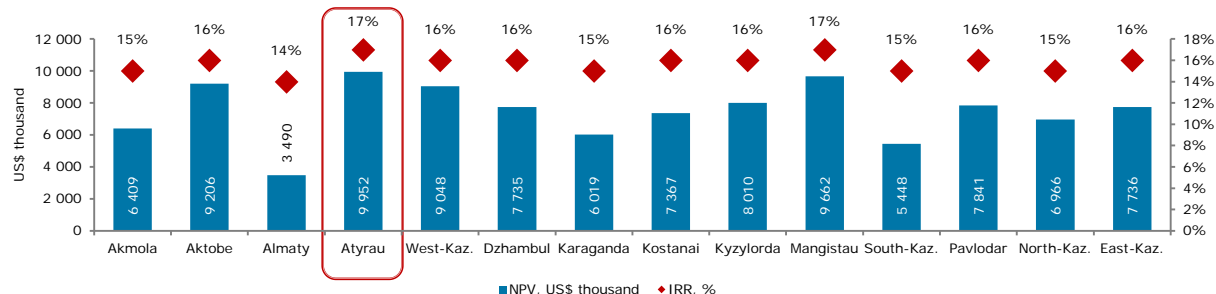
Suppliers: companies specialized in fish food and producers of fertilized roe

Consumers: representatives of main food distribution chains (supermarkets, grocery stores, restaurants, cafes, etc.)

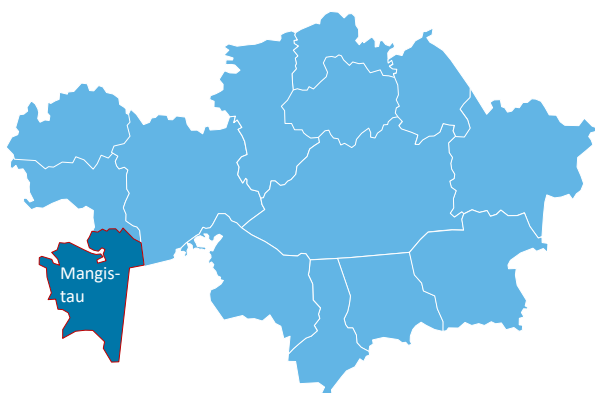
Market prerequisites:

- *Ban on 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.
- *Production deficit.* In 2016 farmed trout reached only 269 tonnes, which does not cover domestic demand.
- *Import replacements.* Demand for trout is mostly met by imports. In 2016, Kazakhstan imported 524 tonnes of trout, which is double the amount farmed.
- *State support.* In the State Agricultural Industry Development Programme for 2017-2021 farming of valuable fish species is a priority in reducing imports

Key investment indicators



Prospective regions



Regions with the most favorable investment indicators

Quality indicators of Project

Oblast	Water resources	Climate	Market development
Akmola	Medium	Acceptable	Medium
Aktobe	Medium	Acceptable	Medium
Almaty	High	Favourable	Medium
Ayratau	Low	Favourable	Medium
West-Kazakhstan	Low	Acceptable	Medium
Dzhambul	Medium	Favourable	Medium
Karaganda	Medium	Acceptable	Medium
Kostanai	Medium	Acceptable	Medium
Kyzylorda	Medium	Favourable	Medium
Mangistau	Low	Favourable	High
South-Kazakhstan	Medium	Favourable	Low
Pavlodar	Medium	Acceptable	Medium
North-Kazakhstan	Medium	Acceptable	Medium
East-Kazakhstan	Medium	Favourable	Medium

Agriculture-industrial complex

Sugar beet processing

Project description:

Construction of an industrial complex to process sugar beet and raw sugar, and to produce sugar

Investment amount:

US\$ 216,733 – 217,030 thousand

Production capacity: 200 thousand tones of sugar per year

Project location: North Kazakhstan Oblast or Dzhambul Oblasts

Implementation period:

24 years, including 1 year of construction

Target markets: Kazakhstan, China, Russia

Suppliers: representatives of collective farms, farm and households

Consumers: food industry, pulp and paper industry, textile industry, pharmaceutical industry, chemical industry.

Market background:

- *Product demand*– high sugar consumption of 20.2 kg per capita.
- *Export potential* – total imports in 2016 amounted to 734 thousand tonnes
- *Raw materials base* – Abundance of high-yield beet-farming land, which reduces the cost of production and labour costs.
- *State support* is provided along the entire production chain and takes the form of investment preferences, cheap loans and investor subsidies, and tax and import customs duty exemptions.

Key investment indicators

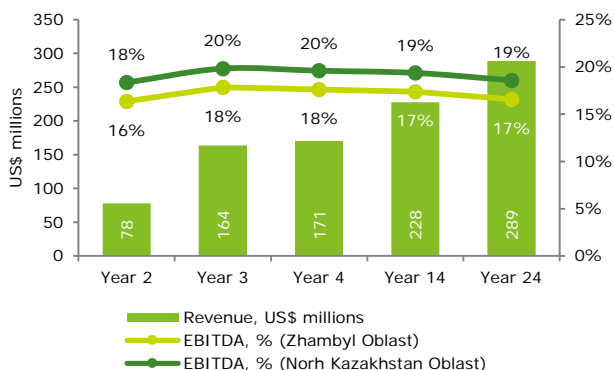
Region	Investment amount, US\$ thousand	NPV, US\$ thousand	IRR, %	Payback period, years	Discounted payback period, years
Noth Kazakhstan Oblast	216,733	64,384	15%	8.9	16.6
Zhambyl Oblast	217,030	37,988	14%	9.7	20.8

Prospective regions

Indicator	North Kazakhstan Oblast	Zhambyl Oblast
Potential for exporting	High	Medium
Climatic conditions	Favorable	Favorable
Market in a region	Medium	High
Availability of raw materials	Medium	High

Regions with the best investment indicators

Revenue forecast



Zhambyl Oblast:

- Market in the region: sugar production levels (388 thousand tones in 2016) one of the highest in the country in 2016;
- Raw material base: the highest gross beet harvest after Almaty Oblast (116 thousand tonnes in 2016).

North Kazakhstan Oblast:

- Climatic conditions: beet yield with a sugar content of 15-17% could reach 50-55 tones per hectare (average yield in southern regions is 25-27 tones);
- Raw material base: the gross beet harvest amounted to 11 thousands tones in 2016.

Agriculture-industrial complex

Construction of commercial greenhouse

Project description:

Creation of an integrated business for cultivation of tomatoes and cucumbers in a closed ground

Investment amount:

US\$ 25,639 – 25,779 thousands

Production capacity: 5,940 tons of cucumbers a year, 7,050 tons of tomatoes a year

Project location: implementation of Project on an industrial scale is possible in 3 regions of the Republic of Kazakhstan

Realization period:

24 years, including 1 year of construction

Target markets: Kazakhstan, Russia

Suppliers: producers of fertilizers, seeds and mineral cubes for the further cultivation of vegetable crops

Consumers: retail food distribution networks for the population

Market background:

- *Production deficit* – the climate in Kazakhstan means there is a significant off-season, which due to the lack of greenhouses, results in significant vegetable shortages.
- *Export potential* – in 2016, Russian border town tomato and cucumber imports amounted to an estimated 18,535 tones.
- *State support* is provided for the entire production chain and takes the form of investment preferences, cheap loans and investor subsidies, and tax and import customs duty exemptions.

Key investment indicators

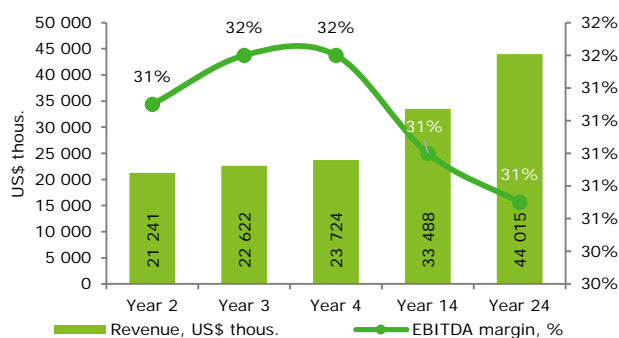
Region	Investment amount, US\$ thousand	NPV, US\$ thousand	IRR, %	Payback period, years	Discounted payback period, years
Aktobe Oblast	25,693	38,064	33.7%	4,0	4,8
South Kazakhstan Oblast	25,779	24,981	27.9%	4,4	5,7
Pavlodar Oblast	25,751	31,305	29.1%	4,4	5,7

Quality indicators of the project

Region	Export potential	Climate conditions	Market of tomatoes	Market of cucumbers
Aktobe Oblast	High	Suitable	High	Medium
South Kazakhstan Oblast	Low	Favorable	Low	Low
Pavlodar Oblast	High	Acceptable	High	High

Regions with the best investment indicators

Revenue forecast*



- Export potential is determined by the proximity of export markets, such as Russia market. Aktobe Oblast and Pavlodar Oblast are located in the immediate vicinity of Russia;
- The "Climate conditions" column grades each oblast's weather in terms of applicability for greenhouse construction and tomato and cucumber cultivation South-Kazakhstan Oblast has the most favorable climate.

*Aktobe Oblast

Agriculture-industrial complex

Wholesale distribution centre

Project description:

Construction and launch of a wholesale distribution center which provides such services as reception, storage and packaging of agricultural and food products.

Investment amount:

US\$ 29 567 – 29 620 thousand

Production capacity: 50 000 tons

Project location:

Implementation of the Project on an industrial scale is possible in 3 cities of the Republic of Kazakhstan

Implementation period:

24 years, including 10 months of construction

Target markets: Kazakhstan

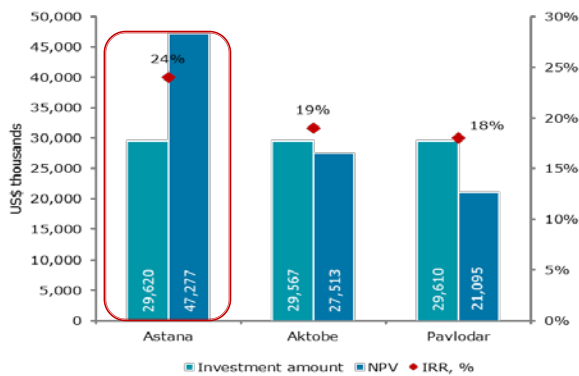
Suppliers: representatives of collective farms, farm and households

Consumers: retail food distribution networks for the population

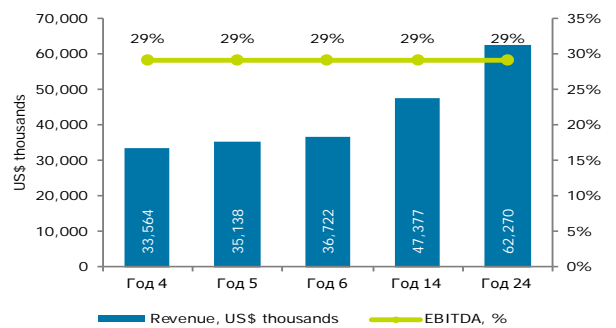
Market background:

- *Lack of infrastructure* – Astana requires vegetable storage space of 68.000 tonnes. with currently active storage space of 39.000 tonnes.
- *High price difference* – The price differential for fruit and vegetables between harvest and off-season period can be significant. reaching 65 KZT/kg for potatoes. 52 KZT/kg for onions and 286 KZT/kg for apples.
- *Deficit of consumption* – Potato, onion and apple consumption in Astana is lower than generally established consumption norms.
- *State support* – is provided along the entire production chain and takes the form of investment preferences, cheap loans and investor subsidies, and tax and import customs duty exemptions.

Key investment indicators



Revenue forecast



Quality indicators of the project

Region	Potato market potential	Onion market potential	Apple market potential	The level of access to resources (fruit and vegetables)
Astana	Medium	High	High	Medium
Aktobe	High	High	High	Low
Pavlodar	Low	High	High	Medium

Regions with the best investment indicators

Agriculture-industrial complex

Dairy processing plant



Project description:

Construction of a modern dairy processing plant with a full production cycle

Investment amount:

US\$ 22 026 – 22 326 thousands

Production capacity:

Number of farms - 14 with 200 heads of milk cattle, unpasteurized milk production – 17,864 tones, unpasteurized milk processing – 11,769 tones, pasteurised milk production – 4,206 tones, sour milk production – 2,337 tones, cheese – 88 tones, butter - 133 tones, cottage cheese – 144 tones and sour cream – 245 tones

Project location:

Implementation of Project on an industrial scale is possible in 10 regions of the Republic of Kazakhstan

Implementation period:

24 years, including 1 year of construction

Target markets:

Kazakhstan

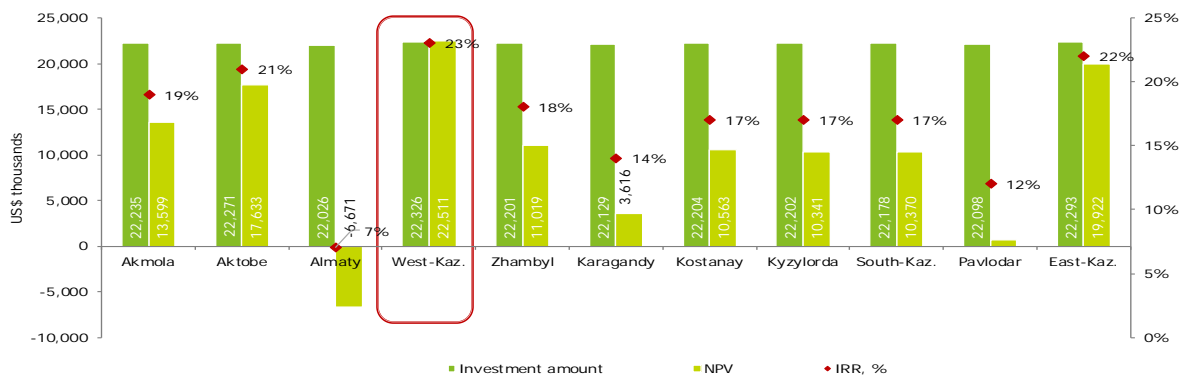
Suppliers: representatives of collective farms, farm and households

Consumers: retail food distribution networks for the population

Market background:

- *Reliance on imports* – Imports account for approximately 20% of dairy products consumed in Kazakhstan.
- *Insufficient milk processing* – Only around 18% of all unpasteurized milk was actually processed in Kazakhstan in 2016.
- *Production deficit* – The country has a shortfall of additional production capacities of 175 thousand tones of sour milk, 60 thousand tones of sour cream, 50 thousand tones of cottage cheese and other dairy products.
- *Export potential* – In addition to significant domestic importance, dairy products have great export potential
- *Government support* is provided along the entire production chain, and includes investment preferences, concessional loans and subsidies to investors to reduce production costs, and tax and import customs duty breaks.

Key investment indicators



Quality indicators of the project

Region	Akmola	Aktobe	Almaty	West-Kaz.	Zhambyl	Karagandy	Kostanay	Kyzylorda	South-Kaz.	Pavlodar	East-Kaz.
Domestic consumption	Medium	Medium	High	Below average	Medium	Medium	Medium	Medium	High	Medium	High
Oblast market	Below average	Medium	Below average	Medium	High	High	Below average	Medium	High	Medium	High
Milk price	Medium	High	Below average	High	Medium	Medium	High	Medium	High	Below average	Medium
Dairy products price	Medium	High	Below average	High	Medium	Medium	Medium	Medium	Below average	Medium	Medium

Regions with the best investment indicators

Pork production

Project description:

Construction of a site for fattening pigs and meat processing complex

Production capacity: production of 11 thousand tons of commercial pork per year

Production: commercial pork

Project location:

Implementation of Project on an industrial scale is possible in 4 regions of the Republic of Kazakhstan

Implementation period:

24 years, including 1 year of construction

Target markets: Russia, China, Kazakhstan

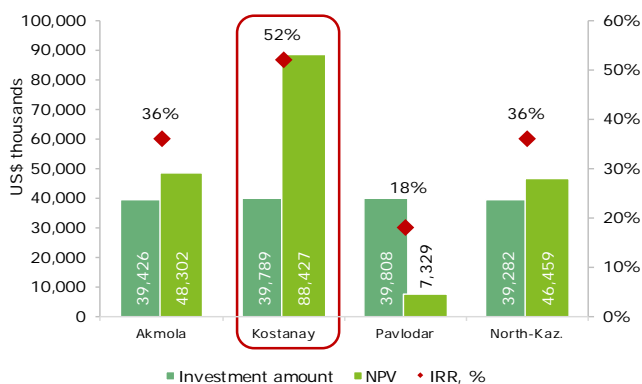
Suppliers: Kazakhstani pig farms

Consumers: the markets of China and Russia; the wholesale market of Kazakhstan

Market background:

- *Export prospects* - Total pork imports into Kazakhstan exceeded 1,875 thousand tonnes in 2016.
- *Competitiveness* – Prices for pork in Kazakhstan are approximately US\$ 1.6 lower than in neighbouring countries.
- *Low production cost* – Cheap fodder and the relative low cost of skilled labor.
- *Resources* – availability of pasture land in Kazakhstan more than 180 million hectares for livestock and meat production.
- *State support* is provided for the entire production chain and takes the form of investment preferences.

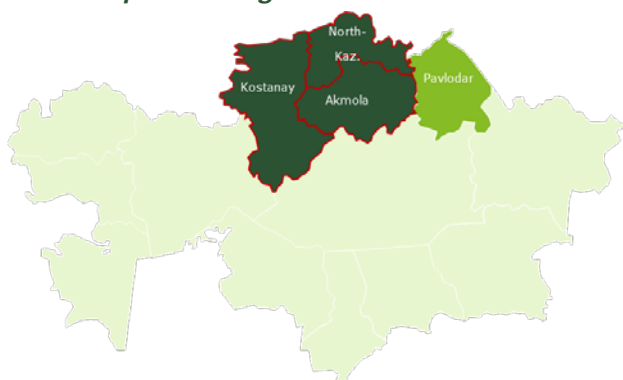
Key investment indicators



Payback period

Region	Payback period, years	Discounted payback period
Akmola	3.6	4.4
Kostanay	3.0	3.4
Pavlodar	5.0	10.3
North-Kazakhstan	3.7	4.5

Prospective regions



Regions with the best investment indicators

Quality indicators of the project

	Export potential	Climatic conditions	Raw materials availability (pigs)
Akmola	High	Favorable	High
Kostanay	High	Favorable	High
Pavlodar	High	Favorable	Medium
North-Kaz.	High	Favorable	High

Agriculture-industrial complex

Beef production



Project description:

Construction of a site for fattening cattle and a meat processing complex

Investment amount:

US\$ 40 536 – 41 700 thousand

Production capacity:

production of 7,115 tons of beef per year

Production:

beef

Project location:

Implementation of the Project on an industrial scale is possible in 11 regions of the Republic of Kazakhstan

Realization period:

24 years, including 1 year of construction

Target markets:

Russia, China, Kazakhstan

Suppliers:

Kazakhstan cattle breeding farms

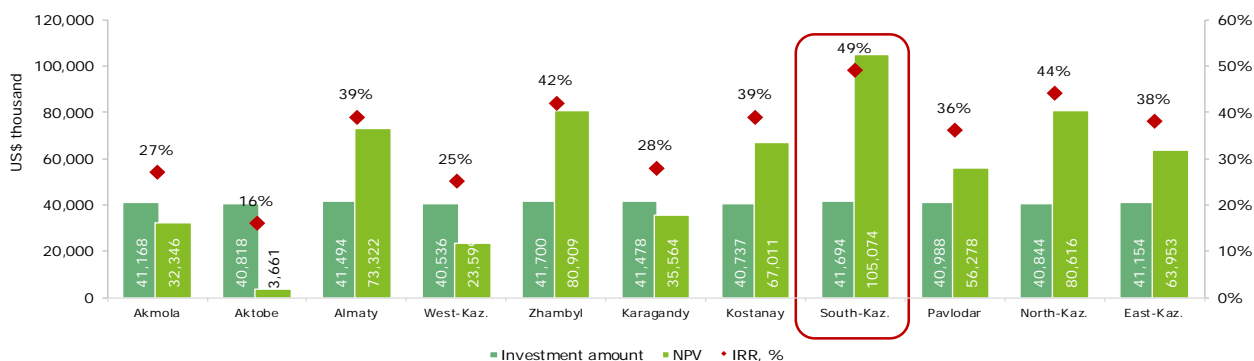
Consumers:

the markets of China and Russia; wholesale market of Kazakhstan

Market background:

- *Export prospective* - the total volume of imports of neighboring countries exceeded 944 thousand tones of beef in 2016.
- *Competitiveness* – The fact that beef is generally US\$ 4.5/kg cheaper in Kazakhstan than in neighbouring countries.
- *Low production cost* – The availability of cheap fodder and the cheapness of skilled labor.
- *Resources* – availability of pasture land in Kazakhstan more than 180 million hectares for livestock and meat production.
- *State support* is provided for the entire production chain and takes the form of investment preferences

Key investment indicators



Prospective regions



Regions with the best investment indicators

Quality indicators of the project

	Export potential	Climatic conditions	Raw material availability
Akmola	High	Suitable	Medium
Aktobe	High	Suitable	High
Almaty	High	Favorable	High
West-Kaz.	High	Suitable	High
Zhambyl	Medium	Favorable	Below average
Karagandy	Medium	Suitable	High
Kostanay	High	Acceptable	Medium
South-Kaz.	Medium	Favorable	High
Pavlodar	High	Suitable	Medium
North-Kaz.	High	Suitable	Below average
East-Kaz.	High	Favorable	High

Agriculture-industrial complex

Mutton production

Project description:

Construction of a site for fattening cattle and a meat processing complex

Investment amount:

US\$ 31 669 – 33 389 thousand

Production capacity: production of 6,842 tons of marketable mutton per year

Production: mutton

Project location:

Implementation of the Project on an industrial scale is possible in 11 regions of the Republic of Kazakhstan

Implementation period:

24 years, including 1 year of construction

Target markets: Russia, China, Kazakhstan

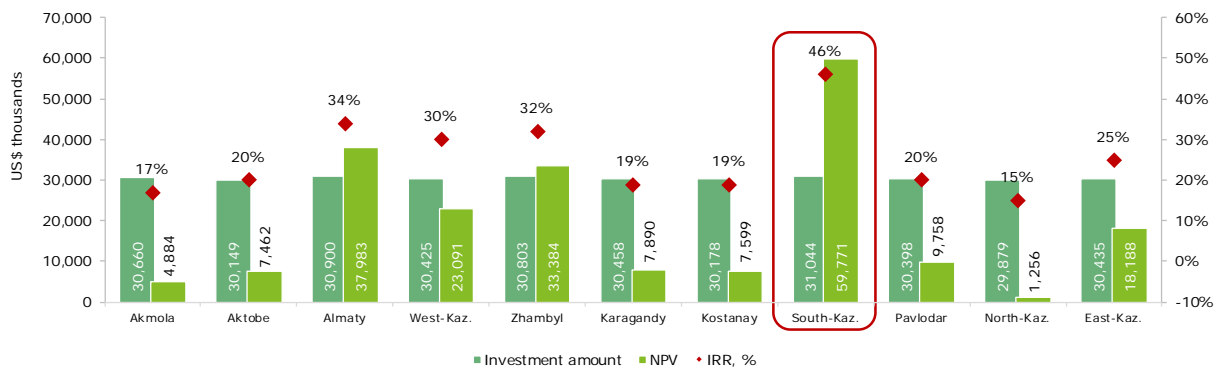
Suppliers: Kazakhstan cattle breeding farms

Consumers: the markets of China and Russia; wholesale market of Kazakhstan

Market background:

- *Demand growth* - According to the OECD, global mutton consumption grew by an average of 150,000 tones in 2012-2016.
- *Competitiveness* – Mutton is US\$ 3.5/kg cheaper in Kazakhstan than in neighbouring countries.
- *Low production cost* – The availability of cheap fodder and the cheapness of skilled labor.
- *Resources* – availability of pasture land in Kazakhstan more than 180 million hectares for livestock and meat production.
- *State support* is provided for the entire production chain and takes the form of investment preferences.

Key investment indicators



Prospective regions



Regions with the best investment indicators

Quality indicators of the project

	Export potential	Climatic conditions	Raw material availability
Akmola	High	Suitable	Medium
Aktobe	High	Suitable	High
Almaty	High	Favorable	High
West-Kaz.	High	Suitable	High
Zhambyl	Medium	Favorable	Below average
Karagandy	Medium	Suitable	High
Kostanay	High	Acceptable	Medium
South-Kaz.	Medium	Favorable	High
Pavlodar	High	Suitable	Medium
North-Kaz.	High	Suitable	Below average
East-Kaz.	High	Favorable	High

Agriculture-industrial complex

Poultry meat production

Project description:

Construction of a poultry farm and production of poultry meat

Investment amount:

US\$ 138,040 – 138,142 thousand

Production capacity: production of 30,000 tons of commercial poultry meat per year

Production: poultry meat

Project location: implementation of the Project on an industrial scale is possible in 2 regions of the Republic of Kazakhstan

Implementation period:

24 years, including 1 year of construction

Suppliers: suppliers of day-old chicken rodstad are European companies like Hubbard, Aviagen and High Hatch

Consumers: the markets of China and Russia; wholesale market of Kazakhstan

Key investment indicators

	Investment amount, US\$ thousand	NPV, US\$ thousand	IRR, %	Payback period, years	Discounted payback period, year	Export potential	Climatic conditions	Poultry meat market	Raw materials
Aktobe	138,040	232,657	40.2	4.33	5.04	High	Suitable	High potential	Average
Kostanay	138,142	222,008	38.8	4.43	5.19	High	Suitable	Existence of potential	High

Region	Electricity, USD/kWh	Water supply, USD/m ³	Fuels and lubricants, USD/l	Salary of production staff, USD/month	Salary of administrative staff, USD/month	Wheat price, USD/ton
Aktobe	0,05	0,44	0,42	208	556	149
Kostanay	0,06	1,59	0,43	212	527	128

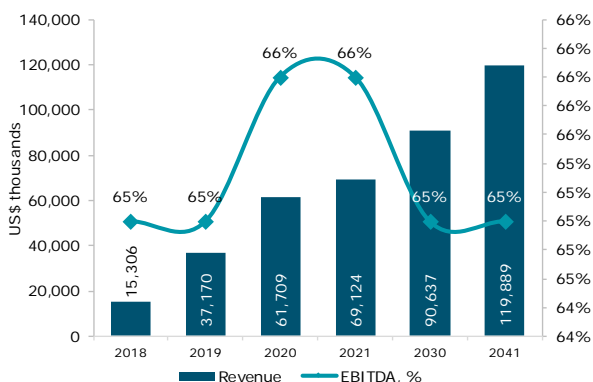
Market background:

- *High demand* - stable growth in consumption of poultry meat due to its low price and quality characteristics (this product is dietary, low-fat and easy to cook with meat).
- *Competitive prices* – Poultry meat prices are low compared to other meat types.
- *Import dependency* – in the structure of poultry meat consumption, the share of imports is 52%.
- *Resources* – the availability of a rich resource base in Kazakhstan.
- *State support* is provided for the entire production chain and takes the form of investment preferences

Revenue forecast

The Project has commercial viability in 2 regions. Viability depends on a number of quantitative characteristics such as electricity and labour costs and quality, grain supply and transport hub availability, all of which affect profitability and payback periods. As such, NPV is highest in **Aktobe Oblast at US\$ 232,657 thousand**.

Factors such as export potential, climate, the level of market development in the oblast, and access to resources are also important for project implementation, and consequently, for choosing the oblast in which to implement the project.



Regions with the best investment indicators

Agriculture-industrial complex

Sturgeon farming

Project overview:

A creation of modern farming of commercial fish in cage lines with subsequent processing and sale in domestic and foreign markets

Investment amount:

US\$ 25,363 – 25,525 thousand

Capacity: 1,000 tones of frozen and chilled sturgeon (bester) per year

Location: Implementation of the Project on an industrial scale is possible in 14 regions of the Republic of Kazakhstan

Project implementation period:

24 years, including 1 year of construction

Target markets: Kazakhstan, Russia, China

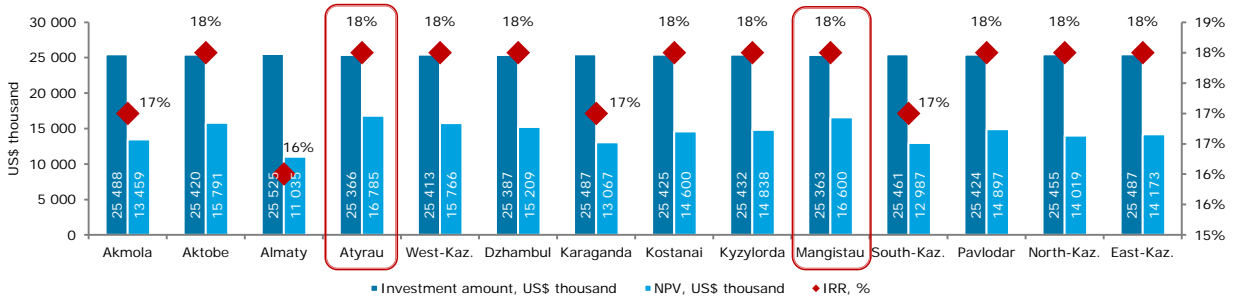
Suppliers: companies specialized in fish food and producers of fertilized roe

Consumers: representatives of main food distribution chains (supermarkets, grocery stores, restaurants, cafes, etc.)

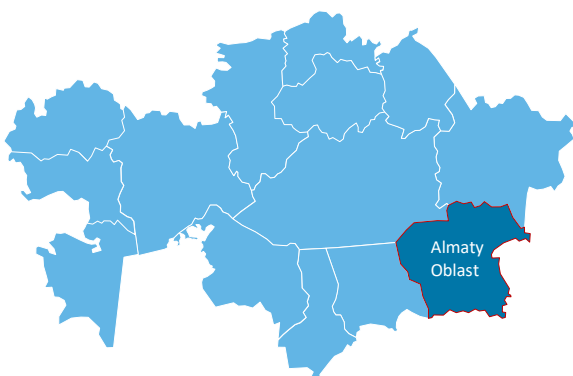
Market prerequisites:

- **Ban on industrial catches.** Due to its endangered status, a moratorium is in place for sturgeon fishing in Kazakhstan
- **Production deficit.** In 2016 farmed sturgeon reached only 312 tonnes, which does not cover domestic demand.
- **Export potential.** China is the largest importer and consumer of fish; per capita consumption of fish in China is 42 kg; According to the OECD forecasts this figure will reach 50 kg in 2026. The Russian market due to the sanctions has lost the import of products from many countries which is favorable for producers from Kazakhstan.
- **State support.** In the State Agricultural Industry Development Programme for 2017-2021 farming of valuable fish species is a priority in reducing imports.

Key investment indicators



Prospective regions



Regions with the most favorable investment indicators

Quality indicators of Project

Oblast	Water resources	Climate	Market development
Akmola	Medium	Acceptable	Medium
Aktobe	Medium	Favourable	High
Almaty	High	Favourable	High
Atyrau	Low	Acceptable	High
West-Kazakhstan	Low	Acceptable	High
Dzhambul	Medium	Favourable	Low
Karaganda	Medium	Acceptable	Medium
Kostanai	Medium	Acceptable	High
Kyzylorda	Medium	Favourable	High
Mangistau	Low	Favourable	High
South-Kazakhstan	Medium	Favourable	High
Pavlodar	Medium	Acceptable	High
North-Kazakhstan	Medium	Acceptable	High
East-Kazakhstan	Medium	Favourable	High

Agriculture-industrial complex

Kazbeef production capacity improvement



Project overview:

Construction of a feedlot for cattle and modernization of a meat processing complex

Investment amount: US\$ 20,343 thousand

Capacity: production of 17,000 tons of beef per year

Product: commodity beef

Location:

Akmola Oblast

Project implementation period:

24 years, including 1 year of construction

Target markets: Kazakhstan

Suppliers: Kazakhstani cattle breeding farms

Consumers: Chinese and Russian markets; wholesale market of Kazakhstan

Market prerequisites

- *Export prospects* – Neighboring countries imported over 944 thousand tones of cattle meat in 2016.
- *Competitiveness* – beef price differential with neighboring countries (the difference reaches 4.5 USD/kg).
- *Low production cost* – cheap forage base and relatively inexpensive qualified labor force.
- *Resources* – availability of ranchland in Kazakhstan more than 180 mln ha.
- *State support* along the entire production chain by providing investment preferences.

Key investment indicators

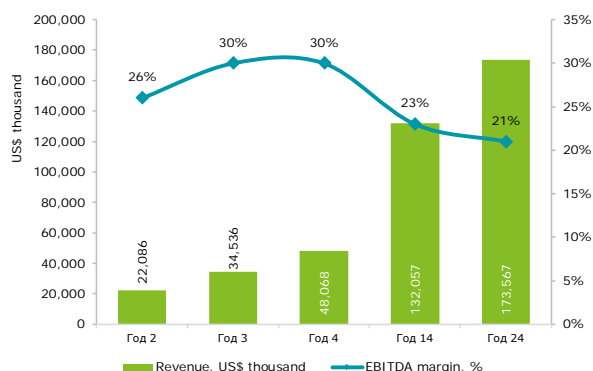
Indicator	Results
Investment amount, US\$ thousands	20,343
Project NPV, US\$ thousands	176,227
IRR	81%
EBITDA margin	21-31%
Payback period, years	3.3
Discounted payback period, years	3.5

Quality indicators of the Project

Oblast	Export potential	Climate	Epizootic risk	Market potential	Access to resources (cattle)
Akmola Oblast	High	Suitable	Low risk	Above medium	Medium
Aktobe Oblast	High	Suitable	Moderate risk	Medium	High
Karagandy Oblast	Medium	Suitable	Moderate risk	Medium	High
Kostanai Oblast	High	Acceptable	Low risk	Medium	Medium
Pavlodar Oblast	High	Suitable	Low risk	Medium	Medium
North Kazakhstan Oblast	High	Acceptable	Low risk	Below medium	Below medium

Regions with the most favorable investment indicators

Revenue forecast



Agriculture-industrial complex

Soya beans processing

Project overview:

Construction of technologically advanced soya beans processing plant for food production

Investment amount: US\$ 87,226 thousand

Capacity: 25.5 thous. tones of soybean refined oil; 1.5 thous. tones of soy lecithin; 20 thous. tones of fat-free soy flour; 10 thous. tones of soy concentrate; 20 thous. tones of soy isolate; 43.5 thous. tones of soybean meal

Location: Almaty Oblast

Project implementation period:

24 years, including 1 year of construction

Target markets: China, Russia, Kazakhstan, Uzbekistan

Suppliers: collective farms, farms, households

Consumers: producers of mixed fodders, food products, livestock farms, wholesale and retail chains, public catering

Key investment indicators

Indicator	Results
Investment amount, US\$ thousand	87,226
Project NPV, US\$ thousand	19,630
IRR	16%
Payback period, years	8.4
Discounted payback period, years	15.2

Local partner

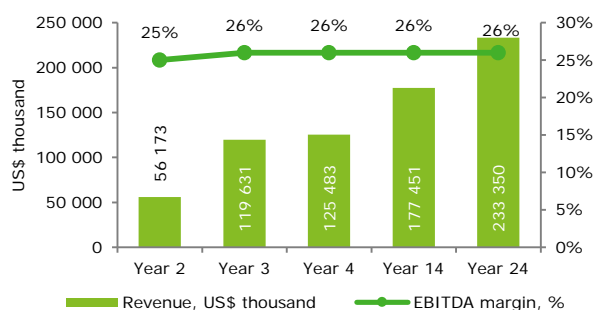
Assar Group LLP was established in 2005. Its major activity is the export and import of grain products and all types of fuels and lubricants.

Company has established sales distribution channels in Kazakhstan and abroad, mainly in China and Russia.

Market prerequisites:

- **Solid local demand growth.** According to Kazakhstan Ministry of Agriculture, the annual protein deficit among the local population is more than 100 thousand tonnes (based on a daily rate of 50 grams per person).
- **Export potential.** Kazakhstan exports one third of the soybean oil produced in the country. In 2016, Uzbekistan was the largest importer (4,398 tonnes) followed by China (578 tonnes). Russia has been identified as one of priority markets to export soya bean meal. China has the biggest export potential as its annual soya bean oil consumption exceeds 15 mln tonnes and is growing from year to year.
- **Availability of raw materials.** Over the past 5 years, soya bean harvest has grown by 14%. Almaty Oblast is the leader in growing soya beans.
- **State support** through the provision of investment preferences, preferential loans and subsidies, as well as tax and customs concessions on equipment imports.

Revenue forecast



Production in Almaty region

Almaty Oblast is the leader in oil seeds production in Kazakhstan with market share 97%. In this regard, the city of Taldykorgan, Almaty Oblast was selected for Project implementation.

In 2016 Almaty Oblast produced 12 thousand tonnes of soybean oil, which accounted for 79% of total oil production in the country.

Agriculture-industrial complex

Ice-cream producing factory



Project overview:

Production of high-quality ice cream to replace imports and increase exports to neighboring countries

Investment amount: US\$ 13,000 thousand

Project initiator: Shin-Line LLP

Capacity: 45,000 tons of ice-cream per year

Location: Industrial Zone of Alatau District, Almaty

Project implementation period:

24 years, including 1 years of construction

Target markets: Kazakhstan, Russia, China, Mongolia, Kyrgyzstan, Central Asia

Suppliers: collective farms, farms and households

Consumers: representatives of main food distribution chains (supermarkets, grocery stores, restaurants, cafes, etc.)

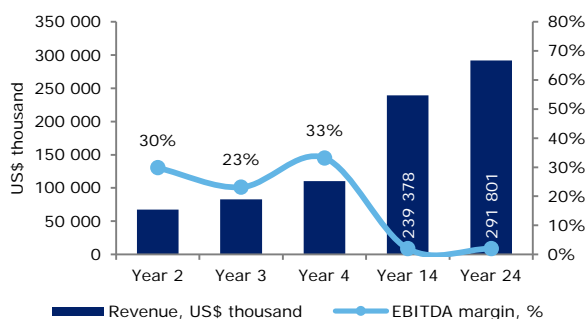
Market prerequisites:

- **Local demand and production.** In 2016 the total volume of ice-cream sales in Kazakhstan has increased by 3% and has reached 54 bln KZT, while per capita consumption has increased by 58% and reached 46,032 tons of ice cream produced.
- **Developed regional network.** At the moment Shin Line LLP is represented in five Russian cities: Orsk, Magnitogorsk, Orenburg, Tyumen and Omsk. The company also has established distributors in China, Uzbekistan and Tajikistan.
- **Raw materials base.** In the 15 years of operating in the market of Kazakhstan, Shin-Line LLP has established uninterrupted supply of raw milk. In addition, butter, condensed milk, skimmed milk powder, sugar, molasses, flour and corrugated packaging are needed in the production. A sufficient amount of raw materials on the market allows one to choose the best quality ingredients at the best price.

Key investment indicators

Indicator	Results
Investment amount, US\$ thousand	13,000
Project NPV, US\$ thousand	45,925
IRR	31%
Payback period, years	5.6
Discounted payback period, years	7.1

Revenue forecast



Local partner

Shin-Line LLP has been producing ice cream and other food products in Kazakhstan since 2002. At present, the share of Shin-line LLP in the market of ice cream in Kazakhstan is about 35%.

In order to promote ice-cream in foreign markets Shin-Line LLP has prepared two lines of Kazakhstani ice cream production - "Bakhroma" and "Teddy bear on the pole".

Production location

The project implies the expansion of production and transfer of the existing line to the Industrial Zone of Alatau District in Almaty, which offers all the necessary infrastructure. Residents of the industrial zone are granted the following preferences:

- participation in government programs;
- obtaining financial support;
- preferences for taxes and customs clearance.

Agriculture-industrial complex

Construction of AgroCity complex

Project overview:

Construction of AgroCity complex - a functional area for cooperation of agricultural producers, small and medium-sized businesses, researchers and investors in the field of agro-industrial complex and food industry

Investment amount: US\$ 53,834 thousand

Location: Astana city and Akmola Oblast

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

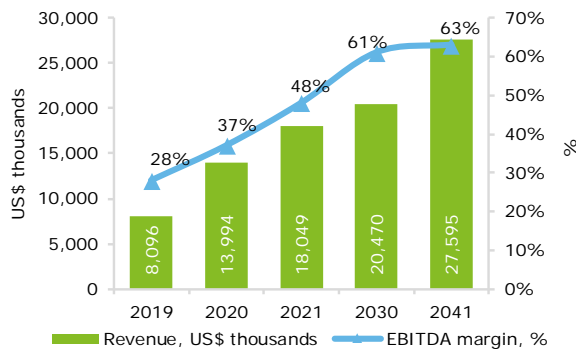
Suppliers: collective farms, farms and households

Consumers: retail distribution networks of food products (markets, supermarkets, grocery stores, and kiosks located in residential complexes, etc.)

Market prerequisites:

- *High demand* – There is a need to create trade and logistics infrastructure in cities for storage and processing of food products to provide direct access to markets for agricultural producers. This will solve the problem of deficit and high prices for fruit and vegetable products during off-season periods.
- *Growth in population of Astana* – Rapid increase in population of Astana and proximity to Karaganda (another densely populated city of Kazakhstan) will allow covering a significant percentage of the country's population. Over the first half of 2017, growth in population of Astana has reached a record high level of 15.4%.
- *Social effect* – This project has a positive social effect, as it allows the state and local executive bodies to balance spikes in pricing, as well as to reduce the deficit of fruit and vegetable crops during the off-season.

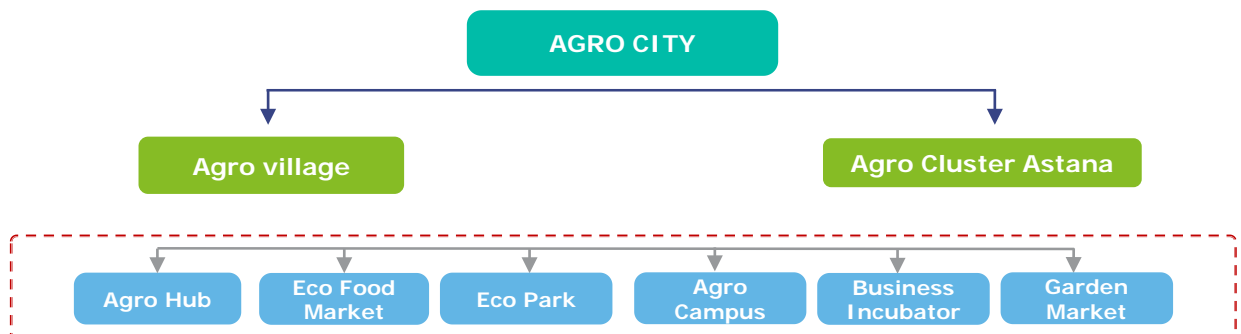
Revenue forecast



Key investment indicators

Indicator	Result
Investment amount, US\$ thousand	53,834
Project NPV, US\$ thousand	24,622
IRR	14.89%
Payback period, years	9
Discounted payback period, years	17

AgroCity structure





**Chemical
industry**



Chemical industry

The chemical industry in Kazakhstan is an economically attractive platform for investments due to the country's rich supply of raw materials and proximity to fast-growing markets such as China, Russia, Turkey, Iran, etc. Furthermore, the stable demand from mining and agriculture-industrial sectors allows developing the production of various types of industrial chemicals.

However, analysis of the trade balance in the chemical industry shows that domestic production capacity can not cover the demand for chemical products and their derivatives. There is an excess of demand over supply for products such as potassium sulfate, polyolefins, methanol, butadiene, synthetic rubber, ammonia, urea, polyols and soda ash. The shortage of domestic production of these products hinders the effective development of industries that use these types of products as raw materials.

In order to develop import substitution and increase export potential on the regional market, it is reasonable to attract investors to basic chemical industry. We have prepared investment proposals for 9 projects in the chemical and petrochemical industry. The main advantages of Kazakhstan for the selected projects are access to cheap raw materials, a low level of operating costs and the availability of preferences for investors.

Chemical industry

Barite manufacturing

Project overview:

Construction of barite enrichment plant to produce barite concentrate

Investment amount: US\$ 53,997 thousand

Capacity: 75,000 tons per year, with a full production cycle from extraction to beneficiation of barite ores.

Location:

Zhambyl Oblast, "Taraz Chemical Park" Special Economic Zone

Project implementation period:

24 years, including 1 year of construction

Target markets: Turkmenistan, Azerbaijan, Russia, Kuwait, Saudi Arabia, Oman, USA, Norway, Netherlands, Germany

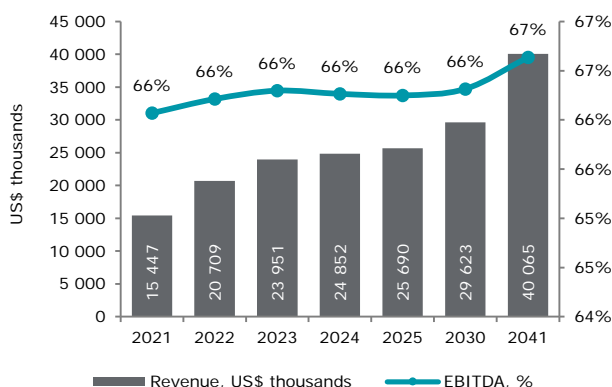
Suppliers: raw material – Narkyzil and Oijaylau, equipment - USA

Consumers: oil and gas producers

Market prerequisites

- **Demand growth** – domestic consumption in Kazakhstan has increased by 33%, reaching 311 thousand tons in 2017. Moreover a gradual increase in oil production is expected due to the implementation of large-scale projects at Kashagan, Tengiz and Karachaganak (oilfields).
- **Low GoGS** – low production cost can be achieved due to the availability of own cheap raw materials (in the COGS structure, raw materials costs take up 31%).
- **Resources** – according to the US Geological Survey, Kazakhstan has the world's leading position in the availability of barite resources.
- **State support** – provision of tax, customs and other preferences.

Revenue forecast



Project implementation stages:

- **The first stage (3 years)** - the construction period, which involves the acquisition, installation and construction of necessary equipment and structures.
- **Second stage** – the production period at which barite ore will be mined.
- **Third stage** - planned to commence ore beneficiation and selling the final product in full capacity.

Key investment indicators

Indicator	Results
Investment amount, US\$ thousands	53,997
Project NPV, US\$ thousands	23,271
IRR	22%
EBITDA margin	66-67%
Payback period, years	7.38
Discounted payback period, years	10.99

Project implementation location: Zhambyl Oblast, "Taraz Chemical Park" Special Economic Zone



Chemical industry

Potassium sulphate production

Project overview:

Construction of a high-capacity potassium sulphate production plant

Investment amount: US\$ 535,756 thousand

Capacity: production of 300 thousand tons of potassium sulphate

Location:

Zhambyl Oblast (Taraz SEZ) or Atyrau Oblast (NIPT SEZ)

Project implementation period:

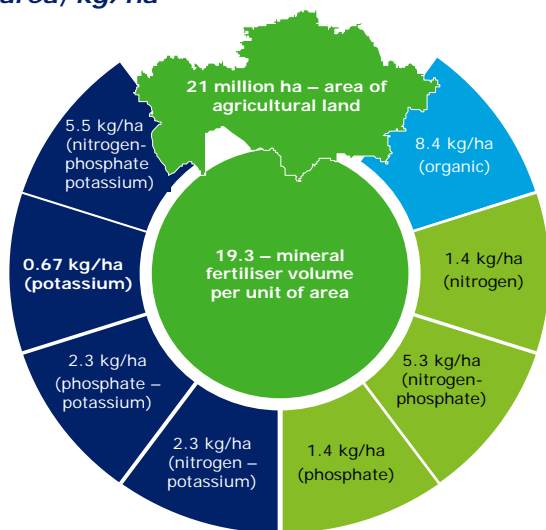
24 years, including 1 year of construction

Target markets: The main sales markets for potassium sulfate in the Caspian region, the Transcaucasus and the Middle East are Azerbaijan, Iran, Turkey

Raw materials base: the nearest potash mines of Western Kazakhstan

Consumers: markets of Kazakhstan, Transcaucasia and the Middle East

Application of mineral fertilisers per unit of area, kg/ha



Market prerequisites:

- *High import volumes* - local production capacity will not meet demand for chemical products and derivatives, and this is true for mineral fertilisers.
- *Competitiveness* - Surplus sulphur, which is extracted together with oil and gas, and the existence of commercial sulphur dioxide will facilitate value-added competitive production.
- *High demand* – State guaranteed demand contributes to the gradual increase in the demand for mineral fertilisers, maintaining the growth of organic fertilisers.
- *State support* along the entire production chain by providing investment preferences.

Key investment indicators

Indicator	Results	
	Zhambyl Oblast	Atyrau Oblast
Investment amount, US\$ thousands	537,808	535,756
Project NPV, US\$ thousands	11,351	84,942
IRR	15%	21%
EBITDA margin	44%	52%
Payback period, years	10.40	8.90
Discounted payback period, years	20.80	12.80

Oblast	Export potential	Infrastructure development	Raw materials base – proximity to main sulphuric acid sales channels	Available qualified human resources	Raw materials base – proximity to potassium ore
Atyrau Oblast	Medium	Appropriate	-	-	High
Zhambyl Oblast	High	Favorable	+	+	Medium

Regions with the most favorable investment indicators

Chemical industry

Methanol production

Project overview:

Construction of a high-capacity methanol production plant

Investment amount: US\$ 2,078,502 thousand

Capacity: production of 1,670 thousand tons of methanol

Location: Atyrau Oblast (NIPT SEZ)

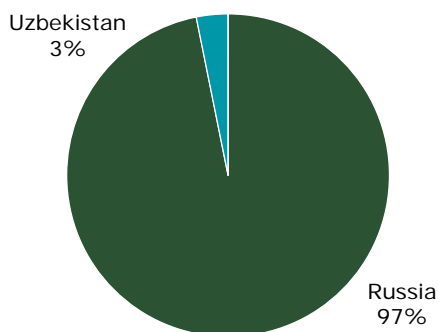
Project implementation period: 24 years, including 1 year of construction

Target markets: Kazakhstan, Western Europe, Central Europe, Russia, China, Turkey

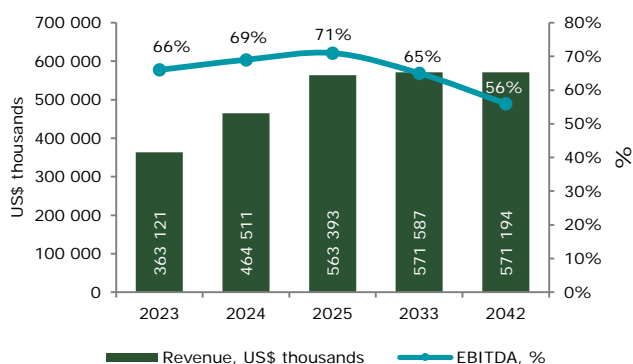
Raw materials base: Kashagan and Tengiz oilfields

Application: Methanol is required for the production of formalin, a raw material for glyphosate production. The expected methanol output will meet the needs for glyphosate production.

Methanol exporters to Kazakhstan in 2016



Revenue forecast



Market prerequisites

- *High demand* - methanol is used by gas industry enterprises to cope with hydrate formation and for the production of nitrogen fertilizers in agriculture. High prices for methanol (raw material) imports result in price non-competitiveness of Kazakh end products
- *Dependence on imports* - Kazakhstan is 100% dependent on methanol imports, annual consumption of which is at least 20 thousand tons.
- *Need for the chemical industry development* - due to the increase in oil production, the issue of efficient utilization of increasing volumes of associated gas through its use in the domestic economy and of petrochemistry development in accordance with environmental standards is of particular relevance.
- *Low GoGS* - low production cost of methanol may be reached due to the availability of own cheap raw materials. The share of raw materials and supplies costs in the cost structure is 72%.

Key investment indicators

Indicator	Results
Investment amount, US\$ thousands	2,078,502
Project NPV, US\$ thousands	408,877
IRR	13%
EBITDA margin	65%
Payback period, years	10.69
Discounted payback period, years	16.44

Chemical industry

Polyolefin production

Project overview:

Construction of a polyolefin production plant

Investment amount: US\$ 4,710,772 thousand

Capacity: production of 348 thousand tons of polypropylene and 284 thousand tons of polyethylene

Location: Atyrau Oblast (NIPT SEZ)

Project implementation period: 25 years, including 1 year of construction

Target markets: Russia and China

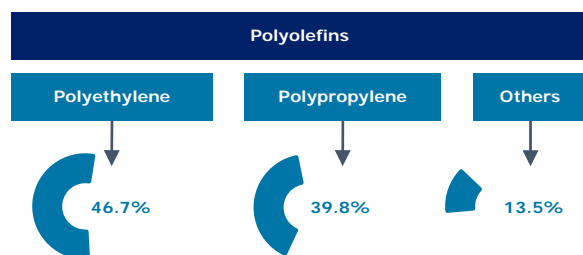
Raw materials base: Kashagan and Tengiz oilfields

Consumers: Potential customers of the company's products are producers of plastic and polyethylene goods

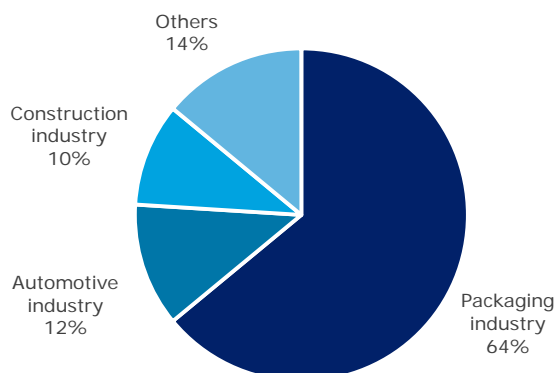
Market prerequisites:

- *Export prospects* - increase in production will enable Kazakhstan to boost its exports to China and Russia, which collectively import 5,439 thousand tonnes of polyethylene and 3,144 thousand tonnes of polypropylene, and enter the Western Europe market.
- *Need for the chemical industry development* - the chemical industry is a strategic sector of the economy, which accounts for a significant share of the GDP in developed countries. Raw materials and low-added value products prevail in the exports of domestic chemical industry.
- *Competiveness* - methane is used as a raw material to produce polyolefins. Raw materials in Kazakhstan are cheap, which enables to significantly reduce production cost of polyolefins (raw materials account for 23% of total production costs). The increasing oil production gives rise to effective utilization of associated gas through the use in domestic economy and development of the petrochemical industry in accordance with environmental standards.
- *State support* along the entire production chain by providing investment preferences.

World polyolefin market



Consumption of polyethylene by industries



Key investment indicators

Indicator	Results
Investment amount, US\$ thousands	4,710,772
Project NPV, US\$ thousands	194,220
IRR	11%
EBITDA margin	58-66%
Payback period, years	12.09
Discounted payback period, years	22.46

Chemical industry

Butadiene and synthetic rubber production

Project overview:

Construction of butadiene production plant with a production cycle that includes the production of butadiene (phase 1) and synthetic rubber (phase 2).

Investment amount: US\$ 1,487,699 thousand

Capacity: production of 250 thousand tons per year

Location: Atyrau Oblast (NIPT SEZ)

Project implementation period: 25 years, including 1 year of construction

Target markets: Turkey, Poland, China, Tajikistan, Romania, Afghanistan, Moldova

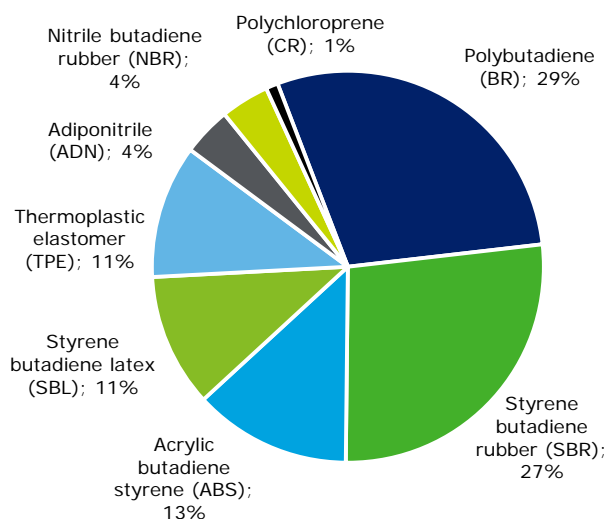
Raw materials base: Kashagan and Tengis oilfields

Consumers: Project realisation helps meet the demands of the Kazakhstan processing industry and the consumers of key butadiene export sales markets.

Market prerequisites:

- *High dependence on import* - analysis of the chemical industry trade balance shows that domestic production capacity can not cover the demand for chemical products and their derivatives.
- *High demand* - synthetic rubber and rubber items are used commonly in machine building, the production of industrial rubber articles, ABS resin, pipes, textiles, clothing and building materials and etc.
- *Effective utilization of associated petroleum gas* - due to the growth in oil production, the issue of recycling ever-increasing volumes of associated gas through its use in the domestic economy is becoming a topic for discussion. Project implementation will introduce an alternative method for the effective domestic application of associated gas.

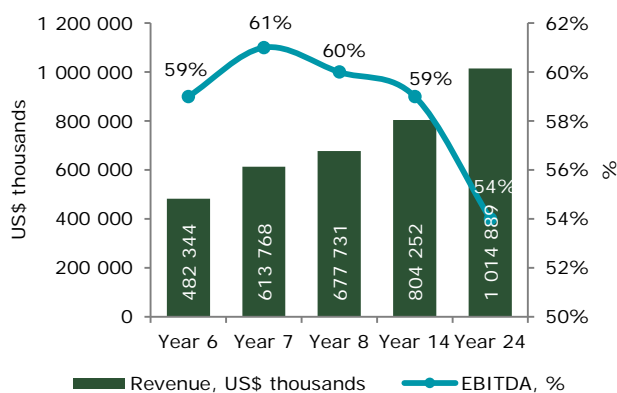
Structure of global demand for butadiene processing products



Key investment indicators

Indicator	Results
Investment amount, US\$ thousands	1,487,699
Project NPV, US\$ thousands	1,312,037
IRR	22%
EBITDA margin	58%
Payback period, years	9.08
Discounted payback period, years	10.97

Revenue forecast



Methanol and ammonia production

Project overview:

Construction of a high-capacity methanol and ammonia production plant

Investment amount: US\$ 1,757,079 thousand

Capacity: production of methanol 1,100 thousand tons per year; production of ammonia 120 thousand tons per year

Location: Atyrau Oblast (NIPT SEZ)

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

Target markets: Western Europe, Central Europe, Russia, Kazakhstan, Turkey, China

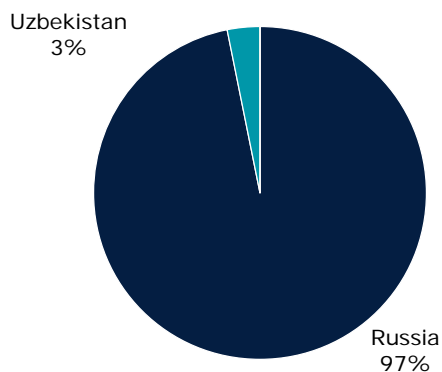
Raw materials base: Kashagan and Tengiz oilfields

Consumers: Kazakhstan's gas producers, peasant and farm enterprises

Key investment indicators

Indicator	Results
Investment amount, US\$ thousands	1,757,079
Project NPV, US\$ thousands	27,485
IRR	10%
EBITDA margin	59%
Payback period, years	12
Discounted payback period, years	24

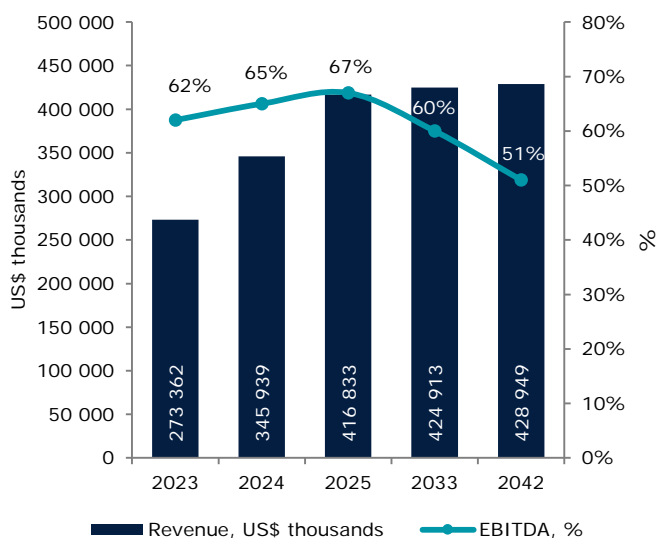
Methanol exporters to Kazakhstan



Market prerequisites:

- *High demand* - methanol is used by enterprises of the gas industry as an inhibitor preventing hydrate plugs in oil and gas pipelines. Annual consumption of methanol is at least 20 thousand tons.
- *Dependence on import* – 100% of methanol is imported.
- *Low GoGS* - low production cost can be achieved due to the availability of own cheap raw materials. In the cost of sales structure, the cost of raw materials and supplies accounts for 72% for methanol and about 50% for ammonia.
- *Export prospects* - By increasing the output, Kazakhstan will be able to increase exports of methanol to China, which is the key global consumer of methanol (with the annual import volume of 8,806,695 tones) and ammonia (the total annual import is 470,072 tons).

Revenue forecast



Chemical industry

Urea production

Project overview:

Construction of a high-capacity urea production plant

Investment amount: US\$ 1,930,006 thousand

Capacity: production of 1,200 thousand tons of urea per year

Location: Atyrau Oblast (NIPT SEZ)

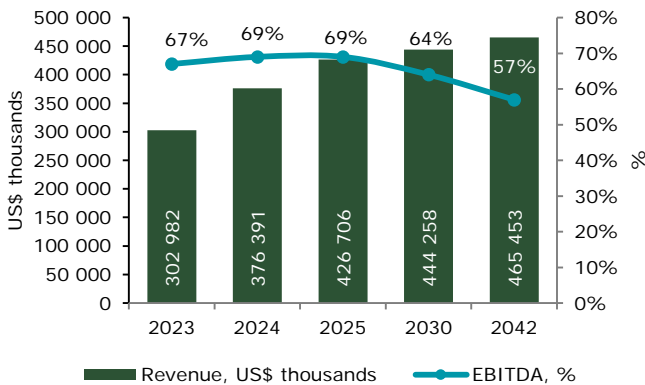
Project implementation period: 24 years, including 2 years of construction

Target markets: Western Europe, Kazakhstan, Turkey, Iran, Russia, Northeast Asia

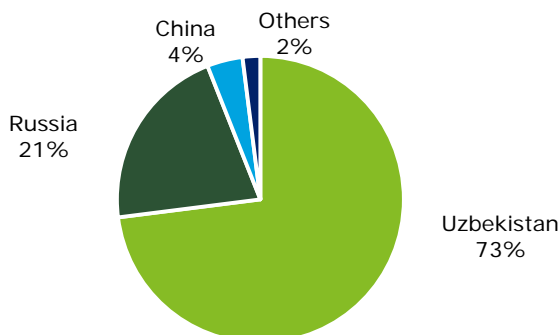
Raw materials base: Kashagan and Tengiz oilfields

Application: in chemical and consumer industries, in the technological chain as a semi-product for the production of widely used products in the RK

Revenue forecast



Urea imports in Kazakhstan



Market prerequisites:

- *High demand* - imported urea is used by agricultural enterprises as a nitrogen fertilizer.
- *Dependence on imports* – 100% of urea consumed in the Republic of Kazakhstan is imported (the volume of imports in 2016 - 22 thousand tons).
- *The absence of basic chemical productions* hinders the output of high value-added chemical products, development of petrochemistry, pharmaceuticals, agrochemistry, and soil science, development of related competencies and qualifications of staff in the country.
- *Low CoGS* – is reached due to the country's own cheap raw material base. Raw materials and supplies account for 60% of the cost structure.
- *Export prospects* - by increasing the output, Kazakhstan will be able to increase exports to Turkey which is one of the key consumers of urea in the global market where imports amounted to 2,261,393 tons in 2016.

Key investment indicators

Indicator	Results
Investment amount, US\$ thousands	1,930,006
Project NPV, US\$ thousands	40,237
IRR	10%
EBITDA margin	64%
Payback period, years	12.00
Discounted payback period, years	23.00

Chemical industry

Polyether polyol production

Project overview:

Construction of a modern polyether polyol production plant

Investment amount: US\$ 3,746,188 thousand

Capacity: production of 100 thousand tons of polyether polyol per year

Location: Atyrau Oblast (NIPT SEZ)

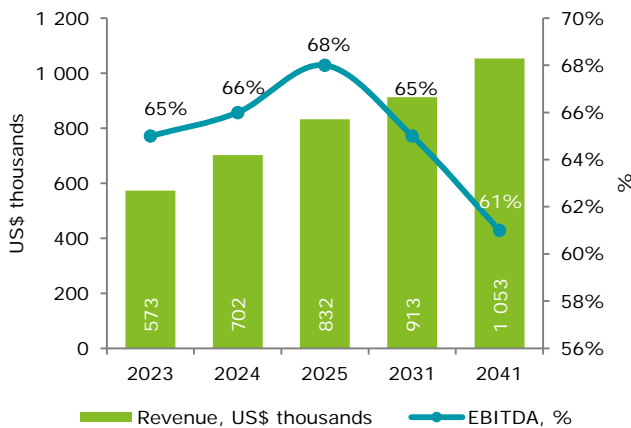
Project implementation period: 24 years, including 5 years of construction

Target markets: Russia, Uzbekistan, Kyrgyzstan

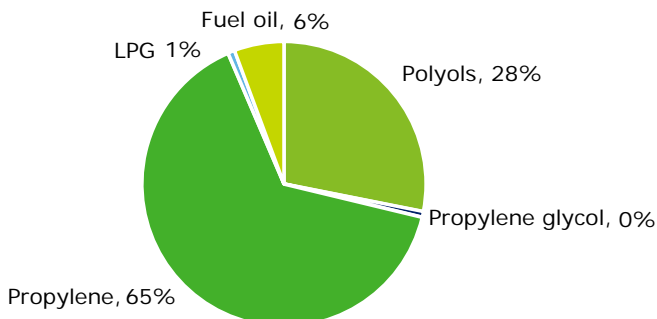
Raw materials base: Kashagan and Tengiz oilfields

Consumers: potential customers of the company's products are polyurethane foam producers, who supply their products to manufacturers of furniture, insulating materials, packaging, automobiles

Revenue forecast



Revenue structure



Market prerequisites:

- *Lack of production and dependence on import* - the absence of a commercial polyester polyol production factory provides an excellent opportunity to apply new technologies and the latest equipment.
- *Export prospects* – target markets include Turkey, Central European countries, Russian Federation, and the CIS. Currently, there is no polyether polyol production plant in Turkey while in 2015, its annual demand amounted to 128 thousand tonnes. Annual demand in Central European and CIS countries amounted to 213 thousand tonnes and 202 thousand tonnes, respectively. In 2015, the production capacity of Russia amounted to 110 thousand tonnes, in other CIS and Baltic countries there are no production facilities.
- *State support* - the project complies with the development strategy of Samruk-Kazyna JSC for 2012-2022. Government support by way of tax, customs and other concessions for SEZ NIPT aimed at reducing the production cost and early commissioning of the plant, contributes to greater profitability and reduced payback period of investment.

Key investment indicators

Indicator	Results
Investment amount, US\$ thousands	3,746,188
Project NPV, US\$ thousands	225,847
IRR	11%
EBITDA margin	61-68%
Payback period, years	12.04
Discounted payback period, years	21.68

Soda ash production



Project overview:

Construction of an industrial complex to mine table salt and limestone and produce soda ash

Investment amount: US\$ 137,074 thousand

Capacity: production of 200 thousand tones per year

Location: Pavlodar Oblast

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

Target markets: Kyrgyzstan and Turkmenistan

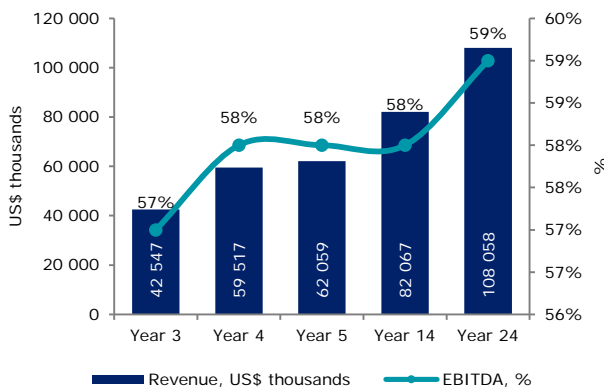
Suppliers: The main suppliers will be the representatives of mining and chemical industries

Consumers: Aluminium of Kazakhstan JSC is the largest consumer at the time of the market analysis (located in Pavlodar Oblast).

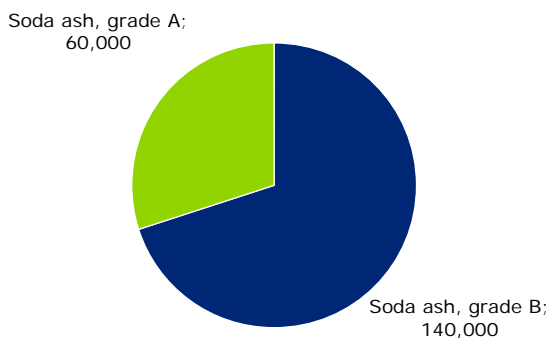
Market prerequisites:

- *High demand* - there is significant demand for soda ash grade A and grade B of high quality (European standard) in the domestic market.
- *The absence of production in Kazakhstan* - from the moment of becoming an independent state and to this day there is no production of soda ash on the territory of Kazakhstan.
- *The availability of high-quality raw materials* - there are deposits for the production of table salt and limestone in many areas of Kazakhstan.
- *Favorable geographical location* - the location of the soda plant on the territory of Pavlodar region provides an opportunity to cover the largest part of the soda market in Kazakhstan. The largest consumer in the domestic market is JSC "Aluminum of Kazakhstan", based in Pavlodar region. The volume of purchase of imported soda from Russia in 2016 amounted to 162,426 tons (50% of total imports of soda in 2016).
- *Expected deficit of soda ash in the EEU* - Bashkir Soda Company, the largest soda producer in Russia and the EEU, which activities are concentrated in Sterlitamak, is facing difficulties in the last 8 years with the extraction and quality of the limestone produced in the mountains of Shakhtau, the reserves of which are depleting.

Revenue forecast

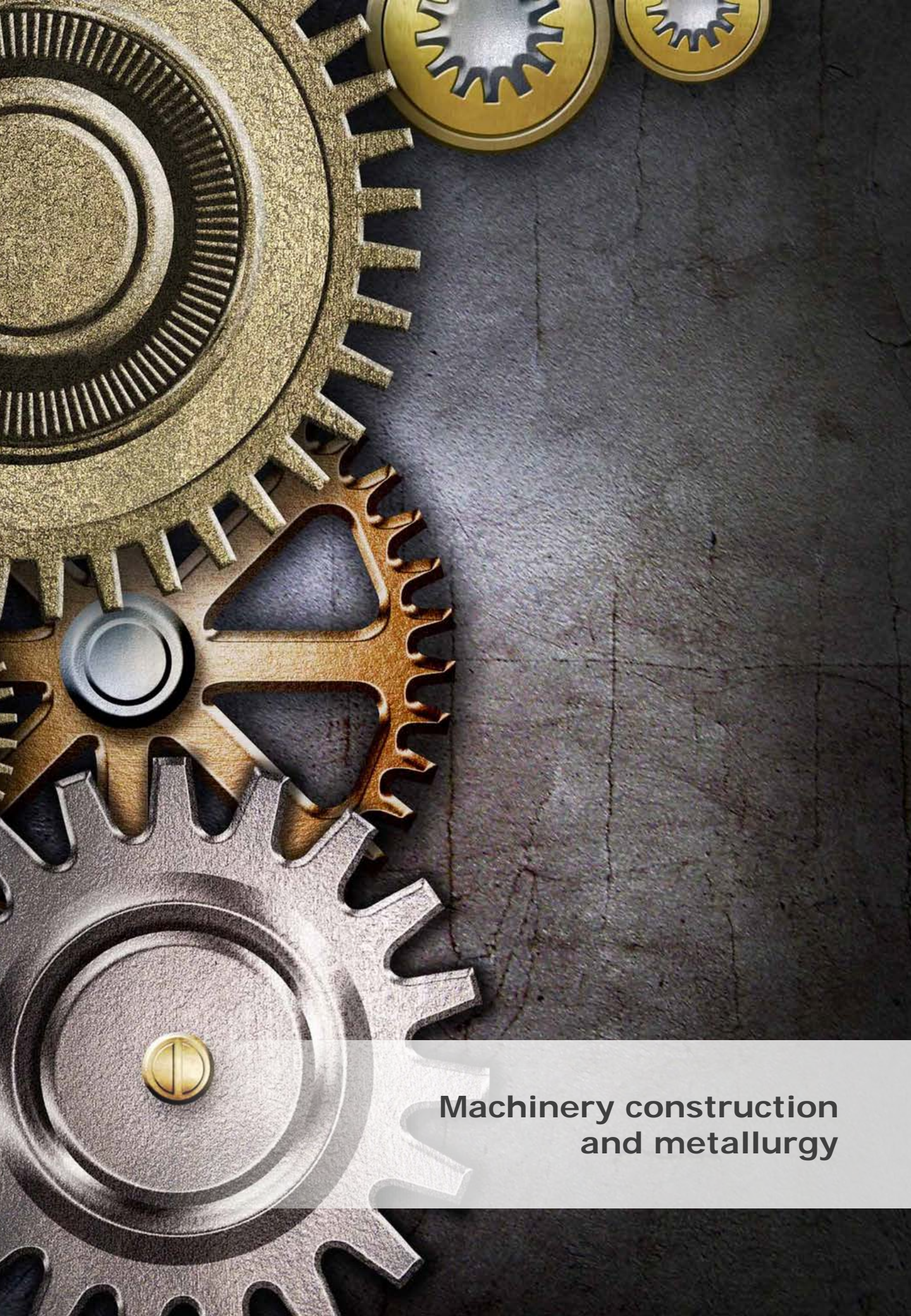


Product output structure, tons



Key investment indicators

Indicator	Results
Investment amount, US\$ thousands	137,074
Project NPV, US\$ thousands	67,847
IRR	20%
EBITDA margin	58%
Payback period, years	6.90
Discounted payback period, years	11.70



**Machinery construction
and metallurgy**



Machinery construction and metallurgy

According to the results of 2016, the volume of production in machinery construction and metallurgy amounted to US\$ 2.2 billion and US\$ 9.9 billion, respectively. At the same time, over the past five years, the aggregate average annual growth rate of these sectors amounted to 9%.

Over the past five years, about US\$ 15 billion of foreign direct investment has been attracted to these industries.

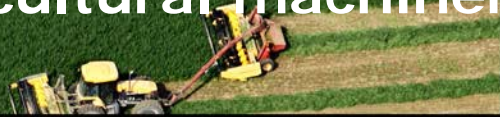
Despite the growing dynamics, a significant supply deficit is seen in the machinery construction industry to this day, which is covered by imports (over the past five years, the share of imports from the total volume of the machinery construction market amounted to about 80-85%).

To date, the support of the machinery construction sector is a priority in the framework of the "State Program for Industrial and Innovative Development of the Republic of Kazakhstan" and the "Road Map of Business 2020". Thus, there is a wide range of preferences offered for enterprises of the machinery construction sector in Kazakhstan, both within the framework of special economic zones and within the framework of investment contracts.

The metallurgy industry plays a strategic role in providing end products for various priority sectors of the economy. The industry is also characterized by access to vast amounts of cheap raw materials and proximity to the world's largest importers of metallurgical products (e.g. China, Russia).

Machinery construction and metallurgy

Production of agricultural machinery



Project overview:

Construction of a plant for the production of agricultural machinery

Investment amount:

US\$ 19,950 – 64,454 thousand

Products: combine harvesters, tractors

Location:

Implementation of the project on an industrial scale is possible in 3 regions of the Republic of Kazakhstan (North Kazakhstan, East Kazakhstan, Kostanai oblast)

Project implementation period:

24 years, including 2 years of construction

Target markets: CIS countries

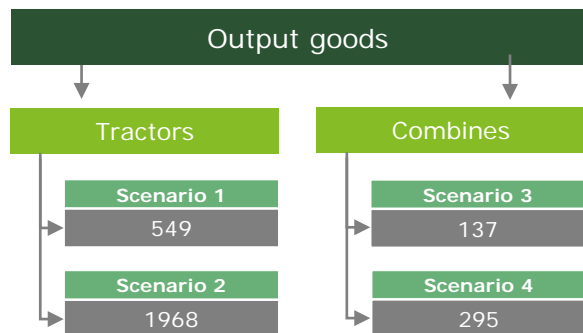
Suppliers: local and foreign suppliers of equipment and components

Consumers: agricultural producers, farm holdings and farms

Market prerequisites:

- *Import substitution* – the volume of imports of tractors and combine harvesters is more than 3 times higher than the production of this agricultural machinery in the country.
- *High level of deterioration of agricultural machinery in the country.* According to official data, more than 93% of tractors and 71% of combine harvesters in Kazakhstan are to be written off.
- *Low cost of production.* Construction of knocked down machine-building enterprises with an initial 49% level of localisation of production level, followed by an increase to 90% by 2041, is beneficial in terms of costs and import substitution.

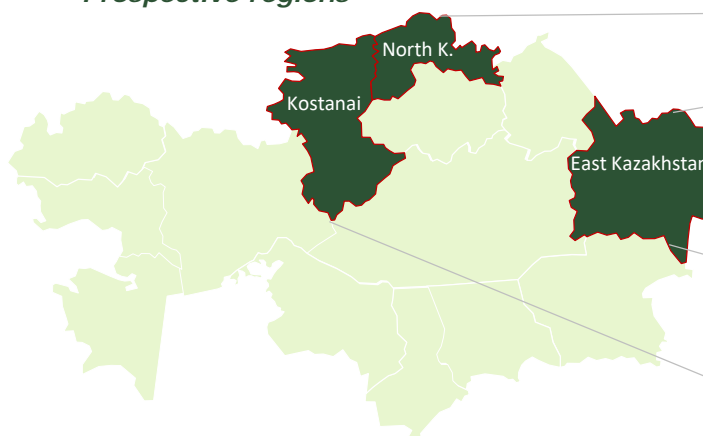
Plant power, units



Key investment indicators

Indicator	Results	Indicator	Results
Scenario 1		Scenario 3	
Investment amount	20,871	Investment amount	19,950
Project NPV	11,988	Project NPV	2,064
IRR	26%	IRR	17%
EBITDA margin	8%-12%	EBITDA margin	9%-12%
Payback period, years	6.40	Payback period, years	8.00
Scenario 2		Scenario 4	
Investment amount	64,454	Investment amount	19,950
Project NPV	10,214	Project NPV	19,060
IRR	18%	IRR	32%
EBITDA margin	3%-7%	EBITDA margin	11%-13%
Payback period, years	8.10	Payback period, years	5.60

Prospective regions



- **Geographical advantages**
Convenient area in terms of logistics due to the proximity to suppliers of equipment and components, as China and Russia
- **Arable land (sales market)**
These oblasts, and in particular Kostanay-oblast has the largest arable land in the country

Scenario with the best investment indicators

Machinery construction and metallurgy

Tyre manufacturing

Project overview:

Construction and modernization of an industrial complex with existing infrastructure to produce tyres for passenger cars

Investment amount: US\$ 68,539 thousand

Products:

low-cost summer tyres with a radius of R14, R15 and R15

Location:

South-Kazakhstan oblast

Project implementation period:

24 years, including 1 year of construction

Target markets: CIS countries

Suppliers:

foreign suppliers of raw materials

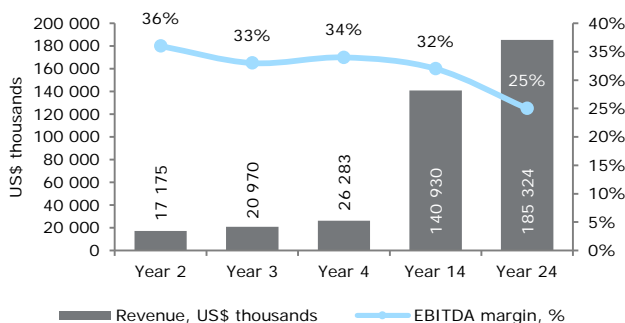
Consumers:

dealers and the public

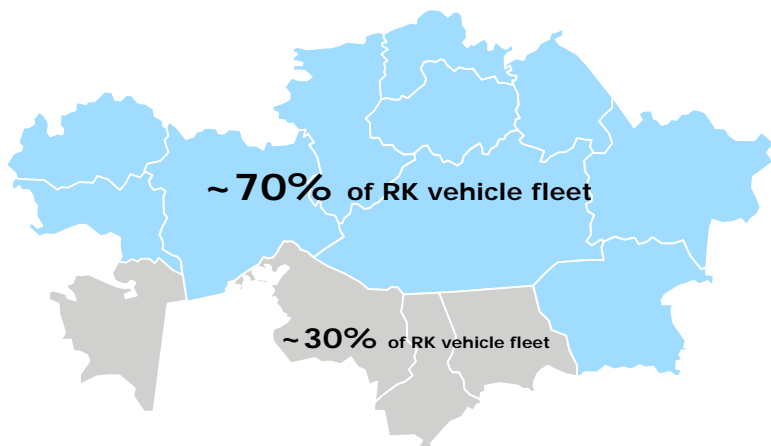
Market prerequisites:

- *Import substitution* – in Kazakhstan there are no existing tyre production plants.
- *Demand* – Due to slow economy growth, significant demand for budget tyres can be observed in the last 5 years.
- *Export potential* – Neighbouring countries, such as Azerbaijan, Kyrgyzstan and Tajikistan, do not have tyre production plants, whereas other CIS countries have a constant demand for new tyres. Many CIS countries have no import tariffs.

Revenue forecast



Target market



Key investment indicators

Indicator	Result
Investment amount, US\$ thousands	68,539
Project NPV, US\$ thousands	6,546
IRR, %	14.50%
EBITDA margin, %	25-37%
Payback period, years	10.1
Discounted payback period, years	18.7

- The climate that requires the use of winter tyres
- The climate that does not require the use of winter tyres

Market ratio: summer and winter tyres

☀️ 58% ● 42% ❄️

Machinery construction and metallurgy

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

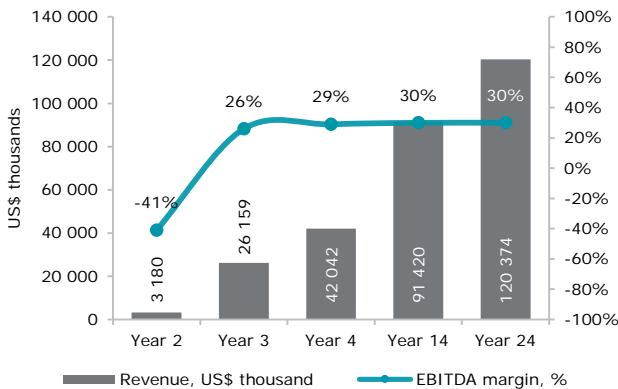
Suppliers: local and foreign suppliers of raw materials

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.

Machinery construction and metallurgy

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:

PZrR Iron powder

Location:

South Kazakhstan Oblast

Project implementation period:

24 years, including 1 year of construction

Target markets: Kazakhstan, Russia and China

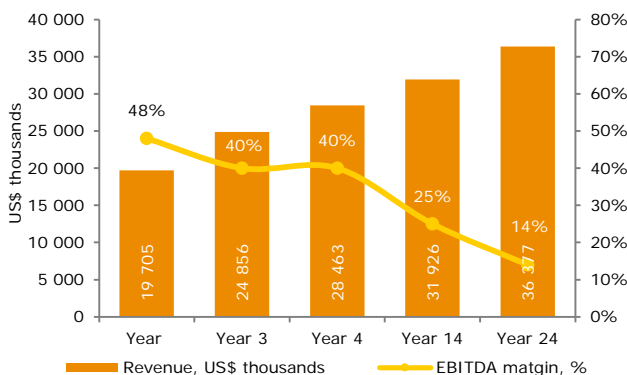
Suppliers: local metallurgical enterprises and scrap buyers

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



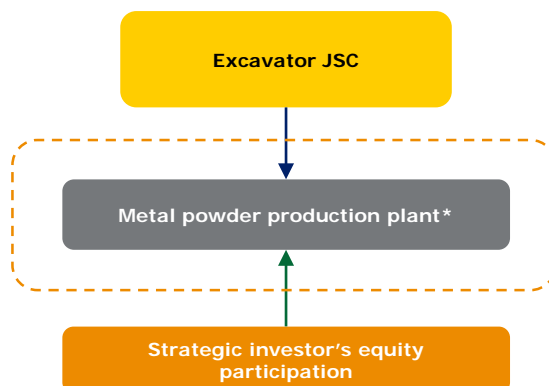
Key investment indicators

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

Production of longitudinally welded pipes

Project overview:

Construction of a plant for the production of longitudinally welded steel pipes

Investment amount: US\$ 24,215 thousand

Products:

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

Location:

Special Economic Zone Saryarka, Karaganda city

Project implementation period:

24 years, including 1-2 years of construction

Target markets: Kazakhstan

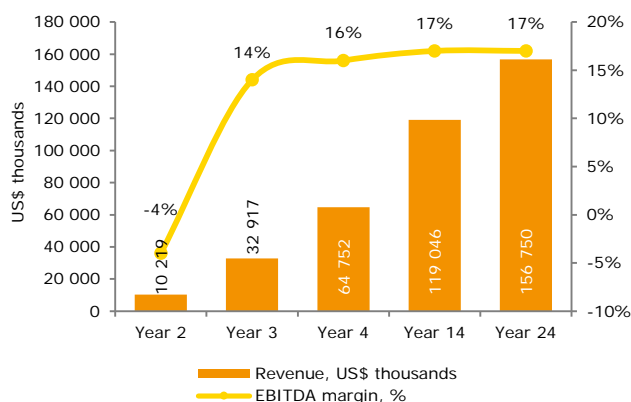
Suppliers: local and Russian suppliers of raw materials

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

Market prerequisites:

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

Project profitability



Key investment indicators

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

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

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

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

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

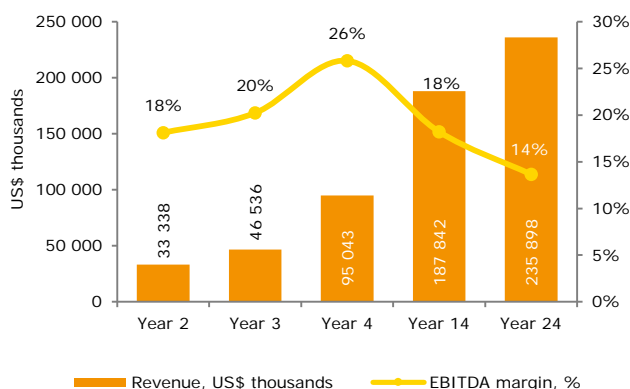
Suppliers: local suppliers of raw materials, foreign equipment suppliers

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

Market prerequisites:

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

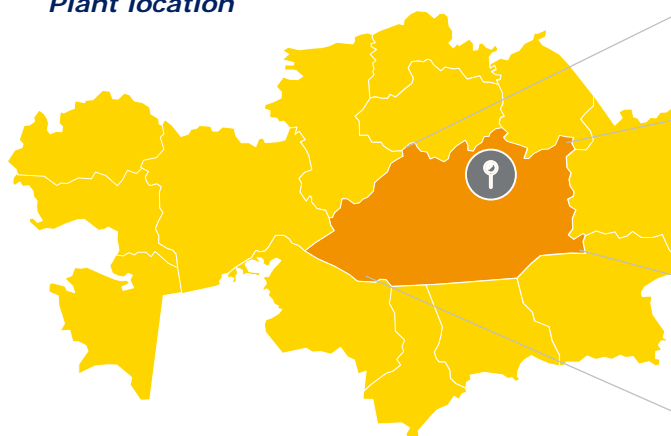
Revenue forecast



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.



Public-private partnerships



Public-private partnerships

Public-private partnership projects are aimed at creating conditions for cooperation between state and business, developing and uniting their potential for implementing economically and socially beneficial projects and increasing private investment in the country's economy. When implementing the selected projects, a number of tasks are achieved, such as:

- Positive social effect directly for the population (increasing the share of employed population in working age, improving the level of provision of population with well-equipped farms, increasing the level of accessibility and quality of services in transport, health, education and culture);
- An alternative mechanism for financing infrastructure costs by attracting private investment and, as a result, development and/or modernization of infrastructure facilities;
- A higher return on capital use in the private sector and increased market competition with a reduction in budget expenditures.

The choice of projects is justified by analysis of experience in implementation of public-private partnership projects by the most developed countries that are members of the G-7 (the United States, Great Britain, Germany, Italy, Canada, Japan, France). A detailed experience of using public-private partnership in these countries has shown that the most promising sectors for implementation of PPP projects are health, environmental protection and infrastructure.

Public-private partnership

Supply systems of potable water

Project overview:

Construction, reconstruction and expansion of water supply systems and hydraulic structures to provide rural settlements of Kazakhstan with potable water

Investment amount: US\$ 300,000 thousand

Location:

Akmola Oblast, Almaty Oblast, East Kazakhstan Oblast, West Kazakhstan Oblast, Kyzylorda Oblast, Mangistau Oblast, Pavlodar Oblast, North Kazakhstan Oblast, South Kazakhstan Oblast.

Water consumption volume: 9,386 ths m³ in 2019

Project implementation period:

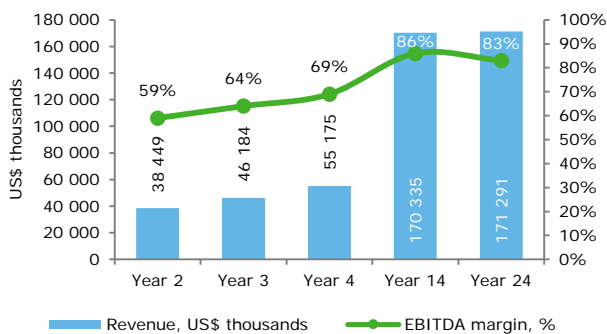
24 years, including 1 year of construction

Target audience: Rural settlements

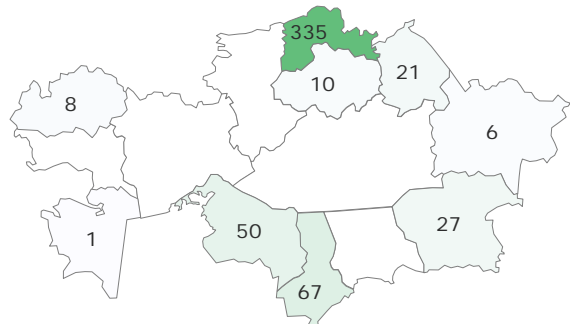
Market prerequisites:

- To date, 525 settlements or 709 thousand people remain unconnected to the water supply system in Kazakhstan. Lack of access to high-quality potable water for such number of people stipulates the strategic importance of this Project;
- The instruction for calculation of profit rate approved by the Kazakhstan Committee on Regulation of Natural Monopolies and Protection of Competition allows officially setting up a comfortable level of the Project profitability;
- Consumption for year 2041 is forecasted at 45,504 m³ of potable water, taking into account the current rural population with limited access to potable water, the statistics on daily water consumption per capita, and the annual increase in population numbers and water consumption.

Revenue forecast



Coverage of settlements



0 - 10 settlements	50-70 settlements	350 settlements
70% North Kazakhstan Oblast Pavlodar Oblast Akmola Oblast	23% South Kazakhstan Oblast Kyzylorda Oblast	
>7% Almaty Oblast West Kazakhstan Oblast	>1% Mangistau Oblast East Kazakhstan Oblast	

Key investment indicators

Indicator	Results
Investment amount, US\$ ths	300,000
NPV, US\$ ths	44,936
IRR	16.3%
EBITDA margin	59-86%
Payback period, years	8.9
Discounted payback period, years	17.6

Revenue structure

Kazakhstan has adopted the Regulations for subsidizing the cost of potable water services, which allow drinking water to be obtained at favorable tariffs, as well as to cover investment costs and ensure an acceptable level of profit. Thus, the revenue from the Project services will be formed as follows:

Revenue	%
Subsidized by state	86% and above
Share paid by end users	up to 14%

Multi-profile Hospital in Almaty

Project overview:

Construction of a modern multi-profile hospital to provide a full range of medical services, as well as clinical training for medical students and doctor retraining

Investment amount: US\$ 125,717 thousand

Capacity: a hospital for 300 beds and an out-patient clinic with a capacity of 150 visits per shift (2 shifts, 300 visits per day)

Location: Almaty, S D Asfendiyarov Kazakh National Medical University ("KazNMU")

Project implementation period:

15.3 years, including 3,3 years of construction

PPP model: Concession (infrastructure model)

Suppliers: manufacturers of medical equipment and medicines

Clients: Almaty residents, non-residents, foreigners, corporate clients, insurance companies

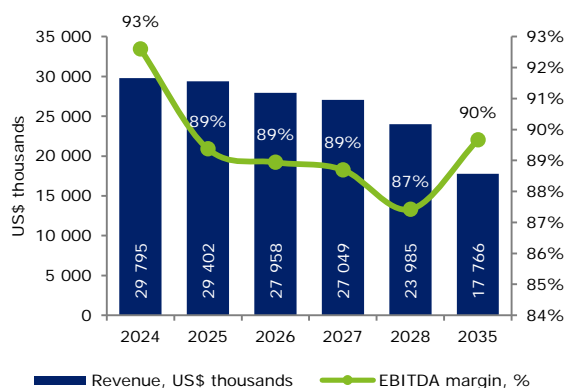
Market prerequisites:

- *High demand for medical services.* Almaty and Almaty Oblast report high statistics of hospitalizations, visits to out-patient clinics and overload of hospital beds. According to 2016 results, the need for in-patient care per 100 thousand residents in Almaty amounts to 398 hospital beds.
- *Proximity to southern regions.* The majority of country population live in southern regions, with high population density. However, the availability of hospital beds in these regions is poor.
- Highly demanded medical profiles are absent among medical services rendered by KazNMU clinics. Moreover, the majority of KazNMU polyclinics, including the building of the university, were built between 1932-1982, which does not meet the modern standards of training and retraining of medical personnel. Overall, 71% of hospital infrastructure in Almaty are worn out.

Key investment indicators

Indicator	Result
Investment amount, US\$ ths	125,717
NPV, US\$ ths	13,140
IRR	16%
EBITDA margin	85-93%
Payback period, years	8.2
Discounted payback period, years	11.4

Revenue forecast



Quality indicators

Project participants

- Private partner
- State partner (Kazakhstan Ministry of Health)
- The operator of medical services
- (S D Asfendiyarov Kazakh National Medical University)

Private partner income

- Compensation of investment and operating costs;
- Management fee;
- Additional income (pharmacy, waste utilization, canteen)

Clinic structure

- Day-stay center;
- Diagnostic department;
- Family Health Center.

Hospital structure

- Medical rehabilitation;
- Surgical departments;
- Therapeutic departments.

Public-private partnership

Multi-profile hospital in Karaganda

Project overview:

Construction of a modern multi-profile hospital to provide a full range of medical services, as well as clinical training for medical students and doctor retraining in the latest medical advancements

Investment amount: US\$ 125,717 thousand

Capacity: a hospital for 300 beds and an out-patient clinic with a capacity of 150 visits per shift (2 shifts, 300 visits per day)

Location:

Karaganda, Karaganda State Medical University ("KGMU")

Project implementation period:

15.3 years, including 3,3 years of construction

PPP model: Concession (infrastructure or integration model)

Suppliers: manufacturers of medical equipment and medicines

Clients: Karaganda residents, non-residents, foreigners, corporate clients, insurance companies

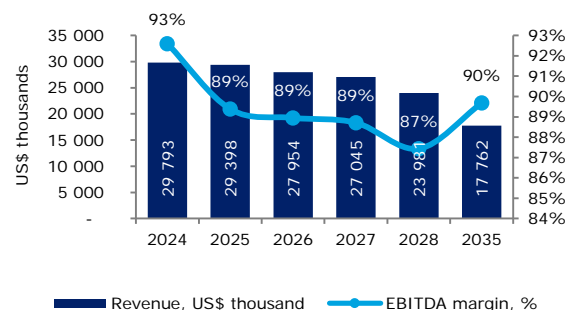
Market prerequisites:

- *High demand for medical services in the region*
- *High demand for hospital beds.* According to 2016 results, the need for in-patient care per 100 thousand people in Karaganda amounts to 612 hospital beds. A complete coverage of the population with in-patient care would require 8,230 hospital beds. Most medical organizations in Karaganda were built in 1930-1990. and are in adulthood.
- *Educational and scientific activities in health care.* Highly demanded medical profiles are absent among medical services rendered by KGMU clinics. Moreover, the remoteness of medical institutions cooperating with the university impede the continuity of the teaching process for students and tutors.

Key investment indicators

Indicator	Results
Investment amount, US\$ ths	125,717
NPV, US\$ ths	13,140
IRR	16%
EBITDA margin	85-93%
Payback period, years	8.2
Discounted payback period, years	11.4

Revenue forecast



Quality indicators

Project participants

- Private partner
- State partner (Kazakhstan Ministry of Health)
- The operator of medical services
- KGMU (under infrastructure model)/private partner (under integration model)

Private partner income

- Compensation of investment and operating costs;
- Management fee;
- Additional income (pharmacy, waste utilization, canteen)

Clinic structure

- Day-stay center;
- Diagnostic department;
- Family Health Center.

Hospital structure

- Medical rehabilitation;
- Surgical departments;
- Therapeutic departments.

Public-private partnership

Integrated Clinic for 1,265 beds in Almaty

Project overview:

Construction and operation of an Integrated Clinic under the S D Asfendiyarov Kazakh National Medical University through the combination of leading medical and scientific-research institutes and centres in Almaty

Investment amount: US\$ 336,496 thousand

Capacity: a hospital for 1,265 beds, including 1,065 profile beds, 55 beds for the rehabilitation department and 145 beds for the day hospital

Location: Almaty, S D Asfendiyarov Kazakh National Medical University ("KazNMU")

Project implementation period:

15.3 years, including 3,3 years of construction

PPP model: Concession (infrastructure model)

Suppliers: manufacturers of medical equipment and medicines

Clients: Almaty residents, non-residents, foreigners, corporate clients, insurance companies

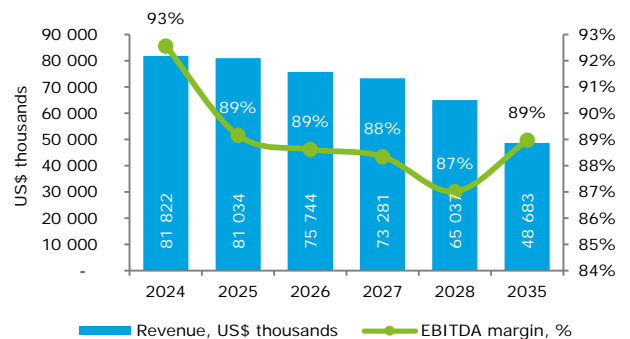
Market prerequisites:

- *High demand for medical services.* Almaty and Almaty Oblast report high statistics of hospitalizations, visits to out-patient clinics and overload of hospital beds. According to 2016 results, the need for in-patient care per 100 thousand residents in Almaty amounts to 398 hospital beds.
- *Proximity to southern regions.* The majority of country population live in southern regions, with high population density. However, the availability of hospital beds in these regions is poor.
- Highly demanded medical profiles are absent among medical services rendered by KazNMU clinics. Moreover, the majority of KazNMU policlinics, including the building of the university, were built between 1932-1982, which does not meet the modern standards of training and retraining of medical personnel. Overall, 71% of hospital infrastructure in Almaty are worn out.

Key investment indicators

Indicator	Result
Investment amount, US\$ ths	336,496
NPV, US\$ ths	35,925
IRR	16%
EBITDA margin	85-93%
Payback period, years	8.2
Discounted payback period, years	11.3

Revenue forecast



Quality indicators

Project participants

- Private partner
- State partner (Kazakhstan Ministry of Health)
- The operator of medical services
- (S D Asfendiyarov Kazakh National Medical University)

Private partner income

- Compensation of investment and operating costs;
- Management fee;
- Additional income (pharmacy, waste utilization, canteen)

Clinic structure

- Surgery Center;
- Center for Cardiology and Internal Diseases;
- Center of Gynecology and Perinatology;
- Center of Oncology;
- Surgery Block;
- Pediatric Unit.

Maternity hospital in Astana



Project overview:

Construction (building extension) of "City Hospital No. 1" maternity hospital in Astana, which provides a full cycle of support for birthing process, including reproductive medicine services, gynecological surgery, pregnancy care, obstetrics and patronage of children under 1 year of age

Investment amount: US\$ 35,429 thousand

Capacity: hospital for 65 beds, with a maximal capacity for carrying out 4,450 births per year (an average of 3,831 births per year is expected during the period of operation)

Location: Astana, "City Hospital No. 1"

Project implementation period: 20.2 years, including 2.2 years of construction

PPP model: Concession (infrastructure model)

Suppliers: manufacturers of medical equipment and medicines

Clients: Astana residents, non-residents, foreigners, corporate clients, insurance companies

Market prerequisites:

- *High birth rates.* Astana has the highest birth rate (30 births per 1,000 people in 2016). At the same time, this indicator has grown by 18% over the last five years.
- *High demand for obstetric-gynecological services.* Average annual birth rate increase over the last five years amounted to 6%. It is also worth noting that about 10% of births carried out by medical institutions in Astana were provided for non-residents of the city (about 3 thousand births annually). Wherein, maternity hospitals of Astana operate with high overload (at an average of 128%). In general, despite the high birth rate, over the past five years, the provision of hospital beds for women in pre-and post-birth state in Astana has been decreasing by 7% annually.
- *Deterioration of maternal and child health.* On average, over the last 3 years, more than 50% of births had complications and/or required a caesarean section.

Key investment indicators

Indicator	Result
Investment amount, US\$ ths	35,429
NPV, US\$ ths	5,699
IRR	17%
EBITDA margin	81-91%
Payback period, years	6.8
Discounted payback period, years	9.5

Quality indicators

Project participants

- Private partner
- State partner (Kazakhstan Ministry of Health)
- The operator of medical services
- (City Hospital No. 1)

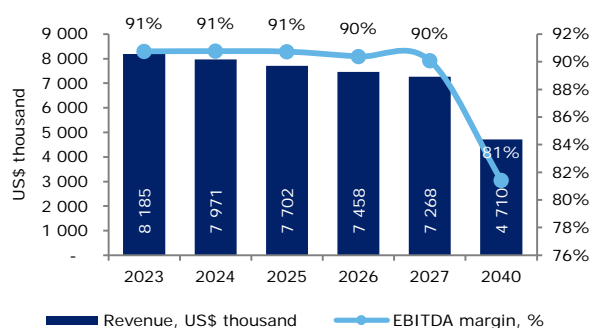
Private partner income

- Compensation of investment and operating costs;
- Management fee;
- Additional income (pharmacy, waste utilization, canteen)

Maternity hospital structure

- Consultations for women;
- Department of fertility science;
- Gynecological surgery;
- Intensive Care Unit for newborns;
- Maternity unit;
- Pediatric Department.

Revenue forecast



Public-private partnership

Multi-profile Hospital in Astana



Project overview:

Construction of a modern multi-profile hospital to provide a full range of medical services

Investment amount: US\$ 150,063 thousand

Capacity: a hospital for 300 beds and an out-patient clinic with a capacity of 150 visits per shift (2 shifts, 300 visits per day)

Location: Astana, Railway hospitals of disaster medicine JSC

Project implementation period:

15.2 years, including 3.2 years of construction

PPP model: Concession (infrastructure model)

Suppliers: manufacturers of medical equipment and medicines

Clients: Astana residents, non-residents, foreigners, corporate clients, insurance companies

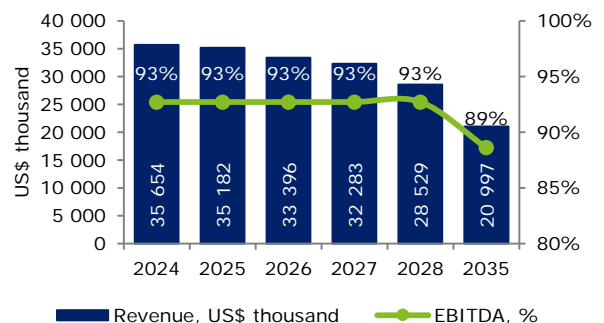
Market prerequisites:

- *High demand for medical services.* Astana and Akmola Oblast report high statistics of hospitalizations, visits to out-patient clinics and overload of hospital beds.
- *High demand for hospital beds.* Given the health indicators of Astana residents and the inflow of patients from other regions, demand for in-patient treatment per 100,000 people in Astana is estimated at 650 beds (in Akmola Oblast – 592 beds). At the same time, full coverage of the population with inpatient care would require 2,644 hospital beds (Akmola Oblast – 4,665 beds).
- *Nationwide importance.* The new multi-profile hospital is of national importance. It will admit not only residents of Astana, but the population of Akmola Oblast and other regions of the country

Key investment indicators

Indicator	Results
Investment amount, US\$ ths	150,063
NPV, US\$ ths	13,147
IRR	15%
EBITDA margin	84-93%
Payback period, years	8
Discounted payback period, years	12

Revenue forecast



Quality indicators

Project participants

- Private partner
- State partner (Kazakhstan Ministry of Health)
- The operator of medical services
- (Railway hospitals of disaster medicine JSC)

Private partner income

- Compensation of investment and operating costs;
- Management fee;
- Additional income (pharmacy, waste utilization, canteen)

Clinic structure

- Day-stay center;
- Diagnostic department;
- Family Health Center.

Hospital structure

- Medical rehabilitation;
- Surgical departments;
- Therapeutic departments.



Mining and smelting industry



Mining and smelting industry

Mining and smelting industry is the basis for industrialization of the national economy. 30% of the world's chrome ore reserves, 25% of manganese ores, 10% of iron ores are concentrated in Kazakhstan. Kazakhstan reserves of copper, lead and zinc amount to 10% and 13% of the world reserves, respectively. Out of the 118 elements of the periodic table, 99 were revealed in Kazakhstan, 70 elements have explored reserves, and more than 60 elements are involved in production.

Mining is one of the most socially important branches of the economy of the Republic of Kazakhstan, on which development of regions, cities and towns, growth of jobs, as well as social, industrial and transport infrastructure are dependent. Development and processing of mineral resources in long term will remain an important source of economic growth.

Large mining and smelting enterprises of the republic are mainly focused on production of primary metals. Most of their products are exported, while domestic market receives about 20%. A structure of production is dominated by raw materials and semi-finished products, which are processed abroad and re-imported into Kazakhstan in the form of finished products.

Based on results of the industry overview, investment niches of ferrous and nonferrous metallurgy were selected - development of copper, iron ore and gold deposits.

It should also be noted that activities of mining and smelting enterprises were included in the list of priority investment directions in the Republic of Kazakhstan. Accordingly, it is assumed that these projects will receive support from the state along the entire production chain.

Mining and smelting industry

Tokhtar, South Tokhtar and STB gold ore deposits

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

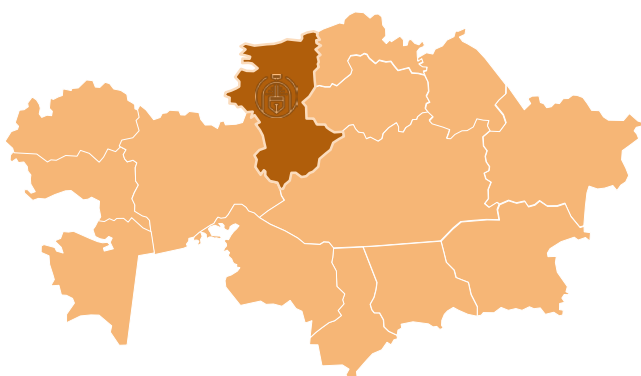
Market prerequisites:

- *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.

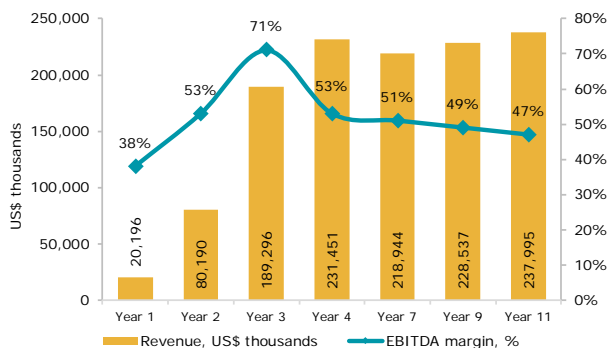
Key investment indicators

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 location: Kostanai Oblast, Zhetikara



Project profitability



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

Taraz Metallurgical Plant

Project overview:

Modernization of production facilities with a full production cycle, from raw materials through production to the products

Investment amount: US\$ 6,304 thousand

Capacity:

ferrosilicomanganese – 50 thousand tonnes, electrode paste – 21 thousand tonnes

Product: Ferrosilicomanganese, electrode paste, repair paste

Location:

Zhambyl Obast

Project implementation period:

24 years, including construction period

Selling market: Russia, PRC, and domestic market

Market prerequisites:

- *Ferrous alloys market in Kazakhstan* – The potential annual consumption of ferrous alloys is estimated at not less than 500 thousand tons/year.
- *Well-designed sales scheme* – The availability of a solvent and loyal customers including outside of Kazakhstan.
- *Potential for export* – The strategic location of Zhambyl Oblast and development of railroads allow delivering goods to nearby export markets.
- *Reduction of the production cost* – Upgrading of the production will significantly reduce the direct costs and allow for a flexible pricing policy

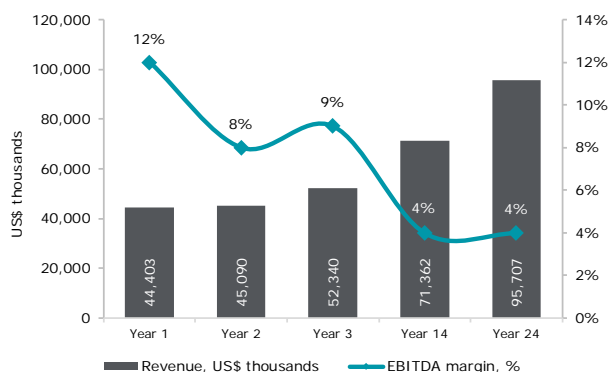
Key investment indicators

Indicator	Result
Investment amount, US\$ thousands	6,304
Project NPV, US\$ thousands	10,033
IRR	79.6%
EBITDA margin	4%
Payback period, years	2.3
Discounted payback period, years	2.5

Plant location advantages

- *Availability of resources and proximity to production facilities.* All the necessary resources for production are concentrated in the Zhambyl Oblast:
 - quartzite at the fields up to 240 thousand tons per year, characterized by a low content of pollutants with balance reserves of at least 72,000 thousand tons (Tekturmas field);
 - manganese ores at the Ushkatyn-3 and Zhomart deposits, characterized by high manganese content and balance reserves of at least 110 million tons (Zhairemsky GOK JSC) etc.

Project profitability



- *Developed transport hub with directions to all regions of the country and nearby countries.* Zhambyl Oblast is strategically advantageous due to developed system of railways, as well as the well-developed scheme of supplying products to target markets. Such an arrangement helps cover the largest consumers of Zhambyl Oblast itself.
- *Developed infrastructure.* This historically industrial region has a developed infrastructure including high-voltage power networks, transformers, laboratory equipment, furnaces, storage facilities, railways and roads and engineering networks.

Mining and smelting industry

Progress gold ore deposit



Project overview:

The extraction of gold ores at Progress deposit gold ore deposit, as well as their further processing at the enrichment factory

Investment amount: US\$ 44,504 thousand

Capacity: 851 kg of gold/year

Product: Cathodic gold

Location:

Karaganda Oblast, Karkaralinsky district

Project implementation period:

8 years (until 2025)

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

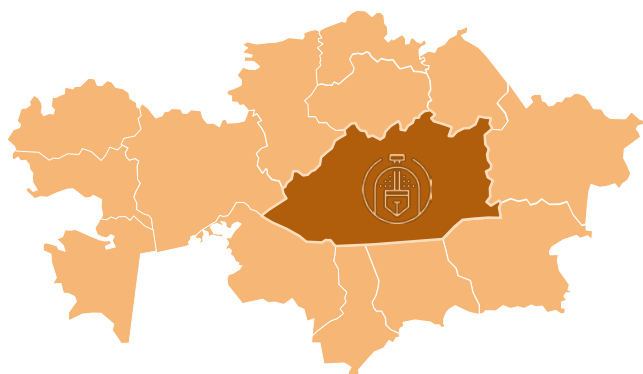
Market prerequisites:

- *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.

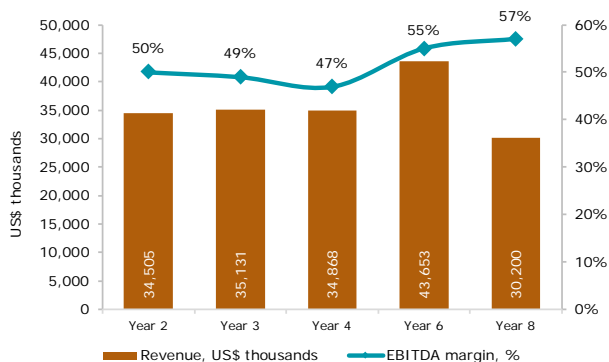
Key investment indicators

Indicator	Result
Investment amount, US\$ thousands	44,504
Project NPV, US\$ thousands	12,371
IRR	22%
EBITDA margin	52%
Payback period, years	5.1
Discounted payback period, years	6.3

Project location: Karaganda Oblast, Karkaralinsky district



Project profitability



Progress deposit reserves

	Unit of measure	Inventory balance	
		Cat. C ₁	Cat. C ₂
Ore	thous. mt	274.8	7.3
Au, average content	kg	1,523.6	14.6
	g/mt	5.54	2.0
Ag, average content	mt	0.6	0.1
	g/mt	2.1	13.7

Mining and smelting industry

Kokbulak iron ore deposit

Project overview:

Development of Kokbulak iron ore deposit and build concentrate enrichment plant

Investment amount: US\$ 418,986 thousand

Capacity: 8-million tonne/year

Product:

Concentrate with an iron content of at least 60% to produce steel

Location:

Aktobe Oblast, Aktobe-Steel Production LLP

Project implementation period:

24 years, including construction period

Selling market:

Domestic market, Russia and China

Market prerequisites:

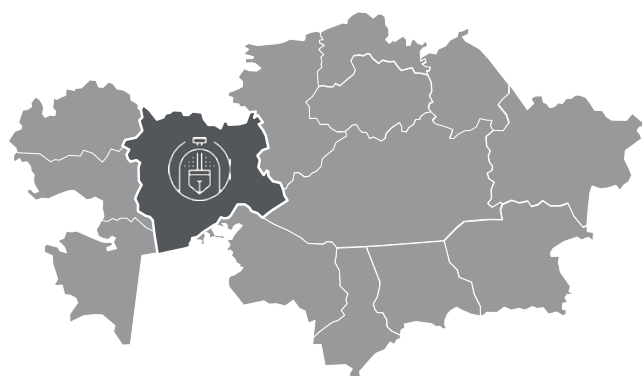
- *Large iron ore reserves* – Kazakhstan ranks 11th in the world in terms of iron ore reserves with a 2% share of global reserves.
- *High demand* - Iron ore demand is, first of all, conditioned by the demand for steel, which, in turn, directly reflects global economic development trends.
- *Export potential*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

Key investment indicators

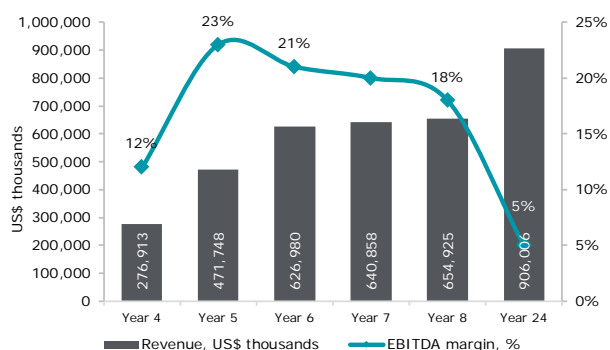
Indicator	Result
Investment amount, US\$ thousands	418,986
Project NPV, US\$ thousands	36,668
IRR	14.9%
EBITDA margin	24%
Payback period, years	9.4
Discounted payback period, years	16.3

Project location:

Aktobe Oblast, Shalkar district



Project profitability



Kokbulak deposit reserves

Class	Reserves, million tonnes	Fe, %	P ₂ O 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

Cobalt-nickel ore processing

Project overview:

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

Investment amount: US\$ 252,504 thousand

Capacity:

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

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

Location:

East-Kazakhstan Oblast, Beskaragay District

Project implementation period:

19 years (until 2036)

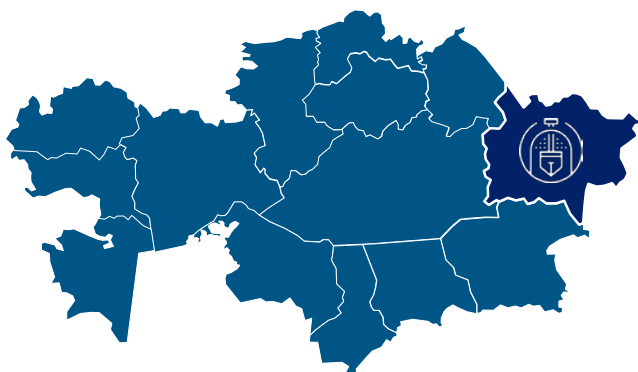
Market prerequisites:

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

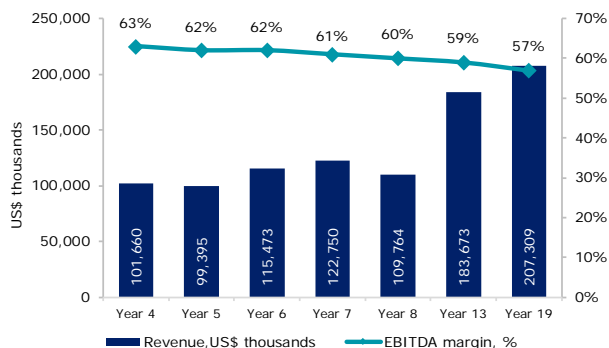
Key investment indicators

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

Project location: East-Kazakhstan Oblast, Beskaragay District



Project profitability



Deposit reserves

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

Mining and smelting industry

Temirtau Electrometallurgy Plant

Project overview:

Modernization of production facilities with a full production cycle, from raw materials through production to the products

Investment amount: US\$ 22,808 thousand

Capacity:

45 thousand tonnes of ferro-silico-manganese per year

Product: Ferro-silico-manganese, calcium carbide and limestone

Location: Karaganda Oblast

Project implementation period:

24 years, including construction period

Selling market:

Domestic market with potential for export

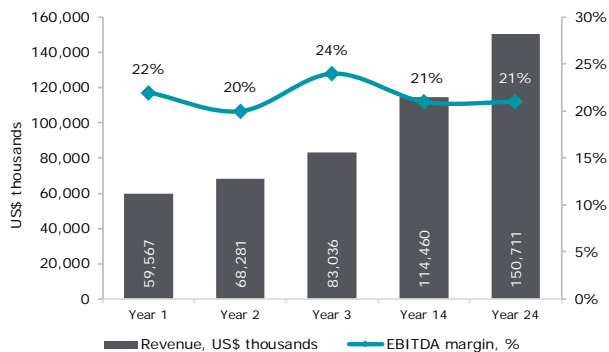
Market prerequisites:

- *Ferroalloy market in Kazakhstan* – Current annual ferroalloy consumption has been estimated at no less than 500 thousand tonnes per year, which makes investment an interesting prospect.
- *Well-designed sales patterns* – A financially-sound and loyal long-term client base, including overseas, should help to expand the plant's range of products.
- *Quality raw materials base* – Karaganda Oblast has a rich raw material base, such as manganese, iron and coal, which the plant will have access to. In addition, local power tariffs are some of the lowest in the country.

Key investment indicators

Indicator	Result
Investment amount, US\$ thousands	22,808
Project NPV, US\$ thousands	71,648
IRR	114%
EBITDA margin	21%
Payback period, years	2.1
Discounted payback period, years	2.3

Project profitability



Plant location advantages

- *Availability of resources and proximity to production facilities.*
In Karaganda Oblast, the plant will have access to one of the largest raw materials bases in Kazakhstan, which include high-quality stocks of manganese and coal. Karaganda Oblast also has large fluxed limestone reserves in the South-Topar mine.
- *Structure of domestic consumption.*
Ferroalloys are mainly employed in the metallurgy industry, which is generally concentrated in Karaganda, Pavlodar and Dzhambul Oblast.
- *Developed transport hub with routes to all regions of the country and neighboring countries.*
Karaganda Oblast's strategic location and well-developed railway infrastructure make it easy to supply goods to nearby export markets without significant cost.
- *Well-developed infrastructure.*
Due to its history as an industrial region, Karaganda Oblast enjoys mature infrastructure, such as high-voltage power networks, transformers, laboratory equipment, furnaces, storage facilities, railway and road networks, and engineering networks.

Mining and smelting industry

Borly copper ore deposit



Project overview:

Construction of an industrial complex for mining and production of concentrate at Borly field to produce refined copper

Investment amount: US\$ 19,989 thousand

Capacity: 3,000 copper tons/year

Product: Refined copper

Location:

Karaganda Oblast, Aktogay district

Project implementation period:

17 years (until 2034)

Selling market:

Kazzinc copper-smelting plant

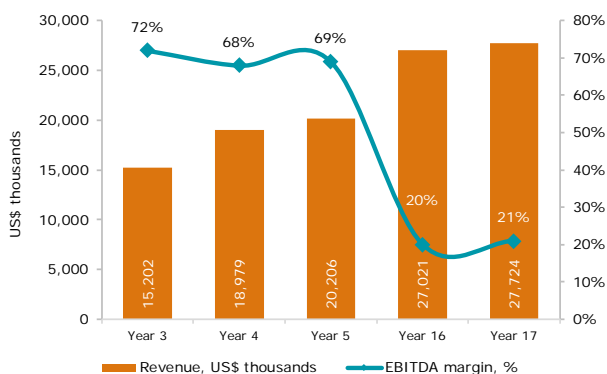
Market prerequisites:

- *Large copper reserves* – Kazakhstan holds 5th place in the world for its amount of copper reserves (5% of world copper reserves, which amounts to 36.6 million tons).
- *High demand* – The growth of demand for refined copper is forecasted to increase by 1% in 2017 and by 2% in 2018.
- *Price increase* – The world prices of refined copper show an upward trend due to the increase in demand for this product as a result of the stabilization of the world economy.
- *Export potential* – The key consumer markets (70%) are Russia and China.

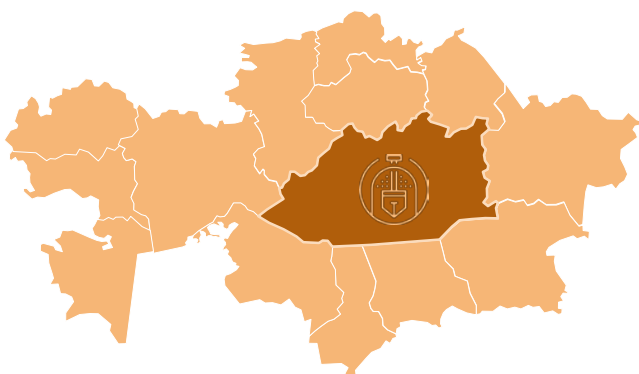
Key investment indicators

Indicator	Result
Investment amount, US\$ thousands	19,989
Project NPV, US\$ thousands	11,120
IRR	27.6%
EBITDA margin	30%
Payback period, years	4.1
Discounted payback period, years	4.9

Project profitability



Project location: Karaganda oblast, Aktogay district



Borly deposit reserves

Ore	Tonnage (tonne)	Copper content (tonne)	Recovered copper (tonne)	Average copper grade (%)
Oxide ore	4,882,950	19,166	12,745	0.39
Sulphide ore	15,870,600	68,518	35,801	0.43
Total	20,753,550	87,684	48,546	0.42



Other promising sectors



Other promising sectors

The list of other promising sectors of the economy of the Republic of Kazakhstan includes sub-sectors such as tourism, logistics, glass packaging and energy.

We prepared 4 investment proposals for the following projects:

- Construction of a combined heat and power plant in Taldykorgan (prerequisites: for today in Taldykorgan there are no companies generating electricity for the period from 2013 to 2016 and electric power deficit averaged to 3,356 thousand MWh);
- Reconstruction and modernization of the sports and entertainment complex "Tabagan" (there is a stable growth in demand for active recreation among Kazakhstan residents);
- Construction of a modern class "A" transport and logistics center, with a total area of 59,167 square meters in Aktobe (prerequisites: annual growth of cargo transportation and trade, favorable position of Aktobe in proximity to key transport channels);
- Construction of a glass container factory in Zhambyl Oblast (prerequisites : existing supply deficit, close location of raw materials sources, significant state support provided for the industry).

Power engineering

Combined heat and power plant in Taldykorgan

Project overview:

Construction of combined heat and power plant to supply heat and electricity to residents and companies in the city of Taldykorgan

Investment amount: US\$ 465,389 thousand

Capacity: 400 MW and 400 gal/h

Location: Taldykorgan, Almaty oblast

Project implementation period: 24 years, including construction period

Target markets: Almaty and nearby oblasts

Suppliers: Fixed raw materials (energy coal) will be supplied by Karazhira company

Consumers: residents and enterprises of the city of Taldykorgan and neighboring regions

Market prerequisites:

- *No city power supply* – The city of Taldykorgan has no electricity generating plant and is forced to buy in power from other plants.
- *Non-compliance with modern requirements* – Municipal boiler-houses do not meet modern energy security requirements for residential and commercial properties.
- *Exhaustion of heat supply sources* – All technical boiler-house apparatus and equipment has long been recognised as obsolete due to length of service and insufficient maintenance.

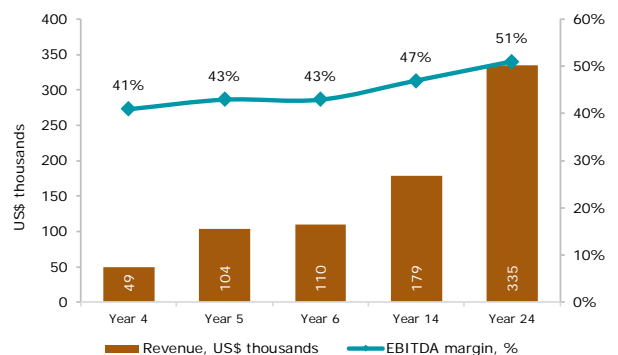
Key investment indicators

Indicator	Result	
	The current market model	The planned market model
Investment amount, US\$ thousands	466,711	466,711
Project NPV, US\$ thousands	224,557	619,067
IRR	14.1%	20.0%
EBITDA margin	47%	60%
Payback period, years	11.9	8.7
Discounted payback period, years	20.9	12.0

Plant location advantageous

1. The availability of railway connection to the site provides the uninterrupted supply of energy coal.
2. The terrain around the chosen area is perfect for an industrial enterprise due to reduced construction costs.
3. Proximity to a local water source will ensure an uninterrupted water supply, which is a key combined heat and power plant resource.
4. The relatively short distance from the plant to the city will reduce network transit losses, thus improving Project efficiency.
5. The availability of professional staff in Taldykorgan. Proximity to the city will provide jobs for 540 people.

Project profitability



Plant deployment in Taldykorgan



Construction of the Tabagan resort



Project overview:

The reconstruction and modernization of the Tabagan Sports and Entertainment Complex, including the construction of a new ski slope, cottage village, hotel complex, off season attractions, modernization of the existing complex

Investment amount: US\$ 32,500 thousand

Location:

Almaty Oblast

Project implementation period:

24 years, including 1 year of construction

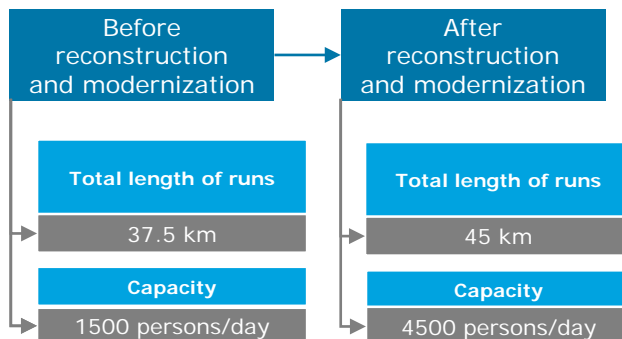
Target audience: citizens and guests of Almaty and the Talgar District - mostly people aged 20- 35.

Population in this category in Almaty - about 400 thousand people.

Market prerequisites:

- **Tourism sector development.** Almaty is one of the most attractive tourist destinations in Kazakhstan for foreigners and the second most popular place for Kazakhstanis after Astana.
- **Average salary growth.** Tourism demand is directly related to monetary income of population and is very sensitive to any changes. The average annual growth rate of the average salary of the population of the Republic of Kazakhstan in 2017-2021 will be 5.4%.
- **Competitive prices.** Prices of the Sports and Entertainment Complex are lower than those of the main local competitors. Moreover, given the price differential with Russia, the Tabagan Sports and Entertainment Complex has a competitive advantage in the external market.

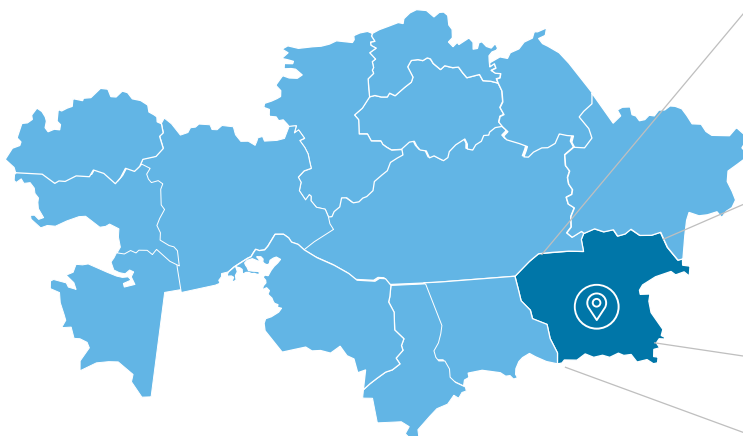
The length of the run and the capacity of cable cars



Key investment indicators

Indicator	Results
Investment amount, US\$ thousands	32,500
Project NPV, US\$ thousands	24,525
IRR	56.6%
EBITDA margin	24%
Payback period, years	1.8
Discounted payback period, years	1.9

Project location



- **Proximity of mountains to the megacity**
The ski resort is a 40 minute drive from Almaty.
- **Favorable natural conditions**
The main advantages of ski resorts in the Almaty Oblast include the average annual snow fall (about 9 m) and the average duration of the ski season (7 months).
- **Favorable geographical location**
Kazakhstan is located between Europe and Asia, and highly-populated cities and countries with a significant demand for skiing are just 3-6 hours' flight from Almaty.

Glass industry

Glass container production

Project overview:

Construction of an industrial complex to produce glass containers.

Investment amount: US\$ 69,911 thousand

Capacity: 276 million bottles per year
128 thousand tonnes of glass melt per year

Product: A colourless bottle with a weight of 370 grams

Location: Zhambyl Oblast

Project implementation period:

24 years, including construction period

Target markets: Kazakhstan, Russia, Uzbekistan, Kyrgyzstan, China

Consumers:

- producers of alcoholic and mild alcoholic beverages;
- producers of non-alcoholic beverages;
- food preservation factories.

Key investment indicators

Indicator	Result
Investment amount, US\$ thousands	69,911
Project NPV, US\$ thousands	114,214
IRR	26.8%
EBITDA margin	54-55%
Payback period, years	5.7
Discounted payback period, years	7.3

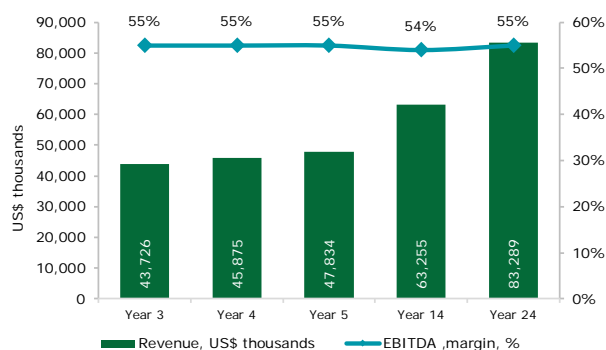
Project location: Zhambyl Oblast



Market prerequisites:

- *Deficiency of production* – Domestic production of glass containers does not cover population needs. In 2016, Kazakhstan imported 658 million units of glassware – a threefold volume of domestic production.
- *Price difference* – There is a significant difference of glass container prices between Kazakhstan and Russia (the difference of US\$ 20 per thousand pieces of glassware).
- *Availability of raw materials* – Kazakhstan has deposits of quartz sand (about 22 deposits), dolomite and limestone.
- *Advantages of glass containers* – Glass container is a natural and environmentally friendly product that can be recycled.

Project profitability



Plant location advantages

- *Developed infrastructure* – Zhambyl Oblast has a well-developed infrastructure (including transport hubs, warehouses for storage of products and raw materials, electricity and energy infrastructure).
- *Domestic consumption structure* – the largest volumes of beverages were produced in Almaty Oblast and South Kazakhstan Oblast.
- *Availability of high quality raw materials* – Southern regions have the best access to raw materials. The discovered reserves of raw materials such as sand, limestone, dolomite and sulfate will ensure uninterrupted glass production.

Transport and logistics center (TLC)

Project overview:

Construction of a modern class A transport and logistics center (TLC), which will be a part of a single and integrated TLC network, providing a full range of commercial services for transport and logistics.

Investment amount: US\$ 76,406 thousand

Capacity: total area of 59,167 sq. meters and 984 thousand tons of turnover per year

Location: the city of Aktobe, adjacent territory to the airport of Aktobe

Project implementation period:

24 years, including construction period

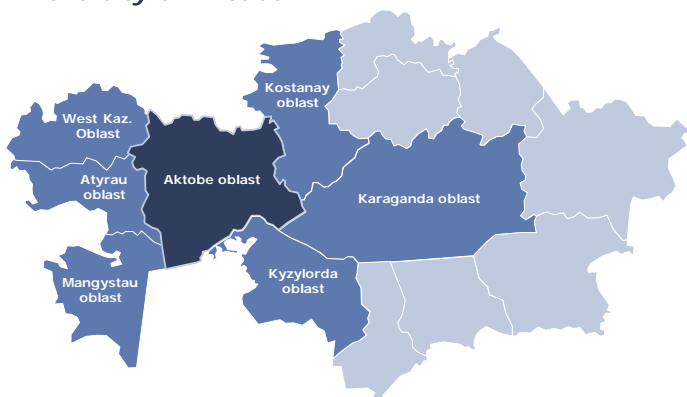
Target markets: Aktobe and nearby oblasts

Types of products for storing: climatic warehouse: food, vegetables, fruits; dry storage warehouse: consumer goods, food products, household chemicals, household appliances

Key investment indicators

Indicator	Result
Investment amount, US\$ thousands	76,406
Project NPV, US\$ thousands	10,130
IRR	11.5%
EBITDA margin	74-80%
Payback period, years	11.4
Discounted payback period, years	24

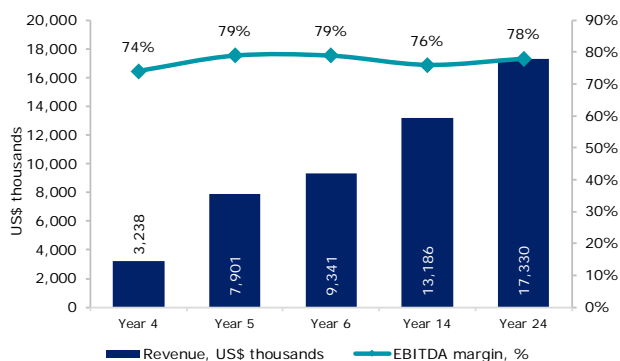
Project location: Aktobe Oblast, the city of Aktobe



Market prerequisites:

- *Demand growth on the domestic market* – Freight turnover volumes have grown from 95 million tons to 118 million tons during the period of 2012-2016.
- *Growth in transit volumes* – According to Strategy Partnership experts, transit volumes through Kazakhstan's territory are expected to reach 36 million tons by 2020.
- *Enhancing competitiveness* – Implementation of the "Silk Road" project and an increase in the average annual volume of transportations between Europe and Asia (which, according to forecasts, should reach 800 million tons by 2020) increases the flow of cargo through the territory of Kazakhstan.
- *Growth in trade volumes* – Growth in wholesale and retail trade volumes during the period of 2013-2016 amounted to 8% and 3% respectively.

Project profitability



TLC location advantages

The geographic location of the oblast has following advantages: 1) bordering with 6 Kazakhstan oblasts (West Kazakhstan Oblast, Atyrau Oblast, Mangystau Oblast, Kyzylorda Oblast, Karaganda Oblast, Kostanay Oblast), as well as with Russia and Uzbekistan; 2) proximity to key transportation channels ("Western Europe - Western China" highway, Zhezkazgan-Beineu railway). Thus, the transport and logistics center in Aktobe city has potential to become the main logistics center for servicing transit and interregional transportations.