



MINISTRY OF INVESTMENT
OF THE KYRGYZ REPUBLIC

INVESTMENT PROJECTS OF THE KYRGYZ REPUBLIC



INVEST IN THE KYRGYZ
REPUBLIC!



A high-angle photograph of a massive concrete dam situated in a deep, rugged canyon. The dam's structure is composed of several large, rectangular concrete blocks. Behind the dam, a reservoir of vibrant blue water is visible, surrounded by steep, rocky slopes. The sky above is overcast with grey clouds. In the upper right, a dark blue horizontal bar contains the word "ENERGY" in white, bold, sans-serif capital letters.

ENERGY

CONSTRUCTION OF KAMBAR-ATA HPP

Key facts

Brief information:

The dam side of the Kambar-Ata HPP-1 is located on Naryn river in a V-shaped canyon, 14 km higher than Kambarata HPP-2.

Initiator: Cabinet of Ministers of the Kyrgyz Republic

Location: Jalal-Abad region

Project cost: USD 2,9 billion

Payback of the project: 10 years

Feasibility study developed by SNC Corporation Lavalin International Inc.

Normal retaining level, NPU, m	1 198
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Installed capacity, MW	1860
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Electricity generation, mln. kWh	5640
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Reservoir volume million m3	2730
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HPP type	dam
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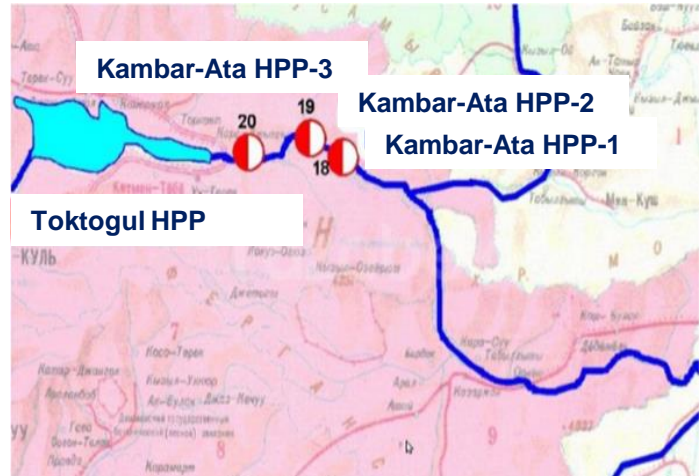


Construction infrastructure:

There is production infrastructure that was used during the construction of Kambarata HPP-2.

There are sufficient stocks of quarries of building materials for the construction of the dam of Kambarata HPP-1.

The object is in close proximity to the highway of republic significance and power lines of 500 kWh, connecting the North and South of the country.



- Kambar-ata HPP will become the most powerful hydropower power plant and the largest dam with a height of **265 m** in Central Asia.
- Land plots with the area of **6318.8 ha** are allocated
- Key HPP for the full implementation of the project **CASA-1000**
- Construction period - **8 years**

SUUSAMYR-KOKOMEREN HPP CASCADE

Brief information

Financing of the project to construct 3 HPPs with a total installed capacity of 1,305 MW with an average annual output of 3,317 million kWh, including:

Karakol - 33 MW

Kokomerren 1 - 360 MW

Kokomerren 2 - 912 MW

Project cost: USD 3.34 billion

Assignment of the object to the territory

Kyrgyz Republic, Zhayil district of the Chui region and Toktogul district of the Jalal-Abad region.

Location and registration of the investment object

Suusamyр-Kokomerren HPP cascade is located on Kokomerren river, a tributary of Naryn river. Drainage area 10400 sq. km, length - 199 km. The average height of the pool is 2737 m. The highest average monthly temperature is 39 °C in the area of Chaek village, the lowest temperature is minus 37 °C

Objective of the project

Increasing the country's energy capacity and power generation to cover the growth of loads in the energy system.

Final results of the project

The volume of the energy generated over an average long-term period will amount to an average annual output of 3317 million kWh

The impact of the project on the environment

The construction project has no negative impact on the environment

Sources of debt repayment

Funds from the sale of electricity

Plans for the sale of finished products

Production and sale of electricity in the domestic and foreign markets



CONSTRUCTION OF KAZARMAN CASCADE HPP

Key facts

Project Description: Construction of the Kazarman cascade HPP. The cascade is located on the section of the Naryn River between the tributaries of Alabuka and Kokomerren Rivers.

Initiator: Cabinet of Ministers of the Kyrgyz Republic

Location: Jalal-Abad region

Project cost: USD 2 billion

Construction time: 7 years

Construction infrastructure:

- The existing road of republic significance with a length of **155 km** provides a way from Naryn region to the cities of Osh and Jalal-Abad.
- Construction of an alternative North-South road has recently begun in this area.
- Precipitation - 303 mm per year
- Mountainous region
- Seismic activity – M 9

	Alabuka Hydroelectric power station	Karabulun HPP- 1	Karabulun HPP- 2	Toguztoro Hydroelectric power station
Normal retaining level, NPU, m	1570	1,370	1,370	1,327
Installed capacity, MWh	600	149	163	248
Electricity generation, mln. kWh	2,358.3	536	852	915.3
Reservoir volume million m3	2835.5	110	110	168.5
HPP type	dam	dam	derivational	dam

Total indicators for the cascade:

Installed capacity - **1 160 MW**

Electricity generation - **4661.6 million kWh**

CONSTRUCTION OF SARY-JAZZ HPP CASCADE

Brief information:

Financing of the project to construct 6 HPPs with a total installed capacity of 1,100 MW with an average annual output of 4,764 million kWh, including:

- Kuylyuk -170 MW;
- Inylchek -160 MW;
- Kaindy-Inylchek -20 MW;
- Akshyirak -350 MW;
- Kokshaalskaya -250 MW;
- Kuyukapskaya -250 MW.

Key project facts:

Project cost: USD 2.5-3 billion

Location: Kyrgyz Republic Issyk-Kul region, Aksui district.

The Sary-Jaz river originates from the Semenov glacier and flows into the east of the Issyk-Kul lake in the direction from north to south. The climate in the Sary-Jaz zone is harsh, sharply continental with cold winters and short summers. The average temperature of the coldest month of the year - January is 19-20 °C of frost, the warmest - July is 10 °C of heat.

Objective of the project is to increase the country's energy capacities and electricity generation to cover the growth of loads in the power system.

Final results of the project:

The amount of energy generated during the average multiyear period will be 4,764 million kWh with the average annual output.

The impact of the project on the environment

Project construction has no negative impact on the environment



CONSTRUCTION OF CHATKAL HPP CASCADE



Brief information:

Project financing for the construction of 2 HPPs with a total installed capacity of 1,800 MW with an average annual output of 2,650 million kWh, including:

Barkrauska - 700 MW;

Nizhnechatkalskaya - 1100 MW.

Key project facts:

Location:

Kyrgyz Republic, Jalal-Abad region, Chatkal district, Chatkal river near the river Besh-Aral

Project cost: USD 1.37 billion

Objectives of the project:

The implementation will help to increase capacity and electricity generation to cover the load growth in the power system.

Final results of the project

The volume of generated energy will be with an average annual production of 2650 million kWh

Financial and economic forecast indicators of the project:

Forecast data will be determined after clarification of the terms of project financing

The construction project has no negative impact on the environment.

Production and sale of electricity in the domestic and foreign markets.



CONSTRUCTION OF ALA-BUKA HPP CASCADE

Brief information:

Financing of the project to construct 4 HPPs with a total installed capacity of 414 MW with an average annual output of 1,711 million kWh, including:

Arpanskaya - 1 - 136 MW
Arpanskaya - 2 - 58 MW
Makmalskaya - 112 MW
Sazskaya - 108 MW

Key project facts:

Location: Kyrgyz Republic

Naryn region, Ak-Talaa district on the right bank of the inflow of Naryn river in Ala-Buka river.

The total cost of the project USD 3.03 billion

Objectives of the project

Implementation will allow to increase capacity and electricity generation to cover the growth of loads in the power system.

Final results of the project

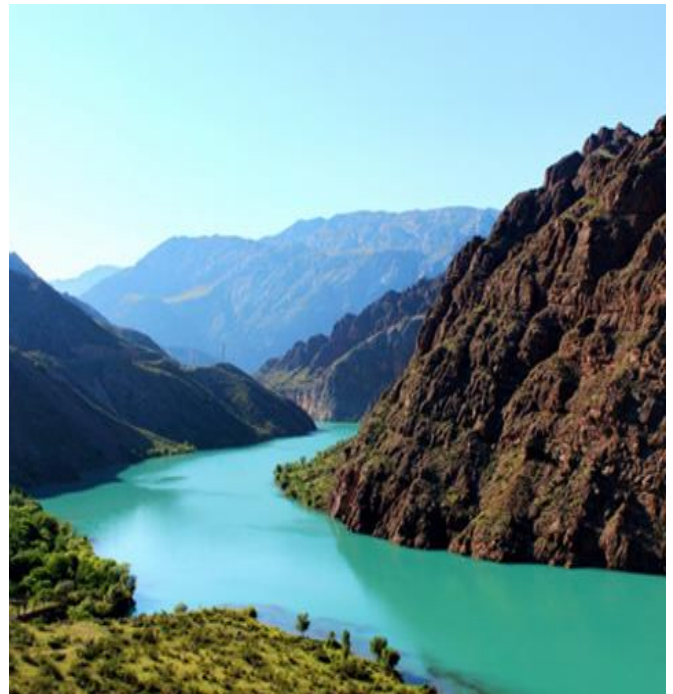
The volume of generated energy will be 2,650 million kWh with the average annual output.

Financial and economic forecast indicators of the project:

Forecast data will be determined after clarification of the terms of financing the project.

The construction project does not have a negative impact on the environment.

Production and sale of electricity in the domestic and foreign markets.



CONSTRUCTION OF AT - BASHY HPP CASCADE

Brief information:

Financing of the project to construct 5 HPPs with a total installed capacity of 132.2 MW with an average annual output of 753 million kWh, including:

- Taldysuu 1 - 20.0 MW;
- Taldysuu 2 - 26.7 MW;
- Oytersken 1 - 28.5 MW;
- Oytersken 2 - 17.0 MW;
- Akjar - 40.0 MW.

Key project facts:

Location: Kyrgyz Republic
Naryn region, At-Bashy district near Naryn river.

Project cost USD 1.61 billion

Objectives of the project

Implementation of HPP cascade will increase capacity and power generation to cover the growth of loads in the hydropower system region.

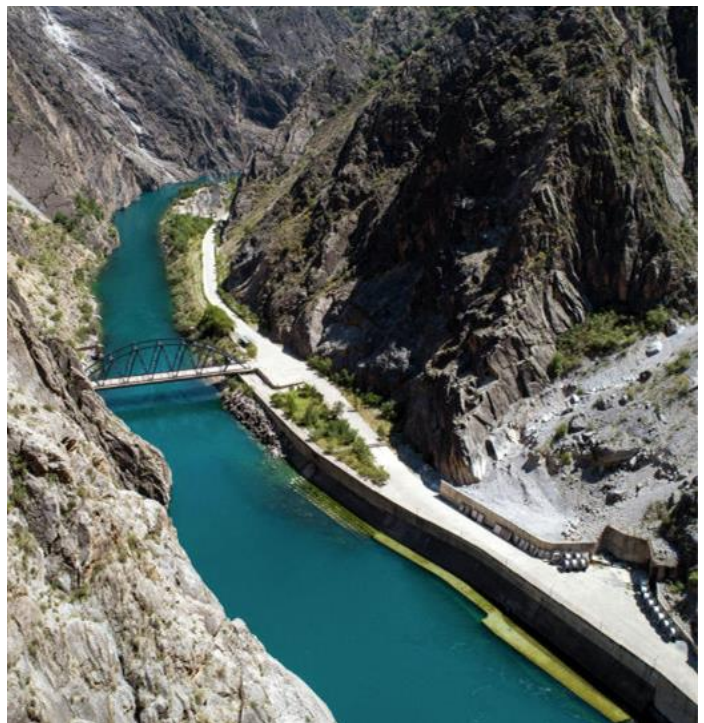
Final results of the project

Volume of energy generated by the two units for an average long-term period will amount to an average annual output of 753 million kWh.

Financial and economic forecast indicators of the project:

Forecast data will be determined after clarification of the terms of financing the project

The construction project has no negative impact on the environment



CONSTRUCTION OF KULANAK HPP CASCADE



Brief information:

Investment project provides for the construction of 5 HPPs with a total installed capacity of 439 MW with an average annual output of 2667.8 million kWh

At-Bashinskaya - 135 MW;

Uchkunskaya - 88 MW;

Aktalinskaya - 38 MW;

Dzhilanaryk-1 - 80 MW;

Dzhilanaryk-2 - 98 MW.

Key project facts:

Project cost: USD 2.78 billion

Location: Kyrgyz Republic

Naryn region, At-Bashy district on the Naryn River, between the confluence of At-Bashy and Ala-Buka rivers.

Objectives of the project

Project implementation help to increase capacity and electricity generation to cover the growth of loads in power system

Final results of the project

Average annual production electricity is 2667.8 million kWh

Financial and economic forecast indicators of the project:

Forecast data will be determined after clarification of the terms of financing the project

The impact of the project on the environment

Project construction has no negative impact on the environment



CONSTRUCTION OF PAPAN HPP

Brief information:

The project provides the construction of a Small HPP with capacity of 20 MW, unit capacity is 10 MW

Key project facts:

According to pre-feasibility study project developed by “Mercados-Energy Markets International (Spain)” company, the **project cost** is 28 million US dollars

Location: Kyrgyz Republic, Osh region, Kara-Suu District, Papan reservoir on the Ak-Buura river

Project goals:

Implementation will increase capacity and power generation to cover growth consumption electricity

Power generation

Volume of energy generated by two units for an average long-term period will be with an average annual output 106 million kWh

Term construction will be nearly 3 years

Reservoir capacity

260 million m³

Maximum volume of water consumption 345 m³ / s

Minimum volume of water consumption 2.4 m³ / s

Estimated water consumption at hydroelectric power station 45 m³ / s

Pressure of water:

Maximum 80 m

Minimum 40 m

Estimated 77m

The construction project has no negative impact on the environment



CONSTRUCTION OF KIROV SHPP

Brief information:

The project aimed at the construction of a Small HPP with capacity of 21 MW, unit capacity is 10 MW

Initiator: Cabinet of Ministers of the Kyrgyz Republic

Key facts

Location: Talas region

Project cost: USD 23 million

Payback of the project: 10 years

Key indicators

Production	91.4 million kWh
Hydro Generators	10 MW
Payback period, years	10
Installed capacity	21 MW

Assistance in the implementation of electricity export within the framework of the CASA-1000 project (according to the rules of open access to third parties)

Objectives of the project:

Implementation of small Kirov SHPP will increase capacity and power generation to cover growth of electricity consumption.

The volume of energy generated by the two units over an average long-term period will be 91 million kWh.

Requested Schedule (Timeline)

The construction period will be approximately 3 years

Reservoir capacity

50 million m³

Maximum volume of water consumption

225 m³ / s

Minimum volume of water consumption

8.3 m³ / s

Estimated water consumption at hydroelectric power station

59 m³ / s

Pressure of water:

Maximum 66 m

Minimum 13 m

Estimated 41 m

The construction project has no negative impact on the environment

MODERNIZATION OF THE LEBEDINOV HPP

Brief information:

Lebedinov HPP is situated in the Chui region, Alamudun district, Lebedinovka village.

Lebedinov HPP was constructed in 1943. Hydraulic unit No. 2 was under conservation due to the shaft breakage from January 2009 to August 2014 (according to operational data on January 7, 2009, a sharp increase in the bearing temperature and increased vibration were noted; upon inspection, a breakdown of the intermediate shaft was detected).

At the moment, hydroelectric unit No. 2 is used with a capacity of no more than 2 MW, with an installed capacity of 3.6 MW. After reconstruction it is planned to increase the capacity to 4.5 MW.

Initiator: "Chakan HPP "JSC

Key facts of the project:

At the moment, there is an indicative proposal from "MAVEL" company, which has carried out a preliminary survey of the station. The pre-feasibility study was prepared by the Korean engineering company "YOOSHIN".

Project cost: USD 2.5 million

Average annual additional revenue from reconstruction of LHPP is 29 million KGS.

Available assets

Depending on conditions of the investor, the company has the opportunity to co-finance part of the initial investment up to 15%.
Modernization of the existing station.

Product markets (marketing plan)

JSC "Severelectro", domestic consumers.

Indicators of investment efficiency

Net present value (NPV), thousand dollars.	950
Internal rate of return (IRR),%	8.6%
Profitability index (PI), units	1.39
Discounted payback period (DPB), year.	8.06
Average profitability investments, %	55.2
Term payback, years	10

CONSTRUCTION OF ORTO-TOKOY HPP

Brief information:

The project provides for the construction of a 20 MW SHPP, 2 units are 10 MW (each).

According to the feasibility study made by «MERCADOS - ENERGY MARKETS INTERNATIONAL» (Spain), the project cost is 23 million USD

Location:

Kyrgyz Republic, Issyk-Kul region, Orto-Tokoi reservoir on the river Chu.

Project goals:

The implementation will increase capacity and power generation to cover the growth in electricity consumption

Power generation

The amount of energy generated by the two units over an average long-term period will be with an average annual output of 100 million kWh

Term construction will be 3 years

The construction project has no negative impact on the environment

Reservoir capacity

470 million m³

Maximum volume of water consumption

400 m³ / s

Minimum volume of water consumption

27 m³ / s

Estimated water consumption at hydroelectric power station

60 m³ / s

Pressure of water:

Maximum 45 m

Minimum 22.5 m

Estimated 38 m



CONSTRUCTION OF THE CASCADE OF SMALL HPPs ON THE YSSYK-ATA RIVER

Brief information:

SHPPs are located along the Yssyk-Ata river on the territory of Yssyk-Ata district of the Chui region of the Kyrgyz Republic. The sites of the SHPP at locations are provided with an asphalt road, close to the territorial substation of 110 kWh, the area of 9 SHPP is 5.0 hectares. Acts of land acquisition and all necessary building permits have been received.

Initiator: “Ceramics” LLC

Key facts project: The total installed capacity of the SHPP cascade will be 25.6 MW, and the annual electricity generation for sale is 150.5 million kWh.

Project cost: USD 29.5 million

Products market (marketing plan): Production and sales on the domestic market

Available assets: Land - 5 hectares

Indicators of investment efficiency

Period calculation (planning horizon), year.	12
Net present value (NPV), million euros	46.8
Internal rate of return (IRR),%	22.7%
Discounted payback period (DPB), year.	8.5





CONSTRUCTION OF TWO SMALL HPPs on ALAMEDIN river

Brief information:

Alamedin river flows in Alamedin district of the Chui region. It originates on the north slope of the Kyrgyz ridge at altitudes of about 4000 m above sea level. River feeding is glacial and snowy. Water inflow goes from river Alamedin into pressure pipelines of small hydro energy power plant "Alamedin" that is carried out at an height of 1420 m and 1280 m.

The small HPPs, in terms of level, are located 120 m lower (for each station). Thus, a head of 120 m is created for the station, which provides an electrical power of 2400 kW. The water consumption for the station operation is 2.0 m³ / sec.

Initiator: Ministry of Energy and Industry of the Kyrgyz Republic

Key facts :

Construction takes place in two stages:

Stage 1 - construction of hydraulic structures, hydro energy power plant buildings and installation of the first two units with a capacity of 1200 kW at each station with an average annual output of 20 million kWh of electricity; the cost of these works will amount to 2.6 million USD ;

Stage 2 - installation of the next two units with a capacity of 1200 kW each with an average annual output of 20 million kWh of electricity; the cost of the second stage will amount to 1.6 million USD (the cost includes only the cost of equipment and construction - installation work of the units).

The cost the project: USD 4.2 million

Markets sales of products (marketing plan)

Production and sale to the domestic market and the local population.

Project implementation period:

The payback period for two HPPs with a capacity of 4800 kW and an average annual output of 40 million kWh of electricity (calculation of electricity generation: the duration of the station's operation per year is 24 hours x 340 days = 8160 hours; electricity generation - 4800 kW x 8,160 hours = 40,000,000 kWh) with an average selling price of electricity of 2.2 US cents per 1 kWh (taking into account power consumption charges) will be 6 years:

- 1) electricity sales per year - 40,000,000 kWh x \$ 0.022 / kWh = 880,000 USD for 1 year;
- 2) electricity sales in 6 years - \$ 880,000 x 6 years = 5,280,000 USD.

CONSTRUCTION OF SMALL HPP SHAMSI

Description of the project

The project plans to build a small hydroelectric power station Shamsi with a power of 10 mW.

Since this hydroelectric power station is located on the domestic wastewater, the volume of energy produced at the HPP Shamsi depends on the change in water discharge in the river during the year.

Hydroelectric power plant construction strategy

Objectives of the Small HPP Development Program in the Kyrgyz Republic are aimed at the development of small hydro energy power plants to achieve a better balance between the production and consumption of electricity, as well as reduce electricity losses. Important task of the Cabinet of Ministers of KR is to stimulate the inflow of investments in small hydropower plants.

Benefits of small hydropower plants

The construction of large hydropower plants requires huge one-time costs and investments. In addition, this direction is limited by the lack of powerful rivers with high water discharges, as well as environmental considerations.

The optimal for the Kyrgyz Republic is the widespread use of hydropower small rivers, as well as existing reservoirs and irrigation dams for generating electricity at a small hydroelectric power station power.

Project cost: USD 20 million

No.	Name	Amount, thousand USD
1.1	Water-lifting dam and water intake structure	1,346
1.2	Pressure pipeline	1,896
1.3	Lower part of the power plant structure	620
1.4	Upper part of the power plant structure	178
1.5	Other jobs	1926
2.	Electromechanical works	
2.1	Hydraulic works	5,750
2.2	Electromechanical works	6,500
2.3	Grid connection	200
2.4	Other expenses	1743
TOTAL		20132



CONSTRUCTION OF THE KARA-KUL SMALL HPP

Brief information:

The project involves the construction of a small hydroelectric power station with capacity of 18 MW at the river Karasuu, in the western part of the city of Karakul, Jalalabad region, in the area's former concrete factory. Small hydropower plants in the Kyrgyz Republic are one of the first constructions since independence.

Initiator: OJSC Chakan HPP

Key facts:

As a result, the estimated annual electricity generation is 110 million kWh per year, while the operation of one unit will provide conditionally 78 million kWh in a year, the operation of the second unit is additionally 32 million kWh in a year.

Developed technical design proposal for the manufacturing of a hydro turbine unit (JSC Hydroproject", The Republic of Uzbekistan).

Project cost: USD 25 million

Own contribution USD 500 000.

Investment required: USD 24 500 000 .

Available assets:

- There is a State act on the right of private ownership of a land plot of 8.5 ha;
- Developed project documentation for the construction of a hydroelectric power station; power lines have been connected.
- preparation of the facility's construction work has been carried out.

Markets sales of products (marketing plan):

The main consumers are companies and economic entities of the Chui region of the Kyrgyz Republic and the southern regions of Kazakhstan. The construction of small hydroelectric power plants will make it possible to generate energy efficiency in the general energy system of the country, which will cover the demand in the domestic and foreign markets.

Project implementation period: 2 - 2.5 years.

Payback period of the project: up to 8 years.

A photograph of a vast agricultural field with neat rows of green leafy crops, likely cabbages, stretching towards the horizon. The field is set against a backdrop of rolling hills and mountains under a warm, golden sky, suggesting a sunset or sunrise. A green horizontal bar is overlaid on the upper right portion of the image, containing the word "AGRICULTURE" in white, bold, uppercase letters.

AGRICULTURE

CONSTRUCTION OF THE INDUSTRIAL TRADE AND LOGISTIC COMPLEX

Brief information:

Creation of the industrial, trade and logistics complex (ITLC) on the territory of the free economic zone in Naryn region.

Initiator: FEZ "Naryn"

Key facts

- **Location:** Naryn region
- **Project cost:** USD 276 million
- **Payback of the project:** 15 years 6 months

Naryn region has very advantageous geographical location, highway Bishkek-Naryn-Torugart-Kashgar passes through it and connects highways of countries TRACECA and highways leading through China, India, Pakistan (Karakorum highway) to the seaports of Pakistan, India, Iran.



Indicators investment efficiency

Internal rate of return (IRR), %	8 %
Index profitability (PI), %	42
Average profitability investments, %	29.8
Term payback, years	15.6

Logistic Zone

- Customs control zone;
- Terminal area;
- Warehouse area;
- Administrative zone.

Shopping area

- Wholesale and retail trade center;
- Public catering points;
- Sanitary quarantine station;
- Automated warehouses for storing goods;
- Certification Authorities;
- Transport and brokerage firms;
- Insurance companies;
- Travel firms.

Priority activities of the industrial zone



CONSTRUCTION OF LOGISTIC COMPLEX



Brief information

It is planned that the logistics center will be harvesting, storing and selling fresh apples and prunes, as well as processing - drying the second grade of products for compote mixture.

Key facts

- **Location:** Talas region, Kara-Buura district
- **Production capacity:** 440 tons / year
- **Project cost:** USD 817 703

The company has its own production, warehouse and administrative premises to implement the project (**1000 + 150 sq.m**) and adjacent land (**2.5 ha**)

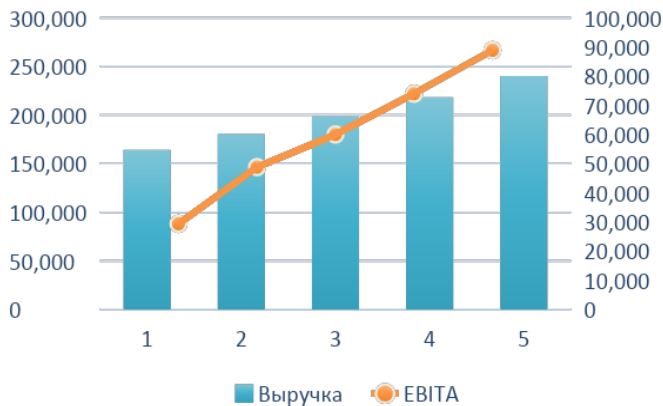
There is also a land plot that is allocated for agricultural purposes **1.28 ha +7.0 ha**

The territory has:

- ✓ Unfinished office building (there is a need to raise it and cover the roof);
- ✓ Availability of all communications and sewerage;
- ✓ Adjacent territory 2.5 hectares;
- ✓ Warehouse, which also needs to be covered;
- ✓ transformer;
- ✓ Artesian well.

Almost 90% of the products of the logistics center are export-oriented and only 10% will be sold on the local market.

Profitability of the project



Indicators investment efficiency

Project cost, USD	817 703
Own contribution, USD	586 164
Payback period, years	4.69



CONSTRUCTION OF A LOGISTIC CENTER - VEGETABLE STORAGE

Brief information:

Construction and organization of a logistic vegetable complex for long-term storage of vegetables and further sale

Key facts

- **Location:** Talas region, Manas district
- **Production capacity:** 10,000 tons of one-time storage
- **Project cost:** USD 3.3 million

Near Manas district, Talas region, all conditions have been created for the successful cultivation of vegetables:

- climate (weather),
- nature (soil),
- availability of water resources,
- demography (personnel).

In particular, the village of Kyzyl-Zhyldyz of the above region has a huge potential to grow and sell vegetables both for the whole Kyrgyzstan and for the export to foreign markets such as Kazakhstan and Russia.

However, the lack of specialized vegetable stores does not allow to realize this potential.

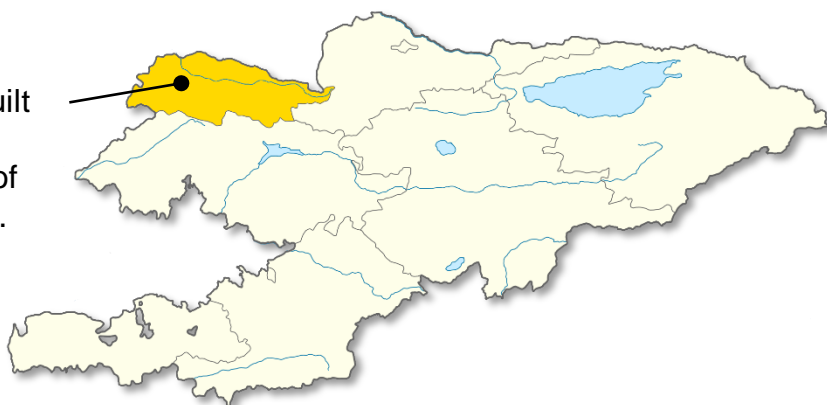
This logistics center is supposed to be built on the site **land with a total area of 3.5 hectares**, which is located in the village of Kyzyl-Jyldyz Manas district, Talas region.

Vegetable storage technology

Container technology for storing vegetables with separate sections for each type of vegetables is planned. This is a type of container storage that has all advantages: harvesting vegetables and fruits in containers with storage without overloading helps to increase the yield of standard products and reduce losses.

Indicators investment efficiency

Net present value (NPV), USD	963 541 941
Internal norm profitability (IRR),%	114.0
Profitability index (PI), units	1.90
Discounted payback period (DPB), month	20
Modified IRR (MIRR)	43.4
Discount rate, %	10





PROCESSING OF BIRD LITTER INTO FODDER BIOMASS AND ORGANIC FERTILIZER

Brief information:

Organization of waste-free processing of biological waste of poultry farms, livestock complexes, workshops for slaughter of animals and poultry, farms and food production into organic fertilizer

Initiator: "Ak-Kuu" LLC

Key facts

- **Location:** Chui region, Sokuluk district
- **Project cost:** USD 2,6 million
- **Payback of the project:** 2 years 7 months
- **Operating production**

The project provides for the following stages of the processing of poultry manure into organic fertilizer biohumus: high-protein biomass for the production of fish feed and manufacturing fish feed.

INSECTARIUM

Insectarium room consists of 9 blocks, total area **1900 sq.m...** This stage is intended to keep a colony of flies to obtain larvae for further production. At the same time, 7 blocks are constantly functioning, and the remaining two blocks are in sanitary treatment and prophylaxis, for further replacement of the next blocks, by rotation.

Benefits of using organic fertilizers

The cost of fertilizers in comparison with mineral fertilizers is rather competitive, but given that mineral feeding is produced annually, and the addition of biohumus is done once every three years, the profitability increases during the usage of organic fertilizers.

Shortens the growing season, which is relevant for all regions.

Increases yield by 30-50%.

Creates conditions for obtaining environmentally friendly products.

Increases resistance of plants to bacterial and fungal diseases.

Improves soil structure and fertility for up to 3 years.

Restores soil acidity.

Helps endure periods of forced drought and frost.

CONSTRUCTION AND DEVELOPMENT OF PRODUCTION AND LOGISTICS ENTERPRISE FOR APRICOT PROCESSING

Brief information:

Construction and development of a production and logistics enterprise

Initiator: "Tosor-agro" LLC

Key facts

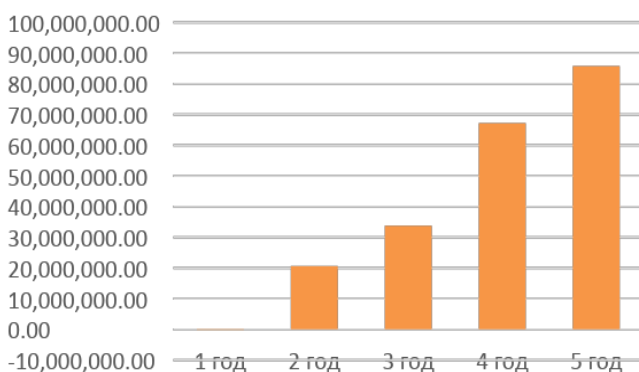
- **Location:** Issyk-Kul region, Jety-Oguz district
- **Production capacity:** processing apricot up to 3,000 tons / year
- **Project cost:** USD 650 000

The high export potential of this industry makes it possible to increase the export of fruits and vegetables up to 20% per year. The key export markets are Kazakhstan and Russia, whose purchases make about 65% of the total export volume.

The specific weight of vegetable and fruit processing in the republic is low and does not exceed 13-14%.

Currently, the EEU market is one of the most attractive ones and has good potential to raise the capacity of the project.

Net profit



The company will specialize in three types of services:

Transport and trade services together with "UBS Transit". The transportation and sale of apricots (and later on other agricultural products) of local farmers to the EEU markets.

Services for the processing of apricots of local farmers and the production of jams and dried fruits (dried apricots) for the independent sale of farmers, as well as with additional assistance in the storage and sale of such products.

Warehouse storage services, including the use of specialized refrigeration equipment, both for fresh agricultural products of farmers and processed ones.

Indicators investment efficiency

Net value (NV), USD	2 649 366
Net present value (NPV), USD	1,781,175
internal rate of return (IRR),%	145.7
Discounted payback period (DPB), month	13
Discount rate, %	10
EBITDA, USD.	3,534,055

CONSTRUCTION AND ORGANIZATION OF AN INTENSIVE FRUIT GARDEN

Brief information:

Development and implementation of innovative technologies in the field of intensive horticulture by the way of construction and organization on the territory of Osh city an orchard area for the cultivation of higher grades of apples.

Initiator: "Gifts of the South" LLC

Key facts

- **Location:** Osh region, Kara-Suu district
- **Production capacity:** 675 tons / year
- **Project cost:** USD 1,6 million.

Socio-economic effects of the project:

- Development and implementation of innovative technologies in the field of intensive gardening in the Kyrgyz Republic.
- Creation of new job positions for the functioning of the garden for 163 people, thereby increasing the employment of the local population.
- Expansion and increase of the agricultural products' export to the nearby countries and abroad.
- Creation of the first certified intensive orchard in the Kyrgyz Republic, complying with international quality standards.
- Development of national brand of fruit products that are recognizable far beyond the borders of the Kyrgyz Republic.

Agricultural sector of the country has the high export potential. The production of fruit and berry crops exceeds its consumption for about 1.6 times, which makes it possible to export more than 85 thousand tons of fruits and berries annually.

The total area of the garden complex:	187 ha
The area of the apple orchard at the 1st stage of the project implementation (in terms of the requested loan):	19.5 ha

Indicators investment efficiency	
Calculation period (planning horizon), months	92
Net income (NV), USD	2,224,779.63
Net present value (NPV), USD	664,821.88
Internal norm profitability (IRR),%	9.4%
Profitability Index(PI), units	1.49
Return on sales (ROS), %	60.5
Discount rate, %	five%

As it is seen from the data, investment indicators testify to the profitability of this project. All the obtained indicators are in the range of permissible values.

PRODUCTION ORGANIZATION: SLAUGHTER AND PRIMARY PROCESSING OF LIVESTOCK

Brief information:

Organization of a profitable production complex for the slaughter and primary processing of large and small ruminants.

Provision of services:

- for slaughtering and primary processing;
- for cutting into bran, deboning,trimming;
- for veterinary examination and certification; storage of meat.

The production complex also provides for the possibility of producing limited quantities of sausages (liverwurst, blood, meat), small semi-finished meat product.

Key facts

- **Location:** Talas region, Kara-Buura district
- **Production capacity:** 50 heads of cattle or up to 70 heads of small cattle per shift
- **Project cost:** USD 1.09 million

Indicators investment efficiency

Payment due date (PO), year	6.5
Net present value (NPV), USD	402 560
Internal rate of return (IRR),%	17%
Profitability index, units	1.3

Advantages and benefits of the project:

- Organization and production technology, raw materials, products will strictly comply with international quality and safety standards, and will be certified;
- The possibility of organizing a wide-profile and large-scale production;
- Availability of infrastructure in the region.

The company possesses the rights of ownership and use of real estate, including a land plot in **8.4 ha** on the territory of Cholponbai district and Kara-Buura district. There is an asphalted access road to the project object (territory).

A power line passes nearby, water supply is due to renewable groundwater, artesian well could be drilled to get drinking water.

The distance from the project site to the main transport highway (M41) of international importance - Bishkek - Talas - Taraz is 1.5 km, to the strategically important transport highway of republic Bishkek-Osh is 155 km.

The distance to the train station Maimak is 45 km, in the Maimak village - free economic zone.

CONSTRUCTION OF CANNERY

Brief information:

Provides for the processing of 10,000 tons of beans, 2,000 tons of vegetables (tomatoes, cucumbers, bell peppers, etc.), 1,000 tons of fruits (apples, plums, cherries, strawberries, raspberries, currants, etc.) per year.

Key facts

- **Location:** Talas region, Talas district
- **Production capacity:** 52.4 million jars / year
- **Project cost:** USD 9.4 million

There are no factories for processing beans in Kyrgyzstan and there are no competitors in this market. The project is aimed at exporting the bulk of finished products with access to the markets of European countries, Russia, Turkey and Kazakhstan. All processes will comply with international standard ISO 22000.

Benefits of the project

- Creation of 200 permanent and at least 100 seasonal job positions directly in production. In addition, a large number of agricultural producers will conclude contracts and will be confident in the sale of their products at a favorable price;
- Improvement of infrastructure, communications, introduction to Internet, innovative information technologies, access to roads, landscaping of territories;
- Diagnostics and timely prevention of the health status of employees undergoing regular medical examinations;
- Capacity building of the local population, free vocational training with the possibility of obtaining specialties;
- Development of ethics, culture, hygiene at work and in the society as a whole;
- Arrangement of sports grounds to maintain physical health, the organization of cultural events for the aesthetic development of youth.

Indicators investment efficiency

Project cost, USD	9 360 760
Own contribution, USD	1,072,007
Payback period, years	10

SUGAR FACTORY

1. Brief information:

JSC "Ak-Suu Vita" is a former corn-processing sugar plant founded in 1980. The total area occupied by the plant is 80 hectares, with sugar production and corn processing facilities and all auxiliary structures. Currently, the enterprise is undergoing a procedure for reviving the enterprise.

Initiator : JSC "Ak-Suu Vita"

Key project facts:

- processing capacity is 900 tons of raw sugar per day
- Capacity of warehouses for sugar production is 20,000 tons of raw sugar and 15,000 tons of white sugar with an area of 3640 sq. m.
- Corn processing plant with a capacity of 620 tons per day

Project cost: USD 12 million

Existing assets: sugar production warehouses, corn processing facilities

Product markets (marketing plan): Tajikistan, Iran, Kazakhstan.

Product sales markets (marketing plan):

Tajikistan, Iran, Kazakhstan. Kazakhstan imports more than 400,000 tons of sugar annually, the main sugar exporter to Kazakhstan is Brazil, which exported 365,189 tons of sugar in 2013, accounting for 77.7% of Kazakhstan's total imports. Imports into Tajikistan amounted about 20,000 tons in 2013. The main exporter in 2013 to the country was Pakistan, which supplied 12.8 thousand tons of sugar, in 2012 the main sugar supplier to Tajikistan was Belarus - 14 thousand tons of sugar. Iran, which imports more than 1 million tons of sugar per year, is quite a large sugar consumer. For example, in 2011 Iran imported 1,051 thousand tons of sugar, of which 762 thousand tons were supplied by the UAE, 210 thousand tons by Switzerland.

Investment performance indicators

Net present value (NPV), USD	115 583 124
Internal rate of return (IRR),%	33%
Discounted payback period (DPB), months	2,2





CONSTRUCTION OF A TRADE AND LOGISTICS CENTER IN THE OSH REGION

Brief information: the advantage of this project is the presence of a transformed land plot with an area of 10 hectares with a convenient location.

Initiator: Local Authority in the Nookat district of the Osh region of the Kyrgyz Republic.

Key project facts:

- Transformed land plot of 10 hectares. Asphalt road.
- In the Osh region, the following crops are grown from the main types of crop production:
 - grain (excluding legumes, rice and buckwheat) - 297.2 thousand tons;
 - potatoes - 206.2 thousand tons;
 - corn (not grain) - 182.3 thousand tons;
 - vegetables - 175.9 thousand tons;
 - wheat 78.7 thousand tons;
 - melons and gourds - 54.7 thousand tons;
 - fruit and berry crops - 54.3 thousand tons;
 - barley - 36.2 thousand tons;
 - raw cotton - 34.9 thousand tons.

Project cost: USD 20-30 million

Sales markets (marketing plan) Kazakhstan, Russia

Annually Kazakhstan imports over \$ 76.6 billion US dollars worth of vegetables and fruits. The main exporter of vegetables and fruits to Kazakhstan is Uzbekistan, which exported \$ 262 million US dollars of vegetables and fruits. The main exporter of vegetables to Russia is China, which supplied US \$ 410 million US dollars. At the same time, Turkey exported fruits to Russia in the amount of 814 million US dollars.

PLANT EXPANSION FOR THE PRODUCTION OF CANNED FRUITS, VEGETABLES AND DRIED FRUITS

Brief information:

«Oshskiy Plodoovoshnoy Kombinat» LLC was founded in 1954 on the basis of the Osh Regional Consumer Union of the Kyrgyz SSR. The main activity of the enterprise is the integrated processing of fruit and vegetable products - natural canned vegetables, tomato products, natural juices, preserves, jams, fruit compotes, dried fruits and vegetables.

Initiator: «Oshskiy Plodoovoshnoy Kombinat» LLC

Key project facts:

Location: Osh city

Refrigerating chambers for storing fresh vegetables and fruits for 180-200 tons.

Project cost : USD 1,85 million

Available assets

- Land plot of 3.5 hectares
- Transport infrastructure (railway)
- Round-the-clock energy saving and water supply
- Share capital of USD 5.2 million
- Equipment for the production of canned fruits and vegetables
- Workplace for the production of compote mixture
- Honey bottling workplace

Product sales markets (marketing plan)

«Oshskiy Plodoovoshnoy Kombinat» LLC exports to Russia and Kazakhstan. Potential sales markets (export values of the Kyrgyz Republic for 2020): Russia (1192 thousand USD), Kazakhstan (739 thousand USD), Uzbekistan (254 thousand USD)

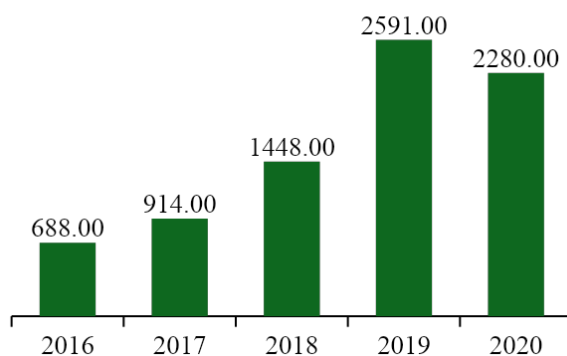
Investment performance indicators

Net present value, USD	8299,4
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Internal rate of return (IRR),%	22,2%
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Average return on investment, %	15
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Export of canned vegetables and fruits of the Kyrgyz Republic, thousand USD



ENTERPRISE EXPANSION FOR THE FRUIT AND VEGETABLES PROCESSING

Brief information: Tokmok plodoovosh was created on the basis of a standard cannery, built in 1964 for the production of canned products.

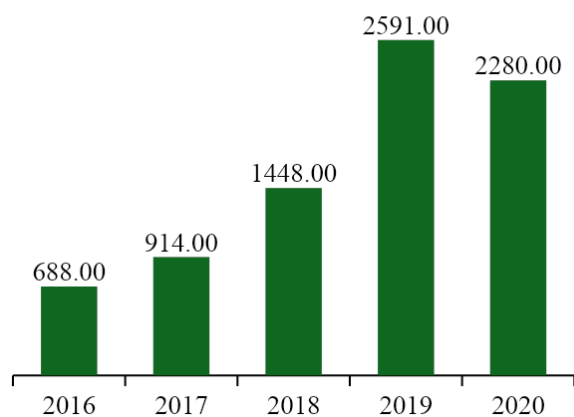
Initiator: Bukanchieva Damira

Key project facts:

Location: Chui region, Tokmok city

Project cost: USD 172 661

Export of canned vegetables and fruits of the Kyrgyz Republic, thousand USD



Available assets:

- The area occupied by the enterprise - 9 hectares
- Hungarian line R-16 for the production of canned products
- Own water well with a depth of 100 meters
- ISO: 22000 certification
- Recognizable brand "Taste of the Sun".

Product sales markets (marketing plan)

Domestic market 65%: -the sale of the company's products is carried out through the retails "Noumen Service", "Taste of the Sun", "Globus", "7 days", "Frunze", "Super Arzan", "Narodny". External market: 35% of finished products go to the Kazakhstan. Potential export markets: Russia, Kazakhstan, Uzbekistan and Tajikistan.

Projected statement of financial results:

Indicators in thousand KGS	Quarter				Total
	1	2	3	4	
Proceeds	3 200	5 800	4 800	6 600	20 400
Material costs	2 604	4 570	3 813	5 170	16 157
Profit	536	1 107	889	1 287	3 819

MODERNIZATION OF MEAT-PROCESSING PLANT



Brief information:

"Toshtuk Karakol" company produces meat and meat products, semi-finished products, specializes in cattle slaughtering in the Issyk-Kul region and processes approximately 35 tons of beef a year. Most of its products are sold in bulk to companies, ski resorts of the Issyk-Kul region. Part of the production is sold in its own stores in Karakol.

Key project facts:

- Production capacity - 21,600 heads per year.

Project cost: USD 5,3 million

Available assets:

- Total area of 11.0 hectares;
- Industrial buildings;
- Offices and shops;
- Process equipment;
- Outbuildings;

Advantages of the project:

- Innovative technology without competition in Kyrgyzstan;
- Competitive advantage through technology implementation of global standards;
- Increased productivity and the number of processed meat;
- The ability to expand the range of products and services;

Sales market:

- Meat processed using this technology will meet quality standards for export to foreign markets. Russia is a promising market for meat since it occupies a 20.7% share in global imports and continues to grow dynamically. The main supplier in this market are the CIS countries, and this suggests that the Kyrgyz Republic has equal conditions in terms of tariff advantages, Russia is a promising and priority market in terms of market size, logistics and average purchase prices, as well as due to its membership in the EAEU, which is a big advantage.
- The second promising market for meat is the UAE. The UAE ranks 2-nd in terms of market size, occupying 18.2% of the targeted import market. Also, the UAE market is interesting in that the import duty is 0% and high purchase prices at the level of USD 7.451 per ton. This market is concentrated and there is a monopoly supplier in the person of India, which occupies 78% of the lamb meat market..



PROCESSING OF ORGANIC APRICOTS

Brief information:

The Alysh-Dan Production Agricultural Cooperative is a farm marketing cooperative. It was established and registered in 2008 and is located in Kara-Bak village of Batken region. The main economic activity of Alysh-Dan is to provide agricultural training on production of natural organic apricots, training on the use of organic materials, and marketing and distribution of apricot products. Alysh-Dan was certified IMO organic agricultural production in 2014.

Key project facts :

- Production capacity - 1050 tons per year.

3. Project cost : USD 512,000

Available assets:

- Membership fee,
- Commission from the sale of apricot products. The cooperative receives 3% of the products sold

Advantages of the project:

- Place for apricot drying equipment, storage, cold rooms and warehouses,
- Placement of scales for weighing products,
- Packaging, marketing and a distribution center,
- Processing center for jams, jellies, juices, preserves and stone fruit products.

Sales market :

- market sales of fresh and dried certified organic apricots, with a focus on exports to Europe, Russia and Turkey.
- market sales of fresh and dried certified organic apricots with a focus on local sellers, markets, bazaars, shops, fairs and festivals in Kyrgyzstan.
- sales in large commercial markets for export buyers.
- processing apricots into certified organic jellies, jams, preserves, juices and chocolate to increase sales value.
- seed processing for certified organic creams, perfumes, oils and snacks.
- Kazakhstan is a promising export market for Kyrgyz dried apricots. The growth of imports over the past year was recorded at the level of 12%. For exporters of the Kyrgyz Republic, the customs tariff is 0% in this market. Uzbekistan is the major supplier in Kazakhstan. The Kazakhstan's dried apricot market is the most promising market in terms of logistics, growth dynamics, ease of doing business due to the presence in the market and recognition of Kyrgyz products, as well as unrealized export potential.
- Russia shows huge growth in imports over 2014-2018. in quantitative terms - 70%. The main supplier is China. Cooperative considers this market to be equally interesting in terms of size, growth dynamics and ease of doing business.

PRODUCTION OF FOOD BLACK STURGEON CAVIAR

Brief information

Implementation of the project "Caviar" started immediately after the decision of the Baku summit of the leaders of the Caspian states - Russia, Kazakhstan and Azerbaijan to ban the catch of sturgeon fish. This ban is dictated by the need to find a way out of a critical situation leading to the complete extermination of sturgeon fish in the Caspian Sea.

In the suburban area of Bishkek city (Kyrgyz Republic) there is a sturgeon farm for the cultivation of "precious fish" - sturgeon, for the purpose of obtaining edible black caviar.

Key facts of the project:

The uniqueness of this business lies precisely in the intravital production of caviar and the creation of the most favorable conditions for fish reproduction using innovative technologies in managing the maturation of broodstock, raising fish, feeding and adapting to river conditions, cryopreservation of genital products of sturgeon fish.

Project cost: USD 13.4 million

Available assets

- Owned land plot with an area of 22,000 m²
- Covered area 3000 m²
- Ponds 18000 m²

Product sales markets (marketing plan)

Main consumers: Kyrgyzstan, Kazakhstan, Russia;

Major market players (including foreign manufacturers) Russia, Kazakhstan, Israel, Germany, France, China.



PRODUCTION AND PROCESSING OF WOOL MERINO



Brief information: Project aimed at the creation of full cycle for the production of sheep wool in the Kyrgyz Republic, including procurement, cleaning, sorting, sale and export to foreign markets.

It is planned bring the most economically profitable breed of merino sheep to the Kyrgyz Republic. The production and processing of wool will be carried out at the factory. The resulting products will be exported to the EAEU countries and other markets.

Initiator: Ministry of Investment of the Kyrgyz Republic

3. Key facts project:

The most suitable breed of sheep for obtaining wool today is the merino breed, which differs from other breeds in the high quality of combed wool. Merino wool is 2 times thinner than ordinary sheep wool.

Merino easily adapts to various conditions and terrain and, due to its calm nature of behavior, is more flexible.

During the Soviet era, there were about 12 million merino in the Kyrgyz Republic, which were eventually sold out. With the successful implementation of the idea, the merino breed will be revived in the Kyrgyz Republic...

Within this project, it is planned to import merino sheep from Krasnodar and Stavropol Territories, as well as Mongolia. In the regions of the Kyrgyz Republic and foothills also have raw materials in the form of wool.

Project cost: USD 3-5 million

Disbursement of funds: Investments are planned to be used for the following purposes:

- Purchase of merino and creation of a farm (USD 1 million);
- Construction of a wool washing and processing plant (USD 1.5 million);
- Purchase of modern equipment from Europe (500 thousand US dollars);
- Establishing sales to foreign markets.

Within the framework of the project it is possible to establish production:

- semi-finished product;
- finished products (woolen fiber, thread, overcoat cloth, felt, etc.).

The Kyrgyz Republic produces felt products, yurts, carpets, felt footwear, felt accessories and national products. Thus, part of the goods produced can be sold on the domestic market.

"PRODUCTION OF LIVESTOCK AND CROP PRODUCTS ON THE BASIS OF A PEDIGREE FARM "ASYL PLUS"



Brief information: Today small peasant farms cannot maintain a large livestock of beef cattle, and there are no processing enterprises. Therefore, in conditions of excessive sufficiency of rangelands in Naryn region needs to develop beef cattle breeding. Therefore, it is necessary to create a breeding herd of meat direction for further reproduction, which could supply pedigree young animals to other farms of Naryn region and beyond.

Initiator: Yskalov Marat

Key facts project:

- Land: arable 54 hectares, rainfed 230 hectares and pastures 600 ha. Total area 884 ha sq. m.
Covered area 1344 sq. m.
- Realization of breeding stock Galloway, aberdeen Angus meat breeds.

Project cost : USD 583,000

Planned results:

Increase in payments to Social Fund, by creating new vacancies and export to Russia and Kazakhstan at brand with qualities such as ecologically clean and with a naturally delicious taste.

Markets sales of products (marketing plan):

- Market capacity (Current consumption) - 7800 heads;
- Distribution of sales markets by geography, taking into account exports products - Naryn region;
- Groups of consumers of products (services) – Farmers of Naryn;
- Advantages over competitors - the absence of such enterprises, a high level of productivity of the products offered;
- Price per one competitor's products - 1.6
- Profitability sales:

ROS= EBIT/SALES= operating profit / revenue * 100 = 28.3: 16.98 = 60%

- Profitability assets:
ROA= net income / assets * 100 = 28.3: 145 = 19 %

Estimated basic investment costs (in USD)

Expenditure	Amount of expenses
Purchase of 100 heads of breeding heifers of meat breeds	350.0
internal rate of return (IRR),%	74.7%
Tractor	85.0
Tractor excavator 30.0	30.0
Transformer substation 13.0 etc., reconstruction of power transmission line 5 km - 15.0 tons.	
Barn overhaul 90.0 t.	90.0

CONSTRUCTION OF FRUITS STORAGE



Brief information:

Project is the organization of storage of vegetables and fruits through modernization and equipping with technological equipment on the basis of JSC "Kuruchu".

Initiator: OJSC Kuruchu

Key project facts:

- Building sustainable and low-cost chains of storage and sale of fruits and vegetables.
- The main the consumers of the project are supposed to be: the population putting products for storage, the population using finished products, the population receiving jobs as a result of the enterprise's activities (additional 15 people), the state from receiving additional tax revenues.

Project cost: USD 2.5 million

Available assets:

Land plot - 5.5 hectares
Industrial premises – 4500 sq.m
Office premises - 170 sq.m.
Warehouse premises - 4000 sq.m.
Other premises - 160 sq.m.

Product markets (marketing plan)

About half of the produced agricultural products are sold in Kyrgyzstan, the rest in Russia and Kazakhstan, and the Russian market absorbs more than two-thirds of all exports. About half of local producers export their products outside the republic. At the initial stage, they consider the northern region of Kyrgyzstan and the city of Bishkek as the target market, and later the Central region of Russia, Siberia, the Ural region, which have high-capacity market, stable consumer demand, reasonable prices for producers.

CONSTRUCTION OF DRYING SHOP AND STORING SHOP FOR FRUITS

Brief information:

This investment project was initiated by the agricultural production commercial cooperative "Birimdik Suu» with the aim of creating a drying shop with a production capacity of more than 16 tons per year, a fruit storage shop with a capacity of 300 tons and a fruit and vegetable garden of 53 hectares in the village Chyrpykty, Issyk-Kul region.

Initiator: cooperative "Birimdik Suu"

Key project facts:

- Agricultural cooperative "Birimdik Suu" was established by the general meeting of members on August 22, 2011 and carries out its activities in accordance with the Law of the Kyrgyz Republic "On cooperatives".
- The cooperative is a voluntary association that consist of 45 people from the village Chyrpykty, located in Issyk-Kul district, Issyk-Kul region based on membership. Members of the cooperative "Birimdik Suu»Are engaged in joint production activities for the production of agricultural products...

Project cost: USD 645,375

Product markets (marketing plan)

The greatest potential for the sale of dried fruits is export to the countries of the EAEU.

Indicators investment efficiency

Net present value (NPV), USD	\$1,3921 48.3
Internal rate of return - IRR	48.5%
Profit for distribution	\$643, 213
Term payback, years	5

EXPANSION OF THE EXISTING FISHERIES OF THE TIAN-SHAN TROUT LLC

Brief information:

The project involves the modernization and expansion of the existing fish farm for growing trout in a water area of 10 hectares Toktogul and 5 hectares Tash-Kumyr reservoirs.

The company plans to establish a cage farm in the water area Toktogul Reservoirs. Build groups of workshops for product processing. Purchase a refrigerated van. Prepare conditions for constructional logistic center for storing fresh frozen fish, fish products, as well as with the prospect of storing cattle meat.

Initiator: Tien Shan Trout LLC

Key project facts:

The Tien Shan Trout LLC is a production enterprise engaged in trout breeding from sowing fry to the launch of marketable fish for sale. The farm is located in the Chui region, Kyrgyz Republic in an ecologically clean high-mountainous region 60 kilometers from the capital of Kyrgyzstan in the village of Voznesenovka.

Project cost: USD 3 million

Product sales markets (marketing plan)

Annual demand of Kyrgyz Republic in fish is 12.5 thousand tons. For 2018, it is likely that fish production has increased to 1.5 thousand tons. That is, the domestic market is not fully saturated. In addition, most of the fish produced in Kyrgyzstan goes to the markets of Kazakhstan, as well as the markets of the EAEU, China.

Indicators investment efficiency

Net present value (NPV), USD	\$ 6,218,459.53
internal rate of return (IRR),%	% 94.74
Index profitability (PI), units	2.07
Discounted payback period (DPB), year.	four
Average profitability investments, %	148.61
Term payback, years	7 years

A photograph of an industrial refinery at night. The scene is dominated by a tall, red and white striped distillation column on the left, which is illuminated from below. To its right, a complex network of large, white pipes and metal structures is visible, also lit up. The background shows a dark, cloudy sky. The overall atmosphere is industrial and brightly lit by artificial lights.

INDUSTRY

TECHNOPOLIS FOR TEXTILE AND SEWING PRODUCTION

Brief information

Implementation of the project implies market diversification and will allow introduction of the international standards of production (ISO 9000, etc.), receive orders from world brands, ensure transparency in the accounting of processed volumes of raw materials and concentrate production capacities that allow making large orders.

Initiator: Legprom Association

Key project facts:

1. Commissioning of the Technopolis project will contribute to an increase in the volume of production of textile and clothing enterprises by more than 30% (about 2.5 billion soms), about 10 thousand jobs will be created.
2. Association is taking measures to prepare a business plan and a draft project.

3. Project cost: USD 45 million

Markets sales of products (marketing plan):

Russia is a promising market for women's blouses. It takes 13-th place in terms of imports and its share is 1.7% in the world. The growth of imports over the past five years was recorded at the level of 2%, and the increase in value over the past year was 5%. The average tariff applied by the country to the Kyrgyz Republic is 0%. The main suppliers for Russia are Bangladesh and China.



INNOVATIVE GOLD EXTRACTION TECHNOLOGY

Brief information:

Integration of innovative cyanide-free technologies directed to solve the problems of traditional extraction of gold

Initiator: AKKORDA LLC

Key project facts:

- Innovative solutions of ore preparation;
- Complete elimination of sodium cyanide from the technological chain;
- Miniaturization of technology through the use of nanotechnological receptions;
- Usage nanotechnological receptions promotes nearly non-reactive technologies processing sulfide concentrate.

Project cost: USD 250 million

Benefits of the project

1. Saving energy by cost per unit of gold extracted
2. Increasing the gold recovery rate from 40-60% to 99%
3. Reduction of number and names of chemical reagents.
4. Reduction of volumes of water in comparison with the traditional method by 5 times.
5. Renouncement from the use of cyanides and harmful acids.
6. Renouncement from the autoclave extraction of gold, which implies the formation of harmful sulfurous and arsenous gases, for the disposal of which additional equipment and energy costs are required. In addition, the binding of arsenic and sulfur dramatically reduces the risk of environmental pollution.

Stages of project financing:

R&D and design work	USD 5 million
The current model of the technological line for one ton of ore	USD 10 million
Testing on a live model	USD 5 million
Industrial processing lines	USD 200 million
Production implementation and testing	USD 30 million

Indicators investment efficiency

Calculation period (planning horizon), years	5
Net value (NV), USD	294 502 148
Net present value (NPV), USD	194 718 729
Internal rate of return (IRR),%	155.7
Profitability index (PI), units	2.58
Discounted payback period in general (years)	1.3
Discount rate, %	11

CONSTRUCTION OF A PLANT FOR THE PRODUCTION OF HEATING BOILERS

Brief information:

Construction of a modern robotic plant for the production of heating equipment. The essence of the invention is the thermal decomposition of fuel in the chamber of a special reactor at an elevated temperature of 1100-1400 C, which forms intermediate compounds and significantly changes the reaction mechanism in comparison with the ignition conditions of the traditional combustion method.

Initiator: LLC "AKKORDA"

Key project facts:

1. The initiator has a Eurasian patent for equipment
2. Production capacity is 50 thousand boilers per year

Project cost: USD 100 million

Enterprise advantages:

- Own innovative developments
- Robotic equipment production
- Short terms of production of manufactured products
- Highly qualified personnel
- Training of specialists on the basis of the enterprise
- Latest quality control system

Energy effect:

30% savings on coal fuel and 15% savings on gas

Environmental effect:

Reducing harmful emissions into the atmosphere to the level of world standards according to EURO-6.

Indicators investment efficiency

Calculation period (planning horizon), years	10
Net profit, USD	30,000,000
Construction period, months	24
Planned turnover, USD	50,000,000-150,000,000
Payback period of the project, years	7



PLASMA DISPOSAL OF MUNICIPAL SOLID WASTE

Brief information:

Plasma technology for the disposal of solid waste makes it possible to efficiently process mixed waste of a complex composition to obtain a product that does not contain organic materials and does not lose its chemical resistance and mechanical strength for tens and hundreds of years.

Initiator: AKKORDA LLC

Key project facts:

1. Performance up to 1,000,000 tons/year
2. Electricity generation from 300 MWh
3. Production of vitreous slag for the manufacture of thermal insulation blocks from mineral wool 1500 tons /day

Project cost: USD 150 million

Project financing stages:

Plasma unit and materials cost –
USD 50 million

Design work and technical documentation –
USD 1 million

Working and estimate documentation –
USD 1 million

Construction, including installation –
USD 93 million

Commissioning and operation –
USD 5 million

Benefits of the project

Plasma waste processing (MSW) is a procedure of garbage gasification at high temperatures plasma cord up to 5500 ° C.

Plasma Gasification Technology designed to address a wide range of tasks like transformation of any kind of waste, including bio-waste, hazardous waste to electricity / synthetic fuels (diesel fuel, ethanol) and others useful materials.

- As a result of plasma treatment, the finished product almost 300 times less than the original volume of waste.
- Waste does not have to be sorted or dried, plasma the system does not require any pre-disposal preparation.

CONSTRUCTION OF ELECTRIC BUS PLANT

Brief information:

Design and production of environmentally friendly, quality electric vehicles.

Initiator: AKKORDA LLC

Project cost: USD 10 million

Assigned tasks:

- Design and manufacture of electric motors, research institute stage.
- Manufacturing accumulation nodes and accumulators.
- Scientifically research and development projects of assemblies and mechanisms of electric vehicles.
- Manufacturing and assembly of a working sample and setting them up for serial production.

Development advantages:

- Main feature of the bus is the system of ultra-fast recharging of the battery pack. Lithium titanate battery Toshiba Super Charge Ion Battery (SCiB) is applicable.
- The efficiency of electric motors reaches up to 99%.
- Better control of the differential and its locking without unnecessary mechanisms.
- Return of the generated electrical energy during braking for recuperation into the battery.
- Battery lithium titanate new generation of at least 40,000 charging cycles, which gives at least 30 years of exploitation.
- Onboard computer of our own design together with software.
- Most complex and critical part of the electric bus. The computer consists of 3 main ARM A 20 processors for complex tasks, which are fully adapted with their own know-how.



CONSTRUCTION OF A PLANT FOR LIMESTONE EXTRACTION AND PRODUCTION OF CEMENT

Brief information:

General Central Section stock Ozgorush deposits - 14261.9 thousand tons of limestone categories (B + C1), with an area of 317320 m² and a volume of 5727.6 thousand m³. followed by cement production.

It is planned to extract 300,000 tons of limestone annually for the production of building lime and as a carbonate component in the production of Portland cement.

According to research results, limestones have a very high titer, within 95% (CaO+ MgO). Rocks are high quality carbonate raw materials for cement production. In accordance with the technical requirements, the chemical composition of limestone belongs to the class "A".

Initiator: LLC "Datka Cement"

Main consumers: Talas region of the Kyrgyz Republic, border regions of Kazakhstan, Uzbekistan, Tajikistan

Markets sales:

- Kyrgyzstan - 60%
- Kazakhstan - 30%
- Uzbekistan - 10%

Market Review:

The main players in the market (including foreign manufacturers):

- Kant cement factory (Kyrgyz Republic)
- Taraz cement plant (Kazakhstan)

Project cost: USD 5 million

Estimated basic investment costs (in USD)

Technique and equipment.	10.0 million
Raw materials and supplies	3.0 million
Wage	2.5 million
Total:	15.5 million

TOBACCO-FERMENTATION PLANT

Brief information: The enterprise is currently operational and ferments tobacco. 90.4% of the shares of "Kyzyl-Kiya TFP" are owned by the state. The production area is 67500 sq.m. Processing capacity is 20 thousand tons.

Initiator: Cabinet of Ministers of the Kyrgyz Republic

Key project facts: On the basis of "Kyzyl-Kiya TFP" the following activities are planned to be established:

- Fermentation of tobacco leaf;
- Construction of a TLC, as well as the production of canned fruits and vegetables.

Project cost: USD 10 million

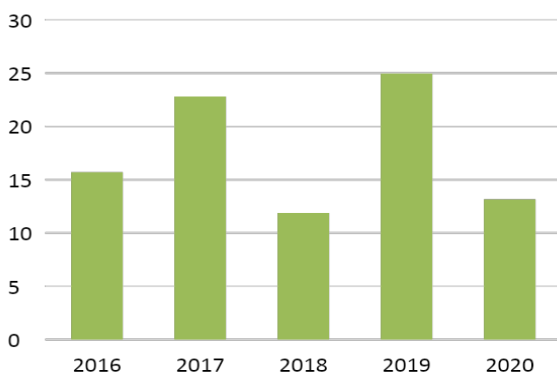
Available assets:

- The area of "Kyzyl-Kiya TFP" is 13.47 hectares
- The area of production facilities - 7.0 hectares
- Water intake structure – 1.5 hectares
- Equipment

Product sales markets (marketing plan)

- In 2020, Kyrgyzstan exported tobacco products worth \$ 13.2 million. The two main importers of this product are China (\$11.7 million) and Afghanistan (\$419 thousand).
- Italy (\$308 thousand), Russia (\$247 thousand), Vietnam (\$223 thousand), Tajikistan (\$139 thousand), the United Arab Emirates (\$100 thousand) are buying in small batches.
- Kyrgyzstan has the potential to increase exports to the Arabian Gulf countries, Pakistan and India, as their markets represents a huge number of consumers.

Export of tobacco products from Kyrgyz Republic



Tobacco production (million som)



CONSTRUCTION OF AN INNOVATIVE GREENHOUSE

Brief information: Objective of the project is a creation of innovative greenhouses using a unique assembly technology, heating and growing crops with increased yields.

Initiator: AKKORDA LLC

Cost project: USD 120 million

Project implementation plan:

- Construction of a greenhouse with complex engineering and technological equipment;
- Acquisition and delivery basic and auxiliary materials for production;
- Dislocation, recruitment and training of personnel;
- Start of production.

Benefits the project:

- Use of innovative technology
- Ensuring high quality products
- Comparatively low price level
- Implementation of programs to stimulate demand

Indicators of investment efficiency

Net present value (NPV), thousand dollars.	125 000
Internal norm profitability (IRR),%	22
Discounted payback period of the project, years	5.9
Profitability assets, %	22
Term payback, years	10
Net discounted income, thousand USD	264,000



TOURISM



ALAYKU: DEVELOPMENT OF A TOURIST CLUSTER

Brief information:

Eco-farm Alayku needs to expand its activities by creating new business units such as the organization of a trout farm, a swimming pool with a sauna.

Initiator: LLC "Alayku"

Key facts

Location: Osh region

Project cost: USD 7,33 million

- Eco-farm "Alaiku" is located on **2 hectares** and at an altitude of 2100 meters.
- Hotel with rooms for up to 20 tourists, connected to all sources of housing and communal services infrastructure: sewerage, hot water, electricity and heating.
- 4 yurts with all the conveniences for collaboration (coworking) and residence.
- Mini-dairy shop that produces ecologically clean national products such as: kurut, kymyz and cheeses in assortment.

Initiator plans to purchase 4 comfortable SUVs,

2 minivans (Mercedes Benz) and **2 helicopters** Airbus H125

Marketing Activity Concept:

It is planned to provide tourism services in the form of travel vouchers and packages, which implies the possibility of serving foreign tourists "from airport to airport." In other words, the package includes meeting tourists at the airport, accommodation in a boutique hotel in Osh city on the territory of an existing enterprise / office, from where flights will be made to eco-farms "Alayku". Also, the package will include hotel services, restaurant services, swimming pool, spa services, sport fishing and accompanying the guest to the airport for departure.



RECONSTRUCTION OF TOO ASHUU SKI BASE

Brief information

The Ski base is located on the southern slope of the Too Ashuu passage, 130 kilometers from the Bishkek city limits, 2 hours by car along the Bishkek-Osh highway. Ski base "Too Ashuu" is located at an altitude of 3000 meters above sea level, which contributes to an early start to the season and a late end.

Too Ashuu ski base equipped with 3 tracks of various difficulty levels and lengths: length 2 km 600 m - angle of inclination 32 degrees; length 2 km 800 m - angle of inclination 30 degrees; length 5 km - inclination angle 19 degrees

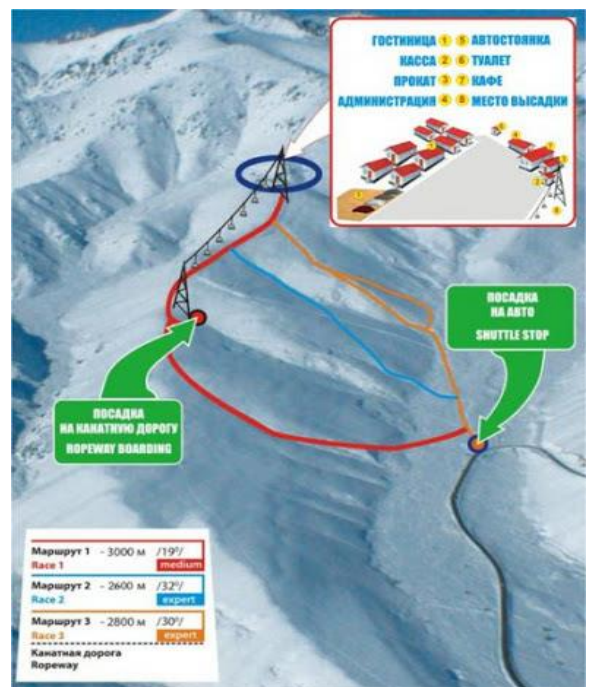
Project cost: USD 3 million

Key project facts

Perfect natural conditions - 6 months of natural snow cover. The height of the snow cover during the skiing season is 1.5 m. The winter is warm with light frost. The average annual air temperature is -3.6°C . The average temperature of the ski season (October - April) is -9.3°C . The snow cover reaches a thickness of 1.5 - 2 m.

The difference in height is from 450 to 750 meters.

The highest skiing point is 3000 m.



RESORT "ISSYK-KUL AURORA"

Brief information

The reconstruction and modernization program contains several stages: reconstruction and modernization of the main building, treatment block, kitchen, dining room, restaurants with replacement of equipment, furniture, interior change, construction of a sports complex with a stadium and running tracks, re-equipment of the beach area with installation aqua-park, reconstruction of access roads, roads, sidewalks, modernization of the irrigation system, landscape design of the park, construction of one, two and three-storey cottages of seasonal and year-round operation

Location

Issyk-Kul region, Bulan-Sogottu village

Project cost: USD 60 million

Objectives of the project

Implementation will increase the level of development of the tourism industry, social, cultural and economic factors and the external attractiveness of the country that receives foreign tourists and develops external tourism.





CONSTRUCTION OF A BRIDGE THROUGH THE TOKTOGUL RESERVOIR

Brief information: This commercial and cost-effective project was initiated due to the presence of a large traffic flow of vehicles by passing Toktogul reservoir. The implementation of the project will reduce the distance by 75 - 80 km.

Initiator: LLC "Prom-Trans-Oil"

Key facts the project: The payback of the project is ensured by the collection of a toll on the bridge by motor transport. It also provides for the construction of 2 roadside service zones and the installation of 2 toll collection points.

Implementation of the project "Construction of a bridge over Toktogul reservoir" will reduce the length of the Bishkek-Osh road by 75-80 km, and also has a number of other advantages:

- saving fuel and resource of automotive equipment;
- saving time for drivers and passengers;
- improving the environmental situation by reducing exhaust emissions;
- improving the infrastructure of the country and the region, as well as creating jobs.

Project cost: USD 200 million

Calculation of the project payback:

It is expected that approximately 50% of the total number of currently passing cars will travel through the bridge, which is 8,000 cars per day, 240,000 cars per month and about 3 million cars per year;

The fare for cars for the usage of the bridge will be as follows:

- over 10 tons - USD 15;
- 5 to 10 tons - USD 12;
- 3 to 5 tons - USD 10;
- up to 3 tons - USD 7;

In total, in one year, tolls for crossing the bridge will collect USD 20-22 million.

Payback period is approximately 10 years.

RECONSTRUCTION OF KEREMET RESORT IN ISSYK-KUL

Brief information

Boarding house "Keremet" situated on north coast Issyk-Kul lake in the village Bosteri 9 km away from Cholpon-Ata city. Construction site situated on the territory of the boarding house Keremet".

Initiator: Baytur LLC.

Corporation "Baytur» includes the following businesses:

- Production building materials - "Baytur Building";
- Implementation exclusive furniture accessories from Europe - EMF "Europe";
- Production high-class cabinet furniture - "Baytur-Furniture";
- Ski base "Too-Ashuu";
- Bath and recreation complex "Baytur"- SPA complex, recreation and health care center;
- "Aphrodite" - an elite ladies' SPA complex and beauty salon;
- "Apollon"- elite men's SPA complex.

Prerequisites for project implementation

The reason emergence of the market potential of the project appeared the circumstance what despite the functioning of dozens of boarding houses on Issyk Kul, only 6-7 out of them work all year round, due to the provision of services wellness procedures. For the republic with a population of 6.2 million people, such a number of wellness hospitals in Issyk-Kul is insufficient.

Work performed

Since 2015, on a land plot with an area of 6.6 hectares (the land plot has a beach zone) the construction of a new boarding house-sanatorium has begun. Currently completed construction of cottages and boarding house infrastructure. Forfull implementation the project needs completion of construction 4-storey hotel, holding finishing works, connection of infrastructure communications.

Project cost: USD 2 million

CREATION OF THE SCIENTIFIC CLINICAL AND REHABILITATION HIGH-MOUNTAIN CENTER

Brief information:

Construction of the scientific clinical and rehabilitation high-altitude center of Kyrgyz State Medical Academy (KSMA) named after I.K.Akhunbaev

Project cost: USD 2.2 billion

Initiator: KSMA named after I.K. Akhunbaev

Project Key Facts:

- 100-bed project;
- Training and specialization of medical staff;
- Scientific clinical rehabilitative alpine center is projected on Too-Ashu to improve the health of the population of the Kyrgyz Republic and foreign countries in the high-mountain hospital and the development of new scientifically grounded climatic-ecological methods of treating bronchial asthma, hypoplastic and iron-deficient anemia, chronic leukemia, hypertension, obesity, neurocirculatory dystonia, primary thyrotoxicosis, toxic goiter, oncological diffuse diseases, rheumatological diseases, endocrine diseases, etc.

Markets

Kyrgyzstan and foreign countries

Types of activities:

- Medical management (organization of medical care);
 - compulsory medical activity (state measures for mobilization training, civil defense and emergency medical service (MES) in emergency situations);
- Organization of donation among people living in high mountains and having a high level erythropoietin and erythrocytes for blood transfusion to patients with anemia and athletes;
- Scientific research to study the influence of high mountains on the body of animals and humans - healthy and with diseases;
- Approbation and implementation of new medical technologies in high altitude conditions and etc.