BIO-COMPLEX ALEYSK SUGAR FACTORY
**Resume of the project**

**V.32**

### Brief information about the project initiator (the company)

| Name of the investment project: | «BIO-complex Aleysk sugar factory» |
| Company name: | Aleysk Sugar Factory [www.altaysahar.ru](http://www.altaysahar.ru) |
| Owner of the company: | General Director Krylov Andrey |
| Contact: | Assistant director Zaytseva Valentina |
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| E-mail: | com@altaysahar.ru |

**Brief description of the company at the moment:**
Renovations are taking place at the factory, removal and disposal of old equipment. Demolition of dilapidated buildings. The property is leased.

**History of the company:**
Aleysk Sugar Factory was built in the suburbs of Aleysk city in 1932. Sugar production was carried out until 2009. In 2013, it was purchased from the auction on bankruptcy by the new owner.

**Implemented and Current projects:**
- The project «Barnaul treating plant» [www.shpala.ru](http://www.shpala.ru)

### Available property

**The plant property involved in the project:**
- Fenced area of 20 hectares, adjacent to the transportation,
- Office building with dining area of 1.5 thousand sq.m,
- Concrete ground for the storage of raw materials, about 3 000 sq.m,
- Tanks for the storage of fuel oil, the amount of 12 thousand tons,
- CHP building area of 2.8 thousand sq.m,
- Other storage and ancillary buildings (possibly for use as temporary support structures for the period of reconstruction) - 5 thousand. sq.m,
- Fields filtration - 66 hectares,
- Septic tank for water - 8 hectares,
- The building of the railway station,
- Shunting locomotives TGM4A,
- Train snowthrower,
- Tower crane -405.1A.

**Availability of communications:**
- Two high-voltage transmission lines from the head substation
- Railroad tracks with internal interchanges and unloading ramps - 2.5 km.

**Resources provision:**
- Sources of industrial water - river Aley. Water intake is 350 meters from the plant.
- Sources of drinking water - the aquifer at a depth of 150 m below the borehole at the plant.

### Main activity
### Processing volume: (per year)
- 2 million tons of sugar beet,
- 120 000 tons of raw sugar,
- 100 000 tons of limestone
- 52 000 tons of conventional fuel.

### Production volume: (per year)
(first stage of the project)
- 400 000 tons of sugar,
- 150 000 tons of animal feed,
- 7 000 tons of betaine.

### Geography of production and marketing:
Siberian Federal District of Russia, Russia, Kazakhstan, Mongolia.

### Industry description of the project

#### Brief information about the state of the industry in the country of implementation:
There are 76 active sugar mills in Russia (as of 2014.). Most plants with old worn-out equipment. In this case, the plants are low-capacity and with high cost of finished products. 74 factories are located in the European part of Russia and compete for raw materials. And only one sugar beet factory locates beyond the Ural, in the Altai region with a rich source of raw materials and markets, limited only by its own performance. Another raw plant is located in the Primorsky Territory. Only the minimum number of plants in Russia has the ability to produce high quality sugar ICUMSA- 35.

#### Brief information about the state of the industry at the regional level:
Until recently there were three low-capacity, low-profit sugar factories in the Altai region. Cheremnovsky sugar factory capacity gradually increased, allowing him to be competitive. Aleysk and Biysk sugar factories were shut down due to the depreciation of old equipment and unprofitable production.

In this case, with the progress of cultivation technologies, sugar beet harvest in the Altai region has increased for more than 5 times and continues to grow, and in the autumn 2014 it was about 330 kg / ha, and the record up to 600 kg / ha. Economy of the region are interested to cultivate sugar beet, as this high-yield agricultural culture.

The nearest to the project region sugar beet area is located at a distance of 2000 km. This cause preferential warranty sales market capacity of 1-2 million tons of sugar: to the Siberian region of Russia, Kazakhstan, Mongolia and China.

### Proportion of the economically active population in the region:
65 %

### Description of the project

#### Organizations involved in the financing of the investment project:
- «Aleysk sugar factory» JSC,
- "Jilishnaya initsiativa" Ltd.,
- "Research and Technology Center Galex" Ltd.,
- "VENDOR" Ltd. General COAIRE Compressor distributor in Russia,
- «Siberian building company» Ltd.

#### Brief and clear description of the business idea:
Reconstruction of Aleysk sugar factory to the agricultural processing BIO-complex, associated with internally integrated auxiliary innovative Bio-industries working on a year-round scheme.
### The goal of the project:
- Creating profitable agricultural processing BIO-complex,
- Stimulation of agriculture production development in Altay region.

### What is the social significance of the project:
- Reduction in the overall market prices for sugar and food the Siberian Federal District,
- Guaranteed supply of the adjacent village with heat, gas, water, sewage,
- The creation of 350 jobs,
- Disposal of Aleysk city from status of single-industry towns.

### The contribution of the investment project to the achievement of Industrial strategies, the regional development strategy and targets of state programs of the Russian Federation:
- The project meets the priority areas of agro-industrial complex of the Altay Territory,
- Contributes to the diversification Aleysk city monoprofile,
- Issuing of import-substituting products.

### Demand assessment:
Commodity market of project production begins in the Ural and ends in the Far North regions, Far East and Kamchatka. Sugar consumption in Russia is 36 kg per capita. The number of residents in the area of 30 million people. Estimated demand for sugar about 1 mln. tons. The capacity of only working in the Altay region Cheremnovsky sugar factory ranges annually within 65-75 thousand tons, which is clearly not enough to cover all needs.

### Innovativeness of the project:
- Integration of related to sugar factory productions on a single material and technical base, with a single power structure as part of a single processing complex,
- Molasses desugarization to increase the yield of sugar,
- Production of technical betaine from molasses,
- Project consumption of conventional fuel reduced to 2.6% of the tonnage of beet.

### The main technical solutions during the project realization:
In the project there will be implemented effective modern technology of sugar beet and sugar cane production, based on the best practices of leading enterprises in the world. The main innovations are areas of resource management, quality management, cost of technology and costs of labor.

### Competitive advantages of the project:
1. Distance of the region for more than two thousand km from the main Russian sugar factories.
2. The presence of a sufficient resource base for raw materials.
3. Low, relative to competitors price-components (wages, raw materials, electric power, fuel),
4. Increase productivity up to 10 000 tons of beets per day, in the run up to 12 000 tons per day will significantly increase the profitability of sugar production relatively to low-capacity plants,
5. Quality of sugar to be issued will correspond ICUMSA-(20-45), unattainable for most of its competitors,
6. Full automation of the modern new production reduce the risk of poor quality products and unplanned production downtime,
7. Availability of raw schemes in the project will load the factory and its tolling of raw sugar in the off-season (March to July) that is inaccessible to most sugar mills,
8. Unlimited access to water resources and recycling water use will be an advantage over the other restrictions for water in southern European region for sugar factories,
9. The project provides sufficient storage capacity of finished products (sugar, molasses, and granulated sugar...
beet pulp) not less than 2/3 of the volume which are expected to be produced in the beet season. Many sugar plants do not have warehouses, and in the season forced to sell sugar processing acceleration at low prices. Silos for bulk storage of sugar per 100 000 tones will be built for the first time in Russia, which significantly reduce the cost of sugar storage, its quality and safety.

10. Modern dispensers of bags for 50 kg, 25 kg and 10 kg on retail packaging line of sugar to 1 kg with group packing, palletization and appropriate storage system, transshipment, provide flexible policy sales.

11. Own CHP generating electric power and steam provides an advantage over other sugar factories working on external energy resources,

12. Existing rail access reduces costs for raw materials and shipment of sugar to the remote regions,

13. The sugar factory in the complex with workshop for production of betaine, bio-humus, cattle feed plant will provide increased stability and market independence,

14. The climatic conditions of the Altai Territory will increase the sugar beet processing season to 140-150 days, thus increasing the number of products by 40-50%.

15. The geographical position of the Aleysk sugar factory reliably protects the transport component from the risks of Russia's entry into the WTO, and the gradual decline of fees level of protection against imports of sugar and sugar-containing products on the planned sales to markets after 2020,

16. The favorable geographical location relative to other sugar factories provide indisputable advantage in the export of sugar to Kazakhstan, Mongolia, China, and supplies into the territory of Siberia and the Far East.

Stages of project realization:

Created objects:
(I stage of the project)
1. Sugar beet plant
2. Facility for raw sugar processing,
3. Facility for animal feed production,
4. Manufacturing facility for technical betaine.

(II stage of the project)
1. Dairy Farm for 3600 heads with young's, will use animal feed from the factory,
2. Bio-gas plant, thermal power station to supply sugar factory, will work on dairy farm waste,
3. The site for the production of Bio-humus,

(III stage of the project)
1. Vegetable greenhouse, an area of 10 hectares,

Government Policy

Government support programs:
• The state program of agricultural development and regulation of agricultural products, raw materials and food for 2013 - 2020 years
• Support program for investment projects implemented on the territory of the Russian Federation on the basis of project financing,
• The state program of the Altai Territory "Economic development and innovative economy" on 2015-2020,
• The Branch target program "Development of Russian sugar beet sub complex for 2013-2015,
• The State Program of Altai Region "Development of small towns of the Altai Territory" for the period up to 2020,
• The Departmental target program "Development of dairy farming in the Altai Region" for 2013-2015 and for the period up to 2020.
## Project cost

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design and development works:</td>
<td>5 mln. Euro</td>
</tr>
<tr>
<td>In the construction of buildings:</td>
<td>88 mln. Euro</td>
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<tr>
<td>Infrastructure:</td>
<td>Not required</td>
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<tr>
<td>Equipment:</td>
<td>121 mln. Euro</td>
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<tr>
<td>Other expenses:</td>
<td>12 mln. Euro</td>
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<tr>
<td>Fees, taxes:</td>
<td>Not subjected to</td>
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<tr>
<td>Working assets:</td>
<td>73 mln. Euro</td>
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</tbody>
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## Expected sources of funding

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
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</thead>
<tbody>
<tr>
<td>Own capital:</td>
<td>10 mln. Euro</td>
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<tr>
<td>Need for investment capital:</td>
<td>50 mln. Euro</td>
</tr>
<tr>
<td>Required volume of debt capital:</td>
<td>239 mln. Euro</td>
</tr>
<tr>
<td>Project cost:</td>
<td>299 mln. Euro</td>
</tr>
<tr>
<td>Funding:</td>
<td></td>
</tr>
<tr>
<td>3% own funds of &quot;Aleysk Sugar Factory&quot;</td>
<td></td>
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<tr>
<td>17% investment capital</td>
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<tr>
<td>80% loan funds</td>
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## Terms of investment project realization

<table>
<thead>
<tr>
<th>Description</th>
<th>Duration</th>
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<tbody>
<tr>
<td>Design phase:</td>
<td>1 years.</td>
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<tr>
<td>Construction phase:</td>
<td>2 years.</td>
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<tr>
<td>Achieving of designed capacity:</td>
<td>2 years.</td>
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<td>The life of the plant:</td>
<td>30 years.</td>
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</table>

## Financial indicators of the project

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Value</th>
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</thead>
<tbody>
<tr>
<td>Discount rate and a brief justification (R):</td>
<td>17,99 %</td>
</tr>
<tr>
<td>NPV for 15 years:</td>
<td>860 mln. EUR</td>
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<td>IRR:</td>
<td>29 %</td>
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<td>PI:</td>
<td>2,88</td>
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<td>MIRR:</td>
<td>25 %</td>
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<td>DDP:</td>
<td>9 years</td>
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<tr>
<td>EBITDA</td>
<td>145 mln. EUR</td>
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<tr>
<td>EBIT</td>
<td>129 mln. EUR</td>
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<tr>
<td>EBT</td>
<td>110 mln. EUR</td>
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Risks affecting the implementation of the investment project:

a) Technological risks,
b) Institutional and managerial risks,
c) Risks of logistical support,
d) Financial risks,
e) Liquidity risks,
f) Tax risks,
g) Environmental risks.
The risks are included into the discount rate.

Signed agreements of intentions about the project:

- For the engineering project with leading German engineering company in sugar industry,
- For factory building with Russian companies,
- For fuel, limestone and other raw materials supply,
- For delivery and putting into operation boiler, laboratory, pump, power, ventilation, weighing equipment, etc.
- Intentions with the local farmers for sugar beet supply,
- For provision of rail and road transport,

Responsible Executive:

Aleysk sugar factory
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