INVESTMENT GUIDE BOOK
OF THE SAKHA REPUBLIC (YAKUTIA)

Yakutsk 2011
«... Nowadays the solution of numerous long-term tasks depends on development of the Russian Far East. And these tasks are of crucial importance for our country».

(Dmitry Medvedev, President of the Russian Federation)

«...The Sakha Republic (Yakutia) is the largest constituent entity of the Russian Federation and one of its richest depositories of resources. Naturally, sustainable and dynamic development of Yakutia is of key importance for both the Far Eastern District and Russia on whole...»

(Vladimir Putin, Chairman of the Russian Federation Government)

«Our republic has everything to create a better life – abundant natural resources, long-term strategic action plans, sustainable social development, positive natural increase pattern, high educational level of the population, relatively young and economically proactive labor force …»

(Yegor Borisov, President of the Sakha Republic (Yakutia))
Yakutia in Figures

Yakutia lies in the north-eastern part of Asia stretching 2,000 km north-south and 2,500 km east-west. The area of 3,102 thousand square kilometers covers one fifth of the total area of Russia and is equal to 2/3 of Western Europe’s territory. Over 40% of Yakutia lies beyond the Arctic Circle. It spans three time zones (UTC +9, +10, +11). Yakutsk, the capital of the republic, is 8,468 km away from Moscow.

Yakutia has borders with seven entities of the Russian Federation:
- on the west — Krasnoyarsk Krai,
- on the south-west and south — Irkutsk Oblast and Amur Oblast, Zabaikalsky Krai,
- on the south-east — Khabarovsk Krai,
- on the east — Magadan Oblast and Chukotka Autonomous District.

The state authority is executed by President, the State Assembly (Il Tyumen), the Constitution and Supreme Courts.
The supreme legislative body is the State Assembly (Il Tyumen).
The supreme executive body is Government of the Sakha Republic (Yakutia).
The highest executive official and head of the Sakha Republic (Yakutia) is President of the Sakha Republic (Yakutia).

The republic comprises 35 administrative territorial units: 34 uluses (regions) and the city of Yakutsk. As of 1 January 2010, there are 445 municipal units, 2 urban districts and 409 urban and rural settlements.

All-Russian 2002 Census registered the population at 948.1 thousand people, including urban population making 64.2% and rural population – 35.8%. The republic is home to 126 nationalities, including the Yakuts – 45.5%; Russians – 41.2%; Ukrainians – 3.6%; Evenks – 1.9%; and Evens- 1.2%. The population density in the republic makes 0.3 people per sq.km.

Yakutia enjoys the variety of natural conditions: its continental climate shows up in the air temperature fluctuation range reaching 100 degrees Centigrade. The republic is home to the pole of Cold of the northern hemisphere, with the lowest temperature registered at 71.2 degrees C.

There are about 700 thousand rivers and 800 thousand lakes in Yakutia. The Lena River flows through the entire territory of the republic; it is the tenth greatest river in the world. Other large rivers are the Indigirka, Yana, and Kolyma. Waters contain richest reserves of fish – about 90 valuable species.

72% of the republic’s territory is covered by taiga, the rest – by forest-tundra, tundra, and the Arctic desert.
Social and Economic Situation

Natural resources
Almost the entire territory of Yakutia is situated in the permafrost area. Nature in Yakutia boasts great variety: valleys and mountains, Arctic deserts and tundra, forest-tundra and vast steppes, green meadows and wetlands, coniferous taiga, mixed forests and birch-tree woods, high-altitude glaciers and plateau, as well as unusual for this latitude sand deserts with dunes. Yakutia has preserved many places of pristine nature. This unparalleled environment is home for rare animal and bird species.

There are over 700 thousand rivers, which exceed 10 km, flowing in the republic, with 314 of them being over 100 km long. The Kolyma, Indigirka and the Lena River's major tributaries – Olyokma, Aldan and Vilyui – surpass almost all the European rivers, including the Rhine and Elba, by their length and water volume.

The Lena River, the republic's major waterway, is among the ten greatest rivers of the world. There are over 800 thousand lakes with water surface exceeding 1 ha each. Most of the territory is covered with forests. The forest fund of the republic makes 255 m ha, or 56.1% of the total area.

The Sakha Republic (Yakutia) ranks first in the Russian Federation by total reserves of natural resources. Its raw material potential is estimated at RUR 78.4 trillion. Yakutia’s share in the world reserves is as follows: diamonds – 35%; tin – 5%; antimony – 4.5%; uranium – 6%; and iron ore – 2%.

Yakutia accounts for 47% of proven coal reserves, 35% of natural gas and oil in Eastern Siberia and the Russian Far East; and 22% of hydro resources in Russia.

Forests cover 47% of the territory, making up 11% of all-Russia reserves.

Economy structure
The economy is based on export-oriented industry connected with development of abundant natural resources. GRP is also influenced by construction, commerce, transport and communications, agriculture, and services.

Industrial production mostly depends on non-ferrous metallurgy (mining of diamonds, gold, tin, and antimony), as well as fuel and energy complex (coal mining, oil and gas production, electric power engineering). They account for over 70% in the total volume of Yakutia’s own production.

Major economic parameters trend
Over the period from 2005 to 2010, the social and economic situation in the republic was marked by the real growth of major macroeconomic parameters: gross regional product (116.2% in 2010 against 2005 level), transport cargo turnover (102.9%), commodity circulation (132.7%), fee-based services rendered to the population (128.6%).
The following agricultural industries remain traditional for people in the Sakha Republic (Yakutia): beef and milk cattle breeding, droving horse-breeding for meat, reindeer herding, and farming. In the northern areas people practice hunting, trapping, fishery, and fur farming. Due to the large share of rural population in the republic (35.8%), the government takes numerous measures to support agriculture.

**Investments into fixed capital**

The period 2005-2010 witnessed implementation of several large-scale investment projects of great significance for Yakutia and the entire Russia, as well.

Growing investment activity stems from strategic investments of major Russian companies into the republic’s economy – construction of Eastern Siberia – Pacific Ocean oil pipeline through the territory of the republic; construction of underground diamond mines, Talakan and Alinsky oil and gas fields, Elga coal deposit, construction of railway line Berkakit – Tommot – Yakutsk and others.

The Sakha Republic (Yakutia) is introducing production of innovative products. In September 2010, there was launched a basalt materials plant in the town of Pokrovsk. To date, the Pokrovsk basalt material plant has produced 11,027 cubic meters of insulating slabs. The plant materials, being equal in quality with those brought from outside the republic, are cheaper. In 2011, the monthly production will amount to 5 thousand cubic meters of basalt slabs, thus bringing the plant's annual yield to 55-60 thousand cubic meters. All the volume will be used by the republic’s construction industry.

Under agreement on strategic partnership in introduction of lighting systems, based on super-bright light diodes manufactured in Russia, in the city of Yakutsk, there is a project on launching a facility assembling and producing light diode equipment. It will be first welcomed by the northern regions of the republic. In near future, the plant's production will be supplied to the Russian Far East, as well.

**Population revenues and labor forces**

The republic is solving urgent social tasks. The real revenues of the population rose by 23.5% within the 2005 — 2010 period.

Economically productive population amounts to 490.8 thousand people, or 51.7% of the total population of the republic, with 447.4 thousand people employed in the economy.

Education employs about 19.2% of the total number of labor force, mining of natural resources – 9.6%, medical care – 10.5%, transport and communications – 9.1%, power engineering and housing sector – 7.9%, construction – 5.3%, processing – 4.1%, agriculture – 3%. The average age of the employed is 39.5. The majority of employees (24%) have higher professional education; vocational education – 26.7%, and secondary education – 24.7%.
By the Russian President commission, the Sakha Republic (Yakutia) has developed the Scheme of integrated development of labor forces, transport and power industry in the Sakha Republic (Yakutia) till the year 2020. The scheme outlines strategic priorities and directions aimed at effective use of unique raw material potential of the republic.

All the major investment projects are included into the Strategy of social and economic development of the Russian Far East and Baikal area till the year 2025.

Today Yakutia ranks fifth in the Russian Federation by GRP per capita parameter and is one of the leading entities in investment activity in the Russian Far East; in 2007-2009 the republic attracted investments into fixed capital in amount of RUR 500.8 billion with real growth by 2.7 times against the year 2006. As for human development index, the Sakha Republic (Yakutia) ranks 15th in the Russian Federation.

Due to the sustainable social and economic development, international rating agencies increase the credit rating of the republic regularly. In October 2010 Fitch Ratings confirmed long-term ratings of the Sakha Republic (Yakutia) in foreign and national currency at “BB” level, with the short-term rating of the region on foreign currency at “B”. Also, the agency confirmed the republic’s long-term national rating “AA-(rus)” level. The forecast for all long-term ratings is amended to “Positive”.

In September 2010 Standard & Poor’s changed the republic’s forecast from “Stable” to “Positive”, and confirmed the republic’s long-term credit rating at “BB-“ level and the national scale rating at “ruAA-“ level.

The Sakha Republic (Yakutia) is one of the leaders of the Russian Federation by both the number of investment projects to be implemented on its territory and the volume of investments.

Creating favorable and stable investment climate is one of the major aims of the Sakha Government. Priorities include enhancement of transport and power infrastructure of the republic, hydro and heat generation of power for exploitation of natural resources in the economy.

In accordance with the Scheme of integrated development of labor forces, transport and power industry in the Sakha Republic (Yakutia) till the year 2020, the republic is constructing a railway to the city of Yakutsk with a bridge across the Lena River; in future it is expected to reach the border with Magadan Oblast.

The republic is creating all-year-round network of federal and republic’s motorways with the major logistic hub in the city of Yakutsk; it is also modernizing the river fleet. There is a plan to connect central, western and southern parts of the republic by power transmission lines, to construct economical power stations.

As a result of these changes in infrastructure, by the year 2020 weight-average cost of bringing one ton of cargo to the regions of the republic would halve and the power tariffs would equal with the average all-Russian level.

In accordance with order of the Russian Government of 10 March 2009 No. 302-r, there started implementation of the first stage on designing documentation for “Integrated development of Southern Yakutia” investment project. Since the launch of the project, it has received for preparatory and pre-project works RUR 23 billion, including RUR 16.5 billion of private investments, RUR 6.5 billion – from the Investment Fund of the Russian Federation. The project includes the following sites: Kankun hydropower station (OAO “RusHydro”, OAO “Yuzhno-Yakutsky GEK”), Yakutsk Center for gas production (OAO “Gazprom”), Elkonsky mining and smelting plant (OAO “Atomredmetzoloto”, ZAO “Elkonsky GMK”), Inaglynsky coal complex (OOO “Kolmar”, ZAO “Yakutskie ugli – new technologies”), Tarynakh and Tayozhny GOKs (mining and processing plants) (OAO “GMK “Timir”), Seligdar mining and chemical plants (OAO “ALROSA Investment Group”), 150 km of motorways, 1,200 km of power transmission lines and 7 substations, 270 km of...
railways. The project creates conditions for attracting investments into Southern and Western Yakutia, for realization of projects in related industries. Besides, in Southern Yakutia OAO “Mechel” will develop Elga cola deposit with balance reserves at 2.1 billion tons.

A similar cluster approach is applied to a number of other megaprojects:

“Integrated development of Western Yakutia”. This comprehensive investment project includes development of oil and gas fields; construction of pipelines; construction of underground diamond mines; building motorways and power transmission lines connecting Yakutia with Irkutsk Oblast.

The Eastern gas program of the Russian Federation Government includes development of Chayanda-Botuobinskaya group of gas fields and launching Yakutsk gas center. Within the frame of this program Yakutia is planning to supply over 34 billion cubic meters of gas by the year 2020.

“Integrated development of Tomponsky mining industrial region”. With the use of private investments, this project includes development of Nezhdaninskoe gold deposit, Verkhne-Menkechenskoe silver and polymetal deposit, as well as construction of Dzhebariki-Khaya heat power station in the settlement of Khandyga.

Legal instruments stimulating investment activity in the Sakha Republic (Yakutia)

At the present moment, the investment activity in the Sakha Republic (Yakutia) is regulated by the following normative legal acts of the Russian Federation and the Sakha Republic (Yakutia):

- Federal normative acts:
  5. Federal Law of 29 April 2008 No. 57-ФЗ “On procedure of foreign investments into economic entities of strategic importance for defense and national security”;

- The Republic’s normative acts:
  1. The Sakha Republic (Yakutia) Law of 30 May 2006 347-3 No. 709-III “On investment activity in the Sakha Republic (Yakutia);”
  3. The Sakha Republic (Yakutia) Law of 10 July 2003 No. 48-3 No. 97-III “On taxation policy in the Sakha Republic (Yakutia);”
  5. Resolution of the Sakha Republic Government of 30 June 2005 No. 404 “Procedure and terms of forming the united registrar of capital investment objects in the Sakha Republic (Yakutia);”
  6. Resolution of the Sakha Republic Government of 30 June 2005 No. 403 “On establishing criteria for long-term termination of financing investment projects from the state budget of the Sakha Republic (Yakutia).”
Tax incentives. In order to stimulate and modernize water supply and draining the tax benefit has been established for enterprises dealing with withdrawal, treatment and distribution of water and investing capital for these goals.

In order to stimulate investment activity of oil producing enterprises, the republic has lowered the income tax going to the regional budget from 18% to 13.5%, on condition that the capital is invested for development of natural resources.

In order to ensure timely supply of the Far North and other territories with limited access with necessary resources during the navigation period, and to improve financial situation at water transport enterprises, operating sea-river type vessels, the abovementioned enterprises pay lower income tax at the rate of 13.5% and are exempted from corporate property tax.

Due to seasonal nature of their activity, water transport enterprises are exempted from paying the property tax on their property which is conserved or idle; forestry and timber industry enterprises – on their property which is conserved.

Also, enterprises generating electric power with diesel stations in the north are exempted from the property tax if this activity earns over 70% of the total revenues from production (works, services) sale.

In order to support local manufacturing in terms of basic production assets, food industry enterprises pay the benefit property tax at 1.1% rate.

Airports with property worth more than RUR 300 million are also exempted from the property tax. This benefit is aimed at modernizing and reconstructing airport facilities, better working conditions and labor safety.

To support airworthiness of aircarfts, air transport enterprises which perform 50% and more of socially important passenger traffic and are enlisted as such by the Sakha Government, are exempted from paying the property tax.

To prevent higher tariffs for heat energy, there is a tax benefit on property of utilities and communal services organizations receiving subsidies from the budget to compensate losses; besides, enterprises in this sphere enjoy a benefit on the transport tax in relation to their special vehicles.

Like it is granted by the federal legislation, there is a benefit for motorways of public use, both republic’s and municipal.

Given high costs of agriculture, enterprises producing and processing agricultural products are granted some benefits on regional taxes.

There is transport tax benefit for enterprises executing mobilization task, in relation to their vehicles considered as mobilization reserve and mobilization facilities.

In addition, the transport tax is not paid by enterprises financed from the state budget and/or local budgets, in relation to the transport used for public transportation of passengers by motor vehicles (except for taxi). This is designed to prevent growing tariffs for public transportation of passengers by motor vehicles.

Some benefits are granted to certain social groups: the property tax and transport tax are not paid by the republic’s and municipal non-profit disabled people associations and correctional institutions; the property tax is not paid by authorities managing civil defense, protecting population and territories from emergency situations.

In order to lessen the budget burden, property of budget-funded institutions is exempted from taxation to preserve and improve children’s recreation and health care infrastructure; and there is a benefit for non-profit organizations property which is used for recreation, entertainment and involvement of children into various activities.

To support small businesses using the simplified taxation system with taxation target being “revenues and expenses”, the tax rate has been lowered from 15% to 10%.
List of investment projects

Oil and gas production and transportation

<table>
<thead>
<tr>
<th>1. Project name</th>
<th>Development of Chayanda gas condensate field</th>
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<tr>
<td>Location</td>
<td>Lensky region, Sakha Republic (Yakutia)</td>
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<tr>
<td>Project initiator</td>
<td>OAO Gazprom</td>
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<tr>
<td>Project characteristics</td>
<td>Field reserves:</td>
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<td>• natural gas:</td>
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<td>o C₁ – 379.7 b cub.m;</td>
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<td>o C₂ – 861.2 b cub.m;</td>
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<td>• gas condensate:</td>
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<td>o C₁ – 6088/5732 ths t;</td>
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<td>o C₁ – 165/42.5 m t;</td>
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<td>o C₂ – 32.6/7 m t.</td>
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</tbody>
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Construction of Chayanda oil and gas condensate field:

11. construction of the field oil fringe (beginning of oil production - 2014):
   1) construction of a pipeline from the field to the Eastern Siberia – the Pacific Ocean (ESPO) system;

12. construction of the field gas pool (beginning of gas production - 2016):
   1) construction of a trunk pipeline Chayanda - Khabarovsk;
   2) construction of gas processing and gas-chemical facilities for extraction of gas valuable components.

Volume of gas and oil production at the field, system of oil and gas external transportation form the field, distribution and capacity of gas processing and gas-chemical facilities will be determined by “Justification of investments into construction of Chayanda field, transport and gas processing” (to be complete by July 2011).

Volume of investment
RUR 112,500 m in 2006 prices ($4,136.02 m) (to be reviewed in accordance with “Justification of investments into construction of Chayanda field, transport and gas processing”)

Infrastructure available
At Talakan field (immediate vicinity from Chayanda field), there is a gas-turbine power station of OAO Surgutneftegaz. Its capacity may be used for power supply of industrial facilities at Chayanda field.
There is a concrete-covered motorway from river berths in settlements of Vitim and Peledui to Talakan field (which is very close to Chayanda field), also owned by OAO Surgutneftegaz.

Options for Chayanda-Khabarovsk trunk pipeline route:

7. Option 1 – Chayanda – Lensk – Olyokmons – Aldan – Berkakit – Tynda – Skvorodino – Blagoveshenck – Khabarovsk (along the ESPO);

Electric power is supplied to Lensky region via two HV-100 kV power
transmission lines Mirny - Lensk.
With Option 1 route, there are constructed deposits of common mineral resources (mines); HV-220 kV lines Suntar – Olyokmons and Neryungri HPS – Nizhny Kuranakh – Tommot – Maya; roads along the ESPO.

Infrastructure required

Power supply and transport infrastructure:
- high voltage line 220 kV Chernyshevsky – Mirny – Lensk – Peledui (double-circuit);
- construction and reconstruction of VILYUI federal motorway on route Mirny – Lensk – Peledui – Vitim – Nepa - Ust-Kut;

Cost of project
RUR 112,500 m

Implementation period
Beginning of oil production – 2014
Beginning of gas production – 2016

IRR
No information

NPV
No information

Payback period
Upon results of “Justification of investments into construction of Chayanda filed, transport and gas processing”) (to be complete by July 2011).

Markets
Subjects of the Russian Far East and Asian Pacific countries.

Investor's involvement
100% owned by OAO Gazprom

Project detailedness
The project is under development stage and defining the technical requirements and performance specification; engineering and geological survey under way; drilling of two test boreholes.

CEO of an organization implementing the project
Alexei Borisovich MILLER,
Chairman of the Board, OAO Gazprom

Contacts
117997, Moscow, Nametkina Str., 16
Viktor Petrovich TIMOSHILOV,
Head, Department of Gazprom Eastern Projects Coordination
Tel. +7 (495) 719-30-01 (information desk), fax +7 (495) 719-83-33
e-mail: gazprom@gazprom.ru
http://gazprom.ru/production/projects/deposits/chayandinskoye/

2. Project name
Development of Biryuksky licensed site

Location
Olyokminsny region, Sakha Republic (Yakutia)

Project initiator
OAO Tyumaada-Neft Oil Company

Project characteristics
Project aim: production and selling of oil and natural gas; discovery of new oil and gas fields and their further development.
The site is evaluated as a very promising territory in terms of oil and gas bearing.
The site area is 3,608.7 sq.km. Carbohydrate resources of category D2 within the site amount to: oil (extractable) – 3.5 m t, gas – 40.0 b cub.m. The annual production volume averages to 0.5 m t for oil and 1.6 b cub.m for gas. The reserves density on the site makes from 3-5 to 10-30 ths t of reference carbohydrates per sq. km.
The following works have been done on the site:
- evaluation of the current background level on the territory;
- program on monitoring of the natural environment and subsurface resources condition;
- program on prospecting and evaluation works for the period 2010 – 2015;
- project on seismic survey works.
In accordance with the License Agreement, the following works are to be done within the next 5 years:
- seismic survey works MOIT-2D, at least 1,800 running meters;
- construction of at least three prospecting holes.

The project includes creation of the production well fund; development of the field for production; creation of infrastructure for oil and gas selling.

Volume of investment
RUR 21,500 m in 2011 prices ($733.78 m)

Infrastructure available
The largest settlement within the site territory – town of Olyokminsk, the region's center, with population of 13 thousand people. There is a river port and airport in the town. The major transport way is the Lena River. The distance from the site's northern border to pipelines is: settlement of Tas-Yurekh-town of Mirny – 390 km; Kysyl Syr-Yakutsk – 400 km. The oil pipeline Central Talakan field-settlement of Vitim is 400 km west of the site. The ESPO trunk pipeline runs through the central part of the site. A gas pipeline from Yakutia (Chayanda field) to Khabarovsk will be along the ESPO system. High-voltage power transmission line (HVL 220 kV Suntar – Olyokminsk, Suntar – Olyokminsk – Oil terminal 14 for centralized supply of the town of Olyokminsk and Oil terminal 14 of the ESPO system) runs through the center of the site. The distance to Berkakit – Tommot – Yakutsk (Nizhny Bestyakh) railroad is 340 km. In October-April, transporting of cargo is done by winter motorways. The road along the ESPO system is operated all the year round.

Infrastructure required
Construction of an industrial terminal substation in the town of Olyokminsk.


Cost of project
RUR 21,500 m

Implementation period
Gas pool – 20 years
Oil pool – 7 years

IRR
Estimated at 18-20 %

NPV
No information

Payback period
No information

Markets
1. Domestic market for needs of the housing and communal service sector in the region and neighboring areas.
2. Delivery of oil to the ESPO pipeline and its further transportation to the Russian Far East and Asian Pacific countries.

Investor's involvement
1. Partnership as a strategic partner with a share in charter capital.
2. Project financing.

Project detailedness
Seismic survey has covered 0.12 running km/sq.km of the site. Four deep holes have been drilled. Geological and engineering survey has revealed three oil-bearing complexes: Riphean, Lower Lower Vendian and Lower Cambrian subsalt.

Being developed:
- research report “Environmental study of Biryuksky licensed site” by the Center for fauna assessment and cadastre under the Northern Forum
Academy non-profit partnership; monitoring of the environment and subsurface resources condition at Biryukovsky licensed site by the Center for fauna assessment and cadastre under the Northern Forum Academy non-profit partnership; - prospecting and assessment works for OAO Tuymaada-Neft Oil Company on Biryuksky licensed site by Inno-Tech Research Institution; - seismic prospecting works МОГТ-2Д at Biryuksky licensed site by OAO Yakutskgeofisica; - feasibility study of the project by ООО NIOKR-Service; - audit of oil and gas reserves under international standards by the International Audit Company; - draft project on prospecting holes drilling by OAO TomskNIPIneft.

CEO of an organization implementing the project: Ivan Konstantinovich MAKAROV, General Director, OAO Tyumaada-Neft Oil Company

Contacts: Alexander Innokentievich MATVEEV, Deputy General Director on Gas and Oil Projects
Tel. +7 (4112) 43-35-22
Innokenty Nikolaevich FADEEV, Chief Geologist
cell # +7-914-2-710-861
e-mail: tuymaadaneftegas@mail.ru

3. Project name: Development of Zapadno-Anabarsky (West Anabar) licensed site

Location: Anabarsky National (Dolgan-Even) region at the Laptev Sea coast, the Anabar and Khatanga Rivers interfluve, with the regional center Saskylakh, bordering with Taimyr (Dolgan-Nenets) municipal region of Krasnoyarsk Krai

Project initiator: OAO Tyumaada-Neft Oil Company

Project characteristics
Project aim: production and selling of oil and natural gas from Yuzhno-Tigyatskaya (South Tigyat) area. Discovery of new oil and gas fields and their further development.
The site is evaluated as a very promising territory in terms of oil and gas bearing.
The site area is 1,564 sq.km. Carbohydrate resources of category D1+ D2 within the site amount to: oil – 10.3 m t, gas – 16.3 b cub.m. The annual production volume averages to 1 m t for oil and 1 b cub.m for gas.
The following works have been done on the site:
- evaluation of the current background level on the territory;
- program on monitoring of the natural environment and subsurface resources condition, developed and approved;
- program on prospecting and evaluation works for the period 2008 – 2013, developed and approved;
- project on seismic survey works, developed and underwent expertise.
In accordance with the License Agreement, the following works are to be done within the next 5 years:
- seismic survey works МОГТ-2D, at least 1,000 running meters;
- construction of at least three prospecting holes.
The project includes creation of the production well fund; development of the field for production; creation of infrastructure for oil and gas selling.
Volume of investment

- RUR 38,500 m in 2011 prices ($1,313.99 m)

Infrastructure available

- The site is situated on the Laptev Sea coastal area, between the Anabar and Khatanga Rivers. The closest settlement Yurung-Khaya, with a sea oil terminal and a helicopter landing site, is 80 km away.
- There is a winter motorway for track-type and motor vehicles. Electric power to the settlement of Yurung-Khaya is supplied by a diesel power station owned by OAO Sakhaenergo.
- The regional center Saskylakh, with an airport and a sea port, is 180 km away.
- The settlement of Khatanga, Krasnoyarsk Krai, with a sea port is 250 km up the Khatanga River. The industrial base MAYAT, owned by OAO Almazy Anabara is 250 km up the Anabar River.
- Via the Northern Sea Route, the Khatanga Bay is open for sea vessels.

Infrastructure required

- Sea berth, terminal for storing and loading oil to tankers; industrial facilities.

Cost of project

- RUR 38,500 m

Implementation period

- Gas pool – 12 years
- Oil pool – 10 years

IRR

- Estimated at 15 – 18 %

NPV

- No information

Payback period

- No information

Markets

1. Domestic market for needs of the housing and communal service sector in the region and neighboring areas.
2. Delivery of oil via the Northern Sea Route to European countries (e.g. Rotterdam).
3. Delivery of oil to Asian Pacific countries.

Investor's involvement

1. Partnership as a strategic partner with a share in charter capital.
2. Project financing.

Project detailedness

- Seismic survey started in the late 1930s and went along with the geological mapping. It has covered 566.6 running km of seismic profiles. 17 deep holes have been drilled, with total length of 30,770 m and density of 19.7 m/sq/km.

The document available:

- research report “Environmental study of Zapadny Anabarsky licensed site” by the Institute for Biological Problems of Cryolithozone, Siberian Branch, Russian Academy of Sciences;
- program on monitoring of the environment and subsurface resources condition at Zapadny Anabarsky licensed site by the Institute for Biological Problems of Cryolithozone, Siberian Branch, Russian Academy of Sciences;
- program on prospecting and assessment works for OAO Tuymaada-Neft Oil Company on Zapadny Anabarsky licensed site by OAO Tuymaada-Neft Oil Company;
- project for seismic prospecting works МОГТ-2Д at Zapadny Anabarsky licensed site in the Sakha Republic (Yakutia) by ZAO Novosibneftgazgeophisica.

Being developed:

- feasibility study of the project by OOO NIOKR-Service;
- audit of oil and gas reserves under international standards by the International Audit Company;
- draft project on prospecting holes drilling by OAO TomskNIPIneft.
4. Project name

**Development of Mukhtinsky licensed site**

**Location**
Olyokminsky region, Sakha Republic (Yakutia)

**Project initiator**
OAO Tyumaada-Neft Oil Company

**Project characteristics**
Project aim: production and selling of oil and natural gas; discovery of new oil and gas fields and their further development.

The site is evaluated as a very promising territory in terms of oil and gas bearing. The site area is 3,309.0 sq.km. Carbohydrate resources of category D2 within the site amount to: oil (extractable) – 18.5 m t, gas – 9.2 b cub.m. The annual production volume averages to 1.2 m t for oil and 1.0 b cub.m for gas. The reserves density on the site makes 10-30 ths t of reference carbohydrates per sq. km.

The following works are being done on the site:
- evaluation of the current background level on the territory;
- program on monitoring of the natural environment and subsurface resources condition;
- program on prospecting and evaluation works for the period 2010 – 2015;
- project on seismic survey works.

In accordance with the License Agreement, the following works are to be done within the next 5 years:
- seismic survey works MOFT-2D, at least 1,600 running meters;
- construction of at least three prospecting holes.

The project includes creation of the production well fund; development of the field for production; creation of infrastructure for oil and gas selling.

**Volume of investment**
RUR 27,300 m in 2011 prices ($931.74 m)

**Infrastructure available**
The largest settlement within the site territory – town of Olyokminsk, the region's center, with population of 13 thousand people. There is a river port and airport in the town. The major transport way is the Lena River. The oil pipeline Central Talakan field-settlement of Vitim is 475 km west of the site. The distance from the site's northern border to pipelines is: settlement of Tas-Yurekh-town of Mirny – 390 km; Kysyl Syr-Yakutsk – 400 km; form southern border to the ESPO trunk pipeline – 30-40 km. A gas pipeline from Yakutia (Chayanda field) to Khabarovsk will be along the ESPO system. High-voltage power transmission line 220 kV Suntar – Olyokminsk is 40 km away from the site. The distance to Berkakit – Tommot – Yakutsk (Nizhny Bestyakh) railroad is 340 km. In October-April, transporting of cargo is done by winter motorways. The road along the ESPO system is operated all the year round.

**Infrastructure required**
Construction of an industrial terminal substation in the town of...
### Cost of project
- Olyokminsk.
- RUR 27,300 m

### Implementation period
- **Gas pool**: 7 years
- **Oil pool**: 15 years

### IRR
- Estimated at 20-22%

### NPV
- No information

### Payback period
- No information

### Markets
1. Domestic market for needs of the housing and communal service sector in the region and neighboring areas.
2. Delivery of oil to the ESPO pipeline and its further transportation to the Russian Far East and Asian Pacific countries.

### Investor's involvement
1. Partnership as a strategic partner with a share in charter capital.
2. Project financing.

### Project detailedness
- Seismic survey has covered 0.14 running km/sq.km of the site. Two deep holes have been drilled.
- Being developed:
  - research report “Environmental study of Mukhtinsky licensed site” by the Center for fauna assessment and cadastre under the Northern Forum Academy non-profit partnership;
  - monitoring of the environment and subsurface resources condition at Mukhtinsky licensed site by the Center for fauna assessment and cadastre under the Northern Forum Academy non-profit partnership;
  - prospecting and assessment works for OAO Tuymaada-Neft Oil Company on Mukhtinsky licensed site by Inno-Tech Research Institution;
  - seismic prospecting works МОГТ-2Д at Mukhtinsky licensed site by OAO Yakutskgeophisica;
  - feasibility study of the project by OOO NIOKR-Service;
  - audit of oil and gas reserves under international standards by the International Audit Company;
  - draft project on prospecting holes drilling by OAO TomskNIPIneft.

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### Contacts
- **CEO of an organization implementing the project**
  - Ivan Konstantinovich MAKAROV,
  - General Director, OAO Tuymaada-Neft Oil Company
- **Contacts**
  - Alexander Innokentievich MATVEEV,
  - Deputy General Director on Gas and Oil Projects
  - Innokenty Nikolaevich FADEEV,
  - Chief Geologist
  - Tel. +7 (4112) 43-35-22
  - cell # +7-914-2-710-861
  - e-mail: tuymadaneftegas@mail.ru

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### 5. Project name
**Development of Srednetyungskoe gas condensate field**

### Location
- Srednetyungskoe gas condensate field is situated within Vilyui depression in the middle course of the Tyung River, the left tributary of the Vilyui River. In administrative terms, the site is situated on the territory of Vilyuisky and Verkhne-Vilyuisky regions of the Sakha republic (Yakutia).

### Project initiator
- OAO Sakhatransneftegas
Project characteristics

Aim: creation of transport and electric power infrastructure.

The list of major activities and sites:
- construction of gas production faculties at Srednetyungskoe gas condensate field (STGCF) with capacity of 403 m cub.m a year;
- construction of a trunk pipeline STGCF – Tamalakan, 135.2 km long.

Volume of investment

Total estimated cost of the project (in 2010 prices, including VAT) – RUR 5,106.70 m ($170.22 m), including:
- field development sites – RUR 2,735.50 m;
- STGCF – Tamalakan pipeline – RUR 2,371.20 m.

Infrastructure available

Cargoes are brought by the river transport along the Lena and Vilyui Rivers via the settlement of Kysyl-Syr. Technical cargoes are carried by small river fleet along the Tyung River. The navigation period on the Vilyui River is usually short – June – early July, seldom throughout August.

VILYUI federal motorway and Vilyuisk – Tyung temporary winter road to the field site. Nearest airports – Yakutsk, Vilyuisk, Kysyl-Syr. In summer, most cargoes and people are carried by helicopters.

Teher is a gas production facility near the settlement of Kysyl-Syr. The nearest operating trunk pipeline Kysyl Syr – Tamalakan (Du 300) is situated 135 km from Srednetyungskoe filed. The pipeline transports gas from Srednevilyuiskoe field to Vilyuisky and Verkhne-Vilyuisky regions via HVL 110 kV Mirny – Suntar – Vilyuisk – Verkhnevilyuisky. To enhance electric power infrastructure and increase power volume delivered in this direction, there is being constructed HVL 220 kV Mirny – Suntar – Nyurba. Mirny – Suntar leg has been complete and operates with 220 kV substation in the settlement of Suntar.

Electric power to Vilyuisky and Verkhne-Vilyuisky regions is supplied via HVL 110 kV Mirny – Suntar – Vilyuisk – Verkhnevilyuisky.

Infrastructure required

Cost of project

Estimated cost of the project (in 2010 prices, including VAT) – RUR 5,106.70 m.

Implementation period

2011 – 2013

IRR

12.3%

NPV

RUR 1,542 m

Payback period

Basic payback period 11 years, discounted payback period 23 years

Markets

Central region of the Sakha Republic (Yakutia)

Investor's involvement

100% investor

Project detailedness

Design estimates – available

Business plan - available

CEO of an organization implementing the project

Viktor Ivanovich SAMOILOV,
General Director, OAO Sakhatransneftegaz

Contacts

Yakutsk, Kirova Str., 18, block B

Alexander Vasilievich GOGOLEV,
Deputy General Director, OAO Sakhatransneftegaz

Tel./fax +7 (4112) 42-48-44
e-mail: sakhatransneftegas@mail.ru

6. Project name

Development of Otradinskoe gas condensate field

Location

Otradinskoe gas condensate field is situated in Lensky region of the Sakha Republic (Yakutia) 65 km north-west of the town of Lensk and in proximate vicinity to the united system of gas supply of Eastern Siberia and the Russian Far East.
<table>
<thead>
<tr>
<th>Project initiator</th>
<th>OAO Sakhatransneftegas</th>
</tr>
</thead>
</table>
| Project characteristics | **Aim of the project:** development of Otradninsko GCF and supply of consumers in the town of Lensk, Sakha Republic (Yakutia), with natural gas; increase in natural gas balance reserves and creating conditions for connection to the export gas pipeline, being designed. Stage 1 of the project will result in:
- development of transport and electric power infrastructure, gasification of the town of Lensk;
- increased power and industrial safety of western region of the Sakha Republic (Yakutia).
In middle-term perspective:
- eliminated local nature of the regional gas supply system;
- ensured export of gas;
- achievement of the task to fill the export gas pipeline. |
| Volume of investment | RUR 12,980 m in 2010 prices ($432.66 m) |
| Infrastructure available | Otradninsko gas field is situated 65 km north-west of the town of Lensk, which is the regional center with a number of industrial faculties owned by JSC ALROSA, OAO Lenaneftegaz and others. There is an airport, operating all the year round and able to accept almost all types of cargo planes; a large river port. Materials and equipment are delivered by railway to Lena station, then by water transport along the Lena River to the town of Lensk. From Lensk cargoes are delivered by motor transport along Lensk – Mirny motorway. Electric power supply of Lensky region comes from Western power district of Yakut Power System. |
| Infrastructure required | Not required |
| Cost of project | **Capital investment, RUR m** 12 980  
including  
Prospect drilling 280  
Exploration drilling 1 560  
Reactivation 35  
Production drilling 2 160  
Development 3 960  
Gas pipeline 1 485  
Purchase of OOO Lensk-Gaz 3 500 |
| Implementation period | 2011 – 2015 |
| IRR | 5.0% |
| NPV | RUR — 3,079 m (not considering connecting in 2016) |
| Payback period | Basic payback period 15.5 years, discounted payback period – 29.5 years |
| Markets | Consumers in t. Lensk, gas supply to the United gas supply system of Eastern Siberia and Russian Far East, scheduled for construction. |
| Investor's involvement | Purchase of OOO Lensk-Gaz; the field development to annual production capacity of 1,000 m cub.m. |
| Project detailedness | Stage 1 design estimates (gasification of the town of Lensk) – there is a justification of economic efficiency of developing Otradninsko field resource potential. |
| CEO of an organization implementing the project | Viktor Ivanovich SAMOILOV, General Director, OAO Sakhatransneftegaz |
| Contacts | Yakutsk, Kirova Str., 18, block B  
Alexander Vasilievich GOGOLEV, Deputy General Director, OAO Sakhatransneftegaz |
Tel./fax +7 (4112) 42-48-44
e-mail: sakhatransneftegas@mail.ru
Oil and Gas Processing

### 7. Project name

**Construction of Yakutsk gas processing and gas-chemical complex within Yakut Gas Production Center**

<table>
<thead>
<tr>
<th>Location</th>
<th>Lensky region, Sakha Republic (Yakutia)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project initiator</td>
<td>OAO Gazprom, Government of the Sakha Republic (Yakutia), OAO Southern Yakutia Development Corporation</td>
</tr>
<tr>
<td>Project characteristics</td>
<td>Launching of gas processing enterprises producing synthetic hydrocarbon products (chemical plants). Capital investment for construction of the gas chemical complex are to cover costs of purchasing gas processing equipment, helium liquefaction, ethylene processing, light hydrocarbon wide fractions processing, construction of underground helium storage, stationary installations for liquid helium storage, compressor stations for pumping helium into storage and methane feed from the complex into the trunk. Annual marketable products production volume: methane – 16.9 bn cub.m., helium – 11.6 mn l, polypropylene – 330.0 ths tons, butane – 200.0 ths tons, stable gasoline (fraction C5+) – 110.1 ths tons, low density polyethylene – 295.1 ths tons, high density polyethylene – 177.1 ths tons, low density linear polyethylene – 295.1 ths tons.</td>
</tr>
<tr>
<td>Volume of investment</td>
<td>RUR 35,150 m (reviewed by “Justification of investments into development of Chayanda field, gas transportation and processing” being done by OAO Gazprom, to be complete by July 2011).</td>
</tr>
<tr>
<td>Infrastructure available</td>
<td>At Talakan field (in immediate vicinity to Chayanda GCF) there is a gas turbine station owned by OAO Surgutneftegaz. It is possible to use its facilities for power supply of Chayanda GCF faculties. From river berths in settlements of Vitim and Peledui there is a concrete motorway to Talakan GCF (which is in immediate vicinity to Chayanda field), owned by OAO Surgutneftegaz.</td>
</tr>
<tr>
<td>Infrastructure required</td>
<td>Construction of power and transport infrastructure:</td>
</tr>
<tr>
<td></td>
<td>• HVL 220 kV Chernyshevsky – Mirny – Lensk – Peledui (double circuit);</td>
</tr>
<tr>
<td></td>
<td>• construction and reconstruction of VILYUI federal motorway on route Lensk – Peledui – Vitim – Nepa - Ust-Kut;</td>
</tr>
<tr>
<td></td>
<td>• construction of railway Lena station – Nepa – Vitim – Lensk.</td>
</tr>
<tr>
<td>Cost of project</td>
<td>RUR 35,150 m</td>
</tr>
<tr>
<td>Implementation period</td>
<td>No information</td>
</tr>
<tr>
<td>IRR</td>
<td>23.10%</td>
</tr>
<tr>
<td>NPV</td>
<td>RUR 24,050 m</td>
</tr>
<tr>
<td>Payback period</td>
<td>10 years</td>
</tr>
<tr>
<td>Markets</td>
<td>Responding to growing demand for polymer products in Russia, entering high-capacity polyethylene market on the US Pacific coast and rapidly growing East and South-east Asian markets with bulk deliveries. In long-term perspective, Yakutia could become the largest helium producer and exporter.</td>
</tr>
<tr>
<td>Investor's involvement</td>
<td>100% OAO Gazprom</td>
</tr>
<tr>
<td>Project detailedness</td>
<td>A part of Integrated Development of Southern Yakutia project; feasibility report available. “Justification of investments into development of Chayanda field, gas transportation and processing” (to be complete by July 2011) being worked out.</td>
</tr>
</tbody>
</table>
### 8. Project name

**Construction of Aldan motor fuels plant, a part of Yakut Gas Production Center**

<table>
<thead>
<tr>
<th>Location</th>
<th>Aldansky region, Sakha Republic (Yakutia)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project initiator</td>
<td>OAO Gazprom, Government of the Sakha Republic (Yakutia), OAO Southern Yakutia Development Corporation</td>
</tr>
</tbody>
</table>
| Project characteristics | The motor fuel plant in the town of Aldan would supply Southern Yakutia with motor fuels, and given completion of railway Tommot – Yakutsk in 2012 – central regions of the Sakha Republic (Yakutia) as well. The plant’s production breaks down as follows:

- winter diesel fuel — 368.2 ths t/year;
- gasoline with octane number 80 — 144.2 ths t/year;
- gasoline with octane number 91 — 51.6 ths t/year.

Oil products will be transported to consumers by motor and railway transport all the year round. |
| Volume of investment | RUR 16,570 m (reviewed by “Justification of investments into development of Chayanda field, gas transportation and processing” being done by OAO Gazprom, to be complete by July 2011). |
| Infrastructure available | Developed deposits of common minerals (mines); HVL 220 kV Neryunginskaya HPS – Nizhny Kuranakh – Tommot – Maya; roads along the ESPÓ system; railroad. |
| Infrastructure required | Not required |
| Cost of project | RUR 16,570 m |
| Implementation period | No information |
| IRR | 27.50% |
| NPV | RUR 12,226 m |
| Payback period | 8.3 years |
| Markets | Southern and central regions of the Sakha Republic (Yakutia): transport companies and mining enterprises; electric power generation and agriculture. |
| Investor's involvement | Investors' own funds |
| Project detailedness | A part of Integrated Development of Southern Yakutia project; feasibility report available.

“Justification of investments into development of Chayanda field, gas transportation and processing” (to be complete by July 2011) being worked out. |
| CEO of an organization implementing the project | Alexei Borisovich MILLER, Chairman of the Board, OAO Gazprom, |
9. Project name: Gas processing plant using GTL technology of converting gas into liquid state

- Location: City of Yakutsk
- Project initiator: OAO Yakut Fuel-Energy Company (OAO YaTEK)
- Project characteristics: A plant processing natural gas into motor fuels using GTL technology with capacity at 250 ths t a year.
- Volume of investment: RUR 10,786 m in 2011 prices ($368.12 m)
- Infrastructure available: Motorway (asphalt-concrete surface, all-the-year-round); trunk gas pipeline.
- Infrastructure required: Railroad; tank farm; electric power supply; railroad and river terminal.
- Cost of project: RUR 10,786 m
- Implementation period: 2011-2016
  - IRR: In accordance with fuel-energy resources data (FER)
  - NPV: In accordance with FER
  - Payback period: In accordance with FER
- Markets: Far-Eastern Federal District
- Investor's involvement: 100%
- Project detailedness: Preliminary feasibility study conducted

CEO of an organization implementing the project: Igor Leonidovich DEMIDOV, General Director

Contacts:
- Tel. +7 (4112) 22-39-11
e-mail: JSC-YGP@ygp.ru
http://www.yatec.ru

10. Project name: Gas condensate processing complex

- Location: Settlement of Kysyl-Syr, Vilyuisky region, Sakha Republic (Yakutia)
- Project initiator: OAO Yakut Fuel-Energy Company (OAO YaTEK)
- Project characteristics: A complex for gas condensate processing. Capacity – 100 ths t of raw material a year.
- Volume of investment: RUR 430 m in 2011 prices ($14.67 m)
- Infrastructure available: Engineering network, motorway (VILYUI federal motorway, all-the-year-round), water transport, land site.
- Infrastructure required: Not required
- Cost of project: RUR 730 m (including the purchased equipment)
- Implementation period: 2011-2012
  - IRR: No data, being calculated
  - NPV: No data, being calculated
  - Payback period: No data, being calculated
Markets | Sakha Republic (Yakutia)
---|---
Investor's involvement | 100%
Project detailedness | A draft project is being developed (to be complete by December 2011).
CEO of an organization implementing the project | Igor Leonidovich DEMIDOV, General Director
Contacts | 677000, Yakutsk, Khalturina Str., д. 4/1
| Tel. +7 (4112) 22-39-11
e-mail: JSC-YGP@ygp.ru
http://www.yatec.ru

### 11. Project name
**Facility for production of high-octane gasolines complying with Euro-4 and Euro-5 standards**

<table>
<thead>
<tr>
<th>Location</th>
<th>Settlement of Kysyl-Syr, Vilyuiisky region, Sakha Republic (Yakutia)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project initiator</td>
<td>OAO Yakut Fuel-Energy Company (OAO YaTEK)</td>
</tr>
<tr>
<td>Project characteristics</td>
<td>Production of high-octane gasolines complying with Euro-4 and Euro-5 standards. Facility capacity – 100 ths tons of raw material a year.</td>
</tr>
<tr>
<td>Volume of investment</td>
<td>RUR 1,000 m in 2011 prices ($34.12 m)</td>
</tr>
<tr>
<td>Infrastructure available</td>
<td>Engineering network, motorway (VILYUI federal motorway, all-the-year-round), water transport, land site.</td>
</tr>
<tr>
<td>Infrastructure required</td>
<td>Not required</td>
</tr>
<tr>
<td>Cost of project</td>
<td>RUR 1,000 m</td>
</tr>
<tr>
<td>Implementation period</td>
<td>2012-2013</td>
</tr>
<tr>
<td>IRR</td>
<td>In accordance with fuel-energy resources data (FER)</td>
</tr>
<tr>
<td>NPV</td>
<td>In accordance with FER</td>
</tr>
<tr>
<td>Payback period</td>
<td>In accordance with FER</td>
</tr>
<tr>
<td>Markets</td>
<td>Sakha Republic (Yakutia)</td>
</tr>
<tr>
<td>Investor's involvement</td>
<td>100%</td>
</tr>
<tr>
<td>Project detailedness</td>
<td>Development of FER (to be complete by October 2011).</td>
</tr>
<tr>
<td>CEO of an organization implementing the project</td>
<td>Igor Leonidovich DEMIDOV, General Director</td>
</tr>
</tbody>
</table>
| Contacts | 677000, Yakutsk, Khalturina Str., д. 4/1
| Tel. +7 (4112) 22-39-11
e-mail: JSC-YGP@ygp.ru
http://www.yatec.ru
## Coal Industry

<table>
<thead>
<tr>
<th>12. Project name</th>
<th>Construction of Denisovskyaya mines (№1, №2) and a coal benefication plant</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Location</strong></td>
<td>Neryunrginsky region, Sakha Republic (Yakutia)</td>
</tr>
<tr>
<td><strong>Project initiator</strong></td>
<td>OOO Kolmar (OAO Neryungriugol)</td>
</tr>
<tr>
<td><strong>Project characteristics</strong></td>
<td>Coal production and selling. Construction of Denisovskyaya and Denisovskyaya-2 mines; Denisovskyaya benefication plant. Denisovskyaya mine with capacity up to 2.5 m tons.</td>
</tr>
<tr>
<td><strong>Volume of investment</strong></td>
<td>RUR 6,500 m (in 2010 prices) as a bank loan or share in charter capital ($216.66 m).</td>
</tr>
<tr>
<td><strong>Infrastructure available</strong></td>
<td>Railway and motorway, airport in the town of Neryungri. The deposit is located 20 km north-east of the town of Neryungri. Amur – Yakut motorway, connecting the city of Yakutsk with Amur Oblast, crosses the heart of the deposit. There is a railroad to Neryungri, linking Southern Yakutia complex with Baikal-Amur railroad. Electric power is supplied by Neryungri hydropower station; 110 kV high-voltage transmission line runs through the eastern part of the site.</td>
</tr>
<tr>
<td><strong>Infrastructure required</strong></td>
<td>Not required</td>
</tr>
<tr>
<td><strong>Cost of project</strong></td>
<td>Current investments into construction – RUR 4,500 m.</td>
</tr>
<tr>
<td><strong>Implementation period</strong></td>
<td>No information</td>
</tr>
<tr>
<td><strong>IRR</strong></td>
<td>No information</td>
</tr>
<tr>
<td><strong>NPV</strong></td>
<td>No information</td>
</tr>
<tr>
<td><strong>Payback period</strong></td>
<td>About 20 years, with the project to be complete in 2031.</td>
</tr>
<tr>
<td><strong>Markets</strong></td>
<td>Selling beyond the republic (the Russian Federation, Asian Pacific countries)</td>
</tr>
<tr>
<td><strong>Investor's involvement</strong></td>
<td>100% OOO Kolmar.</td>
</tr>
<tr>
<td><strong>Project detailedness</strong></td>
<td>Denisovskyaya-1 mine has been put into commercial operation with annual production volume at 0.5 m t, KSO method, the second stage’s design is completing. The construction site for the benefication plant is ready.</td>
</tr>
<tr>
<td><strong>CEO of an organization implementing the project</strong></td>
<td>Sergei Vladimirovich NAUMAN, General Director, OOO Kolmar</td>
</tr>
<tr>
<td><strong>Contacts</strong></td>
<td>121108, Moscow, Ivana Franko Str., 8 Tel. +7 (495) 662-39-90 e-mail: <a href="mailto:info@kolmar.ru">info@kolmar.ru</a> <a href="http://www.kolmar.ru/nerungri.html">http://www.kolmar.ru/nerungri.html</a></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>13. Project name</th>
<th>Construction of Inaglinsky coal complex</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Location</strong></td>
<td>Neryunrginsky region, Sakha Republic (Yakutia)</td>
</tr>
<tr>
<td><strong>Project initiator</strong></td>
<td>OOO “Kolmar” (ZAO «Yakut coals – new technologies»). A part of Integrated Development of Southern Yakutia project. Initiator - OAO Southern Yakutia Development Corporation.</td>
</tr>
<tr>
<td><strong>Project characteristics</strong></td>
<td>Creation of Inaglinsky coal complex with an industrial mine, coal production capacity 2.75 m t/year, and a benefication plant able to process 3 m t/year with the yield at over 2 m tons of coking concentrate in Neryungrinsky region of the Sakha Republic (Yakutia).</td>
</tr>
<tr>
<td><strong>Volume of investments</strong></td>
<td>RUR 10,500 m in 2011 prices ($358.36 m)</td>
</tr>
<tr>
<td><strong>Infrastructure available</strong></td>
<td>There is Amur-Yakutsk mainline railroad (AyaM), railway, airport.</td>
</tr>
</tbody>
</table>
The key advantage of the project is availability of developed infrastructure, including a dead-end railway track owned by OOO JV Erel, a participant of OOO Kolmar Holding. The track is connected to the public railway system owned by OAO JSC Railways of Yakutia, a part of all-Russian railway infrastructure – OAO Russian Railways.

**Infrastructure required**
A railway line from Chulbas station – Inaglinsky coal complex; electric power supply to Inaglinsky CC, with a 110 kV substation and 110 kV transmission line.

**Cost of project**
RUR 10 500 m ($358.36 m)

**Implementation period**
No information, project life cycle 25 years (till 2037)

**IRR**
26% at discount rate of 15%

**NPV**
RUR 6,100 m

**Payback period**
6.3 years

**Markets**
Internal market of the Russian Federation and Ascia Pacific countries (Japan, Korea).

**Investor's involvement**
OOO Kolmar 100%

**Project detailedness**
A part of Integrated Development of Southern Yakutia project. Project documentation for a mine and a benefication plant complete and approved by ‘Glavgosekspertisa’ (State Expertise); the construction site for surface objects ready; the plant equipment purchased fully, the mine equipment - partially; all required permits and approval received.

**CEO of an organization implementing the project**
Sergei Vladimirovich NAUMAN,
General Director, OOO Kolmar
Mikhail Lvovich BRUK,
General Director, OAO SYDC

**Contacts**
121108, Moscow, Ivana Franko Str., 8
Tel. +7 (495) 662-39-90
e-mail: info@kolmar.ru
http://www.kolmar.ru/nerungri.html

OAO SYDC, 127473, Russia, Moscow, Seleznevska Str., 116
Tel. +7 (495) 232-42-44, fax +7 (495) 232-95-13
e-mail: office@sy-corp.ru
http://www.sy-corp.ru

14. **Project name**
Construction of Elginsky coal complex within north-western section of Elginsky (Elga) coal field in the Sakha Republic (Yakutia)

**Location**
Territory of Neryungrinsky region, south-eastern part of the Sakha Republic (Yakutia), near borders with Amur Oblast and Khabarovsk Krai

**Project initiator**
OOO Mechel

**Project characteristics**
Construction of Elginsky coal complex for mining, processing and shipment of coal from Elga coal field with designed capacity at:
Stage 1 (2013-2015) – 9,000 ths t a year;
Stage 2 (2016-2018) – 18,000 ths t a year;
Stage 3 (2019-2021) – 27,000 ths t a year.

**Volume of investment**
RUR 52,595.70 m in 2011 prices ($1,795.07 m)

**Infrastructure available**
The nearest settlements are S. Verkhnezeisk, 320 km south of the field across the Stanovoi Range at the eastern branch of Baikal-Amur railway; town of Neryungri and settlement of Chulman, 415 km west of the deposit. 42 km north of Neryungri and 7 km north of Chulman there is an airport, accepting TU-154, YK-40, AN-24 planes, MI-8 and MI-6
The nearest power supply sources are: Neryungrinskaya HPS – 450 km, Zeiskaya HPS – 500 km, 220/35/10 kV Prizeiskaya substation at BAM – about 300 km away. To supply the filed with power, the Development Scheme for the United Russian Power System includes construction of HVL 220 kV Prizeiskaya – Elgaugol till 2017.

The right to use forest sites is secured by lease contracts.

Infrastructure required
The project includes construction of the external infrastructure:
- access railway – 315 km;
- electric power grid objects (two one-circuit 220 kV transmission lines Prizeiskaya – Elgaugol along the railway; Elgaugol PSA, PSB, substation);
- landing strip at Elga CC.

Cost of project
The project is under development
Implementation period 2008-2021
IRR The project is under development
NPV The project is under development
Payback period The project is under development
Markets Russia, Asian Pacific and CIS countries
Investor's involvement OOO Mechel funds - 100%

Project detailedness
At the present moment, the following works are complete: pre-project and prospecting works; project of a site for preliminary processing and access railway. The project for Stage 1 of ECC construction is being developed (project documents to be ready in Quarter 1 of 2011).

CEO of an organization implementing the project
Igor Valerievich KHAFIGOV,
Managing Director, OAO Yakutugol Holding Company

Contacts
Sakha Republic (Yakutia), Neryungri, Lenin Str., 3/1,
Tel. +7 (41147) 96-125
e-mail: post.yakutugol@mechel.com
http://www.yakutugol.ru/

15. Project name Construction of Chulmakanskaya mine

Location Sakha Republic (Yakutia), Neryungrinsky region, Vostochny section of Chulmakan field
Project initiator OOO En+Ugol (Moscow), Koran External Coal Company (People's Democratic Republic of Korea).
Project characteristics The project includes construction of Chulmakanskaya mine with capacity up to 1,000 ths tons a year and a benefication plant with capacity up to 1.0 m tons of raw material. Balance reserves of Vostochny section of Chulmakan field are estimated at 42.77 m tons.
Volume of investment RUR 3,913 m in 2011 prices ($133.55 m)
Infrastructure available 35 km of Neryungri, the large industrial and transport center in Southern Yakutia, there is a railway station – cargo and passenger; motorways, connecting the town with other far-Eastern regions and Central Yakutia.
Infrastructure required Personnel
Cost of project The project is under development
Implementation period No information
IRR No information
NPV No information
<table>
<thead>
<tr>
<th><strong>Payback period</strong></th>
<th>No information</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Markets</strong></td>
<td>Selling beyond the republic (Russian Federation and Asian Pacific countries)</td>
</tr>
<tr>
<td><strong>Investor's involvement</strong></td>
<td>OOO En+Ugol – 50 %, Koran External Coal Company (People's Democratic Republic of Korea) – 20%</td>
</tr>
<tr>
<td><strong>Project detailedness</strong></td>
<td>At the moment, Giproshakht Institute (St. Petersburg) is developing a project on “Preparation and development of reserves at Chulmakanskaya mine by OOO Erchim-Than”. Rostechnadzor (Russian Technical Inspection) has approved amendments to the Program on open mining with the use of drill and fire technique of host rock opening. The equipment is purchased.</td>
</tr>
<tr>
<td><strong>CEO of an organization implementing the project</strong></td>
<td>Yury Vitalievich FIRYULIN, General Director, OOO Erchim-Than</td>
</tr>
<tr>
<td><strong>Contacts</strong></td>
<td>678960, Neryungri, Kravchenko Str., 14 Tel. +7 (41147) 62-154. e-mail: <a href="mailto:Erchim-Than@bk.ru">Erchim-Than@bk.ru</a></td>
</tr>
</tbody>
</table>
### Mining

<table>
<thead>
<tr>
<th>16. Project name</th>
<th>Construction of Elkonsky mining and smelting plant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location</td>
<td>Aldansky region, Sakha Republic (Yakutia)</td>
</tr>
<tr>
<td>Project initiator</td>
<td>OAO Atomredmetzoloto,</td>
</tr>
<tr>
<td></td>
<td>OAO Southern Yakutia Development Corporation</td>
</tr>
<tr>
<td>Project characteristics</td>
<td>Elkonsky mining and smelting plant includes:</td>
</tr>
<tr>
<td></td>
<td>- five uranium mines, with ore mining capacity at 4.5 m t/year by underground mining;</td>
</tr>
<tr>
<td></td>
<td>- a united radiometric enrichment plant or five separate enrichment plants, a hydrometallurgical plant with capacity at 5 ths t of uranium oxides a year;</td>
</tr>
<tr>
<td></td>
<td>- a flotation plant for extraction of accompanying gold, silver and molybdenum components with capacity at 2,900 ths t/year;</td>
</tr>
<tr>
<td></td>
<td>- maintenance facilities;</td>
</tr>
<tr>
<td></td>
<td>- camps.</td>
</tr>
<tr>
<td>Volume of investment</td>
<td>The project cost makes RUR 87,858 m in 2011 prices ($2,998.57 m), breaking down as follows:</td>
</tr>
<tr>
<td></td>
<td>- investors' own funds - 28%,</td>
</tr>
<tr>
<td></td>
<td>- investors' borrowed funds - 64%,</td>
</tr>
<tr>
<td></td>
<td>- the Investment Fund of the RF - 8%.</td>
</tr>
<tr>
<td>Infrastructure available</td>
<td>Elkonsky horst deposits are located in Aldansky region of the Sakha Republic (Yakutia) 50 km east of the regional administrative center town of Aldan and 40 km south of the town of Tommot.</td>
</tr>
<tr>
<td></td>
<td>There is a railway and a motorway.</td>
</tr>
<tr>
<td></td>
<td>There is an airport in Aldan.</td>
</tr>
<tr>
<td></td>
<td>Electric power is supplied to Aldan and Tommot via high-voltage transmission line (HVL) 220 kV Neryungrinskaya GRES (city's regional power station) – Nizhny Kuranakh; HVL 110 (220) kV Nizhny Kuranakh – Tommot; HVL 110 kV Chulman GRES – Lebediny via 110 kV substations in settlements of Tommot and Lebediny.</td>
</tr>
<tr>
<td>Infrastructure required</td>
<td>Railway Tommot station – Elkonsky MSP;</td>
</tr>
<tr>
<td></td>
<td>Motorway Tommot – Elkonsky MSP;</td>
</tr>
<tr>
<td></td>
<td>For enhanced electric power infrastructure, there is being done construction of HVL 2201 kV Neryungrinskaya GRES – Nizhny Kuranakh – Tommot -Maya (with NHPS – Nizhny Kuranakh leg complete in 2010), to be completed in 2013. The power is supplied from Neryungrinskaya GRES.</td>
</tr>
<tr>
<td>Cost of project</td>
<td>Till 2016, project life cycle over 40 years</td>
</tr>
<tr>
<td>Implementation period</td>
<td>RUR 90,110 m</td>
</tr>
<tr>
<td>IRR</td>
<td>11.1%</td>
</tr>
<tr>
<td>NPV</td>
<td>RUR 10,490 m</td>
</tr>
<tr>
<td>Payback period</td>
<td>31.6 years</td>
</tr>
<tr>
<td>Markets</td>
<td>In near future Russia is to implement the Program on nuclear power development. One of the program’s tasks is to launch nuclear reactors with installed capacity up to 4gW. These reactors make potential market for the plant production.</td>
</tr>
<tr>
<td>Investor's involvement</td>
<td>OAO Atomredmetzoloto 100%</td>
</tr>
</tbody>
</table>
A part of Integrated Development of Southern Yakutia project. Design of project estimates are financed from the Russian Federation Investment Fund. A tender has determined the designer of the design estimates. General designer – OAO Vniipromtechnologii. Completion of designing - 2012.

Oleg Vladimirovich VARVARA, General Director, ZAO Elkonsky MSP (established in 2007 for development of Elkonsky uranium-ore area, with 100% of shares owned by OAO Atomredmetzoloto)

Contacts

Uranium Holding ARMZ (OAO AtomRedMetZoloto)
109004, Moscow, B. Drovyanoy per., 22
Tel. +7 (495) 508-88-08, fax +7 (495) 508-88-10
e-mail: info@armz.ru
http://www.armz.ru/companies/newcompany/elkon/
ZAO Elkonsky MSP
678955, Tommot, Ukulanskaya, 7
109004, Moscow, Zemlyanoy Val Str., 75
Tel. +7 (495) 644-35-36, fax +7 (495) 644-35-38
http://www.elkon.armz.ru
OAO SYDC, 127473, Russia, Moscow, Seleznevskaya Str., 116
Tel. +7 (495) 232-42-44, fax +7 (495) 232-95-13
e-mail: office@sy-corp.ru
http://www.sy-corp.ru

17. Project name

Development of iron-ore deposits in Southern Yakutia (Tayozhnoe, Desovskoe, Tarynakhskoe and Gorkitskoe deposits)

Location

Tayozhnoe and Desovskoe deposits are situated in Neryungrinsky region, Tarynakhskoe and Gorkitskoe – in Olyokminsky region of the Sakha Republic (Yakutia)

Project initiator

OAO MSP Timir

OAO Southern Yakutia Development Corporation

Project characteristics

Tayozhny mining and processing plant (Tayozhnoe and Desovskoe deposits) with mining capacity of 20.1 m tons of ore a year. Tayozhnoe deposit of iron ores is the most prepared for industrial development. It is characterized by optimum technical and economic parameters. Upper reserves of Tayozhnoe deposit down to 600 m can be extracted in one open cast mine. Open pit reserves are estimated at 320 m t with iron concentration at 39.4. Total capacity – 9 m t of raw ore a year. Tayozhny plant project capacity makes 4.1 m t of concentrate a year with iron concentration at 67.7%. Ore will be enriched through two-stage magnet separation with subsequent flotation, which ensures production of iron-ore concentrate with fixed sulphur concentration.

Tarynakhsky mining and processing plant (Tarynakhskoe and Gorkitskoe deposits) with capacity of 27.6 m t of ore a year. Tarynakh deposit of iron ores is considered the largest of prospected deposits in the east of Russia. Its reserves along with reserves of the neighboring Gorkitskoe deposit are intended to be processed by Tarynakhsky mining and processing plant with capacity of 46 m t of ore and 14.6 m t of iron ore concentrate a year. The concentrate will be processing into pellets (13.5 m t a year). The deposit will be developed by open cast mining. Simultaneously, the deposit can provide crushed stone for construction, up to 2 m cub.m. a year. The deposit ores are easily
convertible; one dry and three stages of wet separation result in concentration of iron at 68.5%. The processing section of the plant, scheduled for construction in 2010-2013, will be located at the southeast end of the deposit, considering involvement of Gorkitskoe and, in perspective, Imalykskoe deposits.

**Volume of investment**
70% of the project cost

**Infrastructure available**
Tayozhnoe deposit is located in the center of Aldansky cration 80-160 km north of Berkakit railway station and Southern-Yakutian coking coal field. It is in the immediate vicinity (3-5 km) from Berkakit-Tommot railway crossing the coal area from south to north. Tayozhnoe deposit is located 4 km from the motorway. Transport and power grid infrastructure of the plant will be constructed as part of Integrated Development of Southern Yakutia project.

Desovskye deposit is situated 120 km north of the town of Neryungri and 45 km south-west of Tayozhnoe deposit.
Tayozhnoe and Desovskye deposits are situated near two HVL 220 kV Neryungri GRES – Nizhny Kuranakh (6.6 km and 50 km, respectively). Tarynakhskoe deposit lies 203 km from 220 kV substation in the settlement of Khani.

Gorkitskoe deposite is situated 250 km south of the town of Olyokmlinsk. Tarynak deposit is located in the south of the Sakha Republic (Yakutia) in Olyokminsky region 250 km south of Olyokmlinsk and 190 km north of Khani railway station on Baikal-Amur railroad.

**Infrastructure required**
Railway Tayozhnaya station – Tayozhny MMP.
Railway Ikabiekan station – Tarynakhsky MMP.
Electric power supply of Tayozhny MMP with 220 kV substation and HVL 220 kV.
Electric power supply of Tarynakhskoe MMP with 220 kV substation and HVL 220 kV, with the second circuit suspension at BAM.

**Cost of project**
Tayozhny MMP – RUR 96,600 million in 2010 prices ($3,220 m);
Tarynakhskoe MMP – RUR 96,200 million in 2010 prices ($3,206.66 m).

**Implementation period**
Estimated period of construction and operation of the MMPs – 38 years from the construction beginning or 30 years from the beginning of mining.

**IRR**
Tayozhny MMP – 14.32%; Tarynakhskoe MMP – 6.5%

**NPV**
Tayozhny MMP – RUR 81,400 million; Tarynakhskoe MMP – RUR 10,300 million; total RUR 91,700 million.

**Payback period**
Payback of investments 17.8 years from beginning of investing or 11 years from launching.

**Markets**
The RF, Asian Pacific countries.

**Investor's involvement**
Is being determined

**Project detailedness**
Justification of investment – done. Research works have began – the project stage.

**CEO of an organization implementing the project**
Vladimir Filippovich PETROV,
General Director, OAO MSP Timir

**Contacts**
OAO MSP Timir, 678100, Neryungri, per. Geologov, 4
Tel./fax +7 (4112) 45-222
e-mail: post@timir.ru,
http://www.timir.ru/mestorojdeniya.html
OAO SYDC, 127473, Russia, Moscow, Seleznevskaia Str., 116
**18. Project name**  
**Construction of Seligdar mining and chemical complex**

| **Location** | Aldansky region of Sakha Republic (Yakutia). Seligdarskoe apatite deposit is situated on the hilly banks of the Seligdar River, rising above the valley at 180-240 m, with the slopes angle at 20°-30°. |
| **Project initiator** | A part of Integrated Development of Southern Yakutia investment project.  
Co-investor: OAO ALROSA Investment Group  
OAO Southern Yakutia Development Corporation. |
| **Project characteristics** | Using apatites from Seligdar deposit, the mining and processing plant (MPP) will include a mine, a processing plant to produce apatite concentrate and a chemical plant to produce complex phosphorus-magnesium fertilizers. Apatite ore balance reserves – 1,228 m t of ore. The mining and processing plant will produce apatite concentrate. Capacity: 30 m t/year of ore, or 3.57 m t/year of concentrate with P₂O₅ concentration at 35.5%, including marketable concentrate at 2.87 m t/year and concentrate for the chemical plant – 0.7 m t/year. The chemical plant will produce fused calcium-magnesium phosphates. Capacity – 1.2 m t/year of marketable products. In addition, the plant will use mill tailings for production of hematite concentrate (about 600 ths t). Perspectives of its industrial use are to be studied more (first of all, the ways of getting a product with fixed sulphur concentration). Another additional product is dolomite powder (up to 10 m t). Efficient use of the mined ore requires construction of a crushed stone plant, as a part of the complex. It will process the deposit overburdens, producing marketable crushed stone of three grades (up to 12,5 m t/year) and sand (1.2 m t/year). |
| **Volume of investment** | RUR 46,950 m in 2007 prices ($1,833.98 m) |
| **Infrastructure available** | The buffer-balancing storage with motorway access to ore stacks and railways for loading ore require a horizontal area of 16 ha. Such a site, suitable for railway access and a station, is situated at the mine's northeastern end, 950-980 m level. The processing facility will be built on an industrial site 18 km south of Aldan, 9 km from Amur-Yakut railroad, and 8 km from a site near the mine at western and northern slopes of the elevation. |
| **Infrastructure required** | Railway Kosarevsky – Seligdarsky MCC.  
HVL 220 kV, 7.5 km long with a 220 kV substation at the mine. |
| **Cost of project** | RUR 46,950 m |
| **IRR** | 22.80% |
| **NPV** | RUR 15,600 m |
| **Payback period** | 11.3 years |
| **Project life cycle** | 50 years |
| **Markets** | Internal consumption of the apatite concentrate produced (with processing of 286 ths t of concentrate on the plant a year) and fertilizers (designed capacity – 567.5 ths t a year) will make less than 20% of the entire production, which determines export orientation of the project in mid-term perspective. |
Investor's involvement  Investor funds are required for construction of Seligdarsky MCC and development of the apatite deposit; transport and electric grid infrastructure will be financed from the Investment Fund of the Russian Federation.

Project detailedness  A part of Integrated Development of Southern Yakutia investment project, feasibility report available. Designing works on Seligdar MCC are postponed until a managing user of Seligdar apatite deposit is determined.

CEO of an organization implementing the project  Vladimir Filippovich PETROV, General Director, OAO MSP Timir, Mikhail Lvovich BRUK, General Director, OAO SYDC

Contacts  OAO MSP Timir, 678100, Neryungri, per. Geologov, 4  Tel./fax +7 (4112) 45-222  e-mail: post@timir.ru, http://www.timir.ru/mestorojdeniya.html  OAO SYDC, 127473, Russia, Moscow, Seleznevskaya Str., 116  Tel. +7 (495) 232-42-44, fax +7 (495) 232-95-13  e-mail: office@sy-corp.ru  http://www.sy-corp.ru

<table>
<thead>
<tr>
<th>19. Project name</th>
<th>Improvement of an existing tin mining facility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location</td>
<td>Ust-Yansky region, Sakha Republic (Yakutia), RF</td>
</tr>
<tr>
<td>Project initiator</td>
<td>OAO Republic's Investment Company</td>
</tr>
<tr>
<td>Project characteristics</td>
<td>Increased extraction of tin from concentrate at Churpunia and Tirekhtekh mines with further increase of mining due to neighboring prospected mines of Yana-Indigirka tin-bearing province up to 1,500 tons a year. The project includes replacement of equipment and machinery; introduction of new technologies of mining and enrichment of tin-bearing ores; establishment of a new logistic scheme.</td>
</tr>
<tr>
<td>Volume of investment</td>
<td>RUR 1,000 m in 2011 prices ($34.13 m)</td>
</tr>
<tr>
<td>Infrastructure available</td>
<td>The mines are developed and being operated by OOO Sakhaolovo since 2004. There are licences for development of Churpunia and Tirekhtekh mines.</td>
</tr>
<tr>
<td>Infrastructure required</td>
<td>Construction of a power transmission line to Tirekhtekh mine (70 km long).</td>
</tr>
<tr>
<td>Cost of project</td>
<td>RUR 2,000 m</td>
</tr>
<tr>
<td>Implementation period</td>
<td>10 years</td>
</tr>
<tr>
<td>IRR</td>
<td>25%</td>
</tr>
<tr>
<td>NPV</td>
<td>RUR 350 m</td>
</tr>
<tr>
<td>Payback period</td>
<td>4 years</td>
</tr>
<tr>
<td>Markets</td>
<td>Metallurgical plants in the RF and Asian Pacific countries</td>
</tr>
<tr>
<td>Investor's involvement</td>
<td>Investments up to 70%</td>
</tr>
<tr>
<td>Project detailedness</td>
<td>Preliminary business plan. The project documentation is being developed.</td>
</tr>
<tr>
<td>CEO of an organization implementing the project</td>
<td>Alexander Ivanovich FEDOTOV, General Director, OAO RIC, Andrei Iliich SIVTSEV, General Director, OAO Yanolovo</td>
</tr>
</tbody>
</table>
Contacts

OAO RIC, 677000, Yakutsk, Ordzhonikidze Str., 38
tel. +7 (4112) 39-02-51
e-mail: ric@ricsakha.ru

OAO Yanolovo, 677000, Yakutsk, Ordzhonikidze Str., 38
tel. +7 (4112) 39-02-79; cell # +7 (914) 1106431
e-mail: olovo@ricsakha.ru
### Diamond Mining

<table>
<thead>
<tr>
<th>20. Project name</th>
<th>MIR underground mine. Opening-up and excavation of mine resources down at -615m level.</th>
</tr>
</thead>
</table>

**Project initiator**

- Mirninsky region, Sakha Republic (Yakutia), the left bank of the Irellyakh River middle course within the town of Mirny limits.
- JSC ALROSA (ZAO)

**Project characteristics**

- **Aim:** maintenance of the volume of diamonds mined by JSC ALROSA.
- **Project solutions:** for opening up the mine resources, there is being conducted construction of two vertical boreholes: cage and skip ones; linkage between the bores; tunneling of lateral openings. Undermine resources will be excavated with the use of room-and-pillar system, the room freed being filled with solid stowing, given top-down excavation. Major technological surface constructions, mine maintenance facilities, surface stower facilities, mine engineering facilities, automatic mine operative management system, and underground stage of capital mining works.
- **Brief description:** Construction and launching of technological and maintenance facilities, surface engineering facilities, as well as construction and launching of tunnels for resource excavating. The mine is scheduled to reach its designed capacity at 1,000 ths tons in 2012; attainable capacity with launching of the first starting facility: 2009 – Stage 1 of the first starting facility – 150 ths t; 2010 - Stage 2 of the first starting facility – 350 ths t; 2012 - the second starting facility – 500 ths tons.

**Volume of investment**

- Cost of construction at forecast prices RUR 39,904.2 m ($1,361.91 m)

**Infrastructure available**

- Heat supply: from the north-eastern boiler house with installing a heat substation at the mine site. Heat carrier – superheated water at 140-170 degrees C. Annual heat consumption for the surface objects – 34.15 ths Gcal/year.
- Water supply: drinking water – from the centralized engineering communications and Mirny water station (310 cub.m a day, 94.55 ths cub.m a year); process water – process water conduits (2,600 cub.m a day; 793 ths cub.m a year).
- Sewage: drainage through the sewage system to Mirny treatment facilities (530 cub.m a day).
- Electric power supply: from Rayonnaya 220/110 kV substation via transmission station 110/6.3/6 kV at the mine site. Estimated power consumption for all consumers – 36.5 MW, including underground consumption – 9.5 MW. Annual electric power consumption – 113,040 MWh, including underground consumption – 58,310 MWh.
- Communications: from JSC ALROSA communication center via copper and optic fiber cables through underground and surface passages to the mine communication center. Type of communication: general automatic phone, controller phone and speakerphone, mobile with surface subscribers, underground mobile, regulating and search communication system, sound broadcasting, alarming, the mine general emergency alarm system.
- Gas supply: trunk gas pipeline from the automatic gas distributing station in Mirny (annual consumption – 8.83 m cub.m).

**Infrastructure required**

- The project includes all necessary industrial infrastructure, with no additional objects required.
Cost of project Cost of construction at forecast price RUR 48,331.2 m.
Implementation period 1999 - 2012, reaching the mine designed capacity in 2012; operation – till 2043.
IRR 8.58%
NPV At 4% discount rate – RUR 20,837 m
Payback period 11 years 11 months
Markets External and internal markets
Investor's involvement 100% involvement of JSC ALROSA, investing own and borrowed funds.
Project detailedness In 2002, there were complete the design estimates for “MIR mine. Opening-up and excavation of underground resources down to -615m level”. They were approved by the State Technical Inspection, letter №08-10/1322 of 29.11.2002.
The expertise was conducted by ZAO Geoexpert, Moscow, reg. №08-PД-00204-2002.
In 2009, there were complete the design estimates for “MIR mine. Opening-up and excavation of underground resources down to -615m level. First launching facility”. They were approved by Rostechnadzor (Russian Technical Inspection), letter №07-09/2277 of 14.07.2009. The expertise is conducted by ZAO Geoexpert, Moscow, reg. №07-02--ПД-00968-2009.
Feasibility study on “Efficiency of investment into construction of MIR underground mine” were done in 2010.
Now the project is being reviewed, to be finalized in 2011.

CEO of an organization Yury Andreevich DOINIKOV
implementing the project First Vice-president, Executive Director, JSC ALROSA (ZAO)
Tel. +7 (41136) 9-01-12 (reception)
Contacts 678170, Sakha Republic (Yakutia), Mirny, Lenin Str., 6
Fax +7 (411-36) 3-04-51, +7 (495) 745-80-61
Valentina Anatolievna POTRUBEIKO
Vice-president, JSC ALROSA (ZAO)
Tel. +7 (41136) 9-01-54 (reception)
http://www.alrosa.ru/
e-mail: info@alrosa.ru

21. Project name AIKHAL mine. Opening-up and excavation of mine resources down at -100 m level.
Location Situated in Mirninsky region, Sakha Republic (Yakutia), at the Markha River upper reaches near the settlement of Aikhal, 395 km north of the town of Mirny, the region's center, and 70 km south-west of the town of Udachny.
Project initiator JSC ALROSA (ZAO)
Project characteristics Aim: maintenance of the volume of diamonds mined by JSC ALROSA. Project solutions: for opening up the mine resources, there is being conducted construction of a cargo and auxiliary tilt shafts; vertical cage shaft; tunneling for reserve excavation. Undermine resources will be excavated with the use of slice mining, the room freed being filled with solid stowing. Major technological surface constructions, mine maintenance facilities, surface stower facilities, mine engineering facilities, automatic mine operative management system, and underground stage of capital mining works.
Brief description: Construction and launching of technological and
maintenance facilities, surface engineering facilities, as well as construction and launching of tunnels for resource excavating. The mine will be put into operation with three starting facilities. Designed capacity - 500 ths tons. 2005: launching of the first starting facility – 150 ths t; 2009 – the second starting facility – 250 ths; 2012 - the third starting facility and reaching the designed capacity at 500 ths t a year (the third stage facilities will be put into operation gradually up to 2014).

Volume of investment
Cost of construction in forecast prices RUR 16,232 m ($553.99 m)

Infrastructure available
Heat supply: main industrial site – centralized from Aikhal central gas boiler house via a module-heat station (12 Gcal/h), situated at the mine site; auxiliary industrial site – autonomous module-gas boiler house (12.3 MW).
Water supply: process water – from the pump station from a pond created by damming the Sokhsolokh River (1,550 cub.m a day); drinking water – from the centralized Aikhal water station (550 cub.m a day).
Sewage: drainage of industrial and general sewage waters through the sewage system to Aikhal treatment facilities (200 cub.m a day).
Electric power supply: from existing substation-5 with construction of 110 kV double-circuit HVL on metal pylons to transmission station 110/6 kV at the main industrial site. Auxiliary and underground industrial sites – transmission station 110/6 to substation-2 at the auxiliary site via 6 kV line on wooden pylons.
Communications: from JSC ALROSA communication center; for centralized automatic operator-controller management. Type of communication: general automatic phone, controller speakerphone, facsimile, electronic timing, radio, communication between cage tunnel lift operators, wireless alarm system.
Gas supply: from an automatic gas distributing station of the pipeline to the main (2,190 cub.m/h) and auxiliary (1,586 cub.m/h) sites.

Infrastructure required
The project includes all necessary industrial infrastructure, with no additional objects required.

Cost of project
Cost in forecast prices RUR 18,211.5 m.

Implementation period
2000 – 2013, reaching the designed capacity in 2012; operation till 2025.

IRR
1.99%

NPV
At 3% discount rate – RUR 30.578 m (without loans), RUR 1,731 m (with loans).

Payback period
The year 2029

Markets
External and internal markets

Investor's involvement
100% involvement of JSC ALROSA, investing own and borrowed funds.

Project detailedness
Justification of the construction beginning – Minutes of the technical Board meeting, JSC ALROSA, №22 of 28.12.1999. The design estimates for “AIKHAL mine. Opening-up and excavation of underground resources down to -100m level” were done in 2004. They were approved by the State Technical Inspection, letter №13-02-02/925 of 09.12.2004. The expertise was conducted by ZAO Geoexpert, reg. №08-ПД-00453-2004.

Now the project is being reviewed, 2011 project documents are being
Feasibility study on “Efficiency of investment into construction of AIKHAL underground mine” (October 2010).

| CEO of an organization implementing the project | Yury Andreevich DONIKOV |
| First Vice-president, Executive Director, JSC ALROSA (ZAO) |
| Tel. +7 (41136) 9-01-12 (reception) |

| Contacts | 678170, Sakha Republic (Yakutia), Mirny, Lenin Str., 6 |
| Fax +7 (411-36) 3-04-51, +7 (495) 745-80-61 |
| Valentina Anatolievna POTRUBEIKO |
| Vice-president, JSC ALROSA (ZAO) |
| Tel. +7 (41136) 9-01-54 (reception) |
| http://www.alrosa.ru/ |
| e-mail: info@alrosa.ru |

### 22. Project name

**UDACHNY mine. Opening-up and excavation of Stage 1 resources.**

**Opening-up and excavation of resources down at -320/-580m level.**

| Location | Construction of an underground mine within the limits of UDACHNAYA pipe industrial site, Udachninsky MPP. Mirninsky region, Sakha Republic (Yakutia). |
| Project initiator | JSC ALROSA (ZAO) |
| Project characteristics | Aim: maintenance of the volume of diamonds mined by JSC ALROSA. Project solutions: for opening up the mine resources, there is being conducted construction of three vertical shafts: skip, cage and ventilation-auxiliary ones; opening up and construction of main tunnels: ventilation (-380 m), mining (-480, -580 m), auxiliary (-650m). Undermine resources will be excavated with the use of forced block caving with one-stage excavation and breaking under ore protecting pad. Major technological surface constructions, mine maintenance facilities, surface stower facilities, mine engineering facilities, automatic mine operative management system. Brief description: Construction and launching of technological and maintenance facilities, surface engineering facilities, as well as construction and launching of tunnels for resource excavating. The mine is scheduled to reach the designed capacity of 4,000 t in 2016; 2014: launching of the first starting facility – 1,650 t; 2015 – the second starting facility – 4,000 t; developing the design capacity during another year. |
| Volume of investment | Cost of construction in forecast prices RUR 55,296.5 m ($1,887.25 m) |
| Infrastructure available | Heat supply: centralized from electric boiler house at the processing plant #11 via a heat station, situated at the mine industrial site.Het power required: 2 MW. Water supply: process water – from the existing process water conduit from the Shtykan River (2,600 cub.m a day, 793 ths cub.m a year); drinking water – to prepare it, the plan is to install a water treatment station at the mine (250 cub.m a day). Sewage: drainage of industrial and general sewage waters through the sewage system to Udachny treatment facilities (250 cub.m a day). Electric power supply: from existing substation-6 220/110/6 kV via two independent cable lines 110 kV; for distribution – construction of two substations for 110 kV: substation-1 with six transformers (25MWA each). Substation-2 with transformers (25 MWA each). Communications: from JSC ALROSA communication center. Centralized automatic operator-controller management. Type of |
communication: industrial automatic phone, operative phone, facsimile, electronic timing, radio, television, fire and alarm systems, shaft radio communication.

Infrastructure required
The project includes all necessary industrial infrastructure, with no additional objects required.

Cost of project
Project cost in forecast prices RUR 55,296.5 m.

Implementation period
Construction 2003 – 2016, reaching the designed capacity in 2016; operation till 2030.

IRR
4.34%

NPV
At 4% discount rate – RUR 1,079.4 m

Payback period
10 years and 2 months

Markets
External and domestic markets

Investor's involvement
100% involvement of JSC ALROSA, investing own and borrowed funds.

Project detailedness
The feasibility study for “UDACHNY mine. Opening-up and excavation of underground resources, Stage 1. Opening-up and excavation of resources down at -290/-580m level” were done by OAO Gipronikel Institute in 2003. The design estimates were approved by the State Technical Inspection, letter №08-05/285 of 19.04.2004. The expertise was conducted by ZAO Geoexpert, reg. №08-ПД-00371-2004. Now “UDACHNY mine. Opening-up and excavation of underground resources, Stage 1. Opening-up and excavation of resources down at -290/-580m level” project is being reviewed, 2011 project documents are being prepared (OAO Uralgiproruda, Yekaterinburg).

CEO of an organization implementing the project
Yury Andreevich DOINIKOV
First Vice-president, Executive Director, JSC ALROSA (ZAO)
Tel. +7 (41136) 9-01-12 (reception)

Contacts
678170, Sakha Republic (Yakutia), Mirny, Lenin Str., 6
Fax +7 (411-36) 3-04-51, +7 (495) 745-80-61
Valentina Anatolievna POTRUBEIKO
Vice-president, JSC ALROSA (ZAO)
Tel. +7 (41136) 9-01-54 (reception)
http://www.alrosa.ru/
e-mail: info@alrosa.ru

23. Project name
Geological survey, prospecting and mining of diamonds at Verkhnee Molodo site, Sakha Republic (Yakutia)

Location
Verkhnee Molodo placer diamond deposit at the Molodo River is situated on the territory of Bulunsky region, Sakha Republic (Yakutia), 350 km south of the settlement of Tiksi, the region's administrative center.

Project initiator
OAO Nizhne-Lenskoe

Project characteristics
Geological survey, prospecting and mining of diamonds at Verkhnee Molodo site.

Volume of investment
RUR 1,517 m in 2010 prices ($50.56 m)

Infrastructure available
In winter, cargoes and passengers may be carried by temporary motorways; for the rest of the year – by air transport. There is the company's transshipment station 90 km from the mining site at the Dzharjan River mouth; it has fuel tanks, a berth and a helipad. In Zhigansk and Tiksi settlements there berths and airports, operating all
the year round. The settlement of Tiksi is also a seaport. Electric power is supplied to settlements in Bulunsky region by autonomous diesel power stations.

<table>
<thead>
<tr>
<th>Infrastructure required</th>
<th>Not required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost of project</td>
<td>RUR 1,517 m</td>
</tr>
<tr>
<td>Implementation period</td>
<td>2011-2021</td>
</tr>
<tr>
<td>IRR</td>
<td>12.41%</td>
</tr>
<tr>
<td>NPV</td>
<td>At 10% discount rate - RUR 203 m</td>
</tr>
<tr>
<td>Payback period</td>
<td>6 years</td>
</tr>
<tr>
<td>Markets</td>
<td>EU countries, RF</td>
</tr>
<tr>
<td>Investor's involvement</td>
<td>Lending funds</td>
</tr>
<tr>
<td>Project detailedness</td>
<td>No information</td>
</tr>
<tr>
<td>CEO of an organization implementing the project</td>
<td>Vladimir Romanovich KYCHKIN, General Director, OAO Nizhne-Lenskoe</td>
</tr>
<tr>
<td>Contacts</td>
<td>677027, Yakutsk, Kirova Str., 18, block B Tel.+7 (4112) 49-0000, fax +7 (4112) 49-6124 e-mail: <a href="mailto:office@nlykt.ru">office@nlykt.ru</a></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>24. Project name</th>
<th>Geological survey, prospecting and mining of diamonds at Bolshaya Kuonamka promising site, Sakha Republic (Yakutia)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location</td>
<td>The deposit is situated on the territory of Olenyoksky region (Olenyok Evenk National region), Sakha Republic (Yakutia), 200 km north of the settlement of Olenyok, the region's administrative center.</td>
</tr>
<tr>
<td>Project initiator</td>
<td>OAO Nizhne-Lenskoe</td>
</tr>
<tr>
<td>Project characteristics</td>
<td>Geological survey, prospecting and mining of diamonds at Bolshaya Kuonamka promising site.</td>
</tr>
<tr>
<td>Volume of investment</td>
<td>RUR 2,806.2 m in 2010 prices ($93.54 m)</td>
</tr>
<tr>
<td>Infrastructure available</td>
<td>Motor communication is done by winter roads, cargoes are delivered in winter along the frozen rivers. Electric power to settlements is to be supplied by autonomous mobile diesel stations. Electric power to prospecting and exploration sites is to be supplied by autonomous mobile diesel stations.</td>
</tr>
<tr>
<td>Infrastructure required</td>
<td>Not required</td>
</tr>
<tr>
<td>Cost of project</td>
<td>RUR 2,806.2 m</td>
</tr>
<tr>
<td>Implementation period</td>
<td>2011-2020</td>
</tr>
<tr>
<td>IRR</td>
<td>13.02%</td>
</tr>
<tr>
<td>NPV</td>
<td>At 10% discount rate - RUR 825 m</td>
</tr>
<tr>
<td>Payback period</td>
<td>8 years</td>
</tr>
<tr>
<td>Markets</td>
<td>EU countries, RF</td>
</tr>
<tr>
<td>Investor's involvement</td>
<td>Lending funds</td>
</tr>
<tr>
<td>Project detailedness</td>
<td>No information</td>
</tr>
<tr>
<td>CEO of an organization implementing the project</td>
<td>Vladimir Romanovich KYCHKIN, General Director, OAO Nizhne-Lenskoe</td>
</tr>
<tr>
<td>Contacts</td>
<td>677027, Yakutsk, Kirova Str., 18, block B Tel.+7 (4112) 49-0000, fax +7 (4112) 49-6124 e-mail: <a href="mailto:office@nlykt.ru">office@nlykt.ru</a></td>
</tr>
<tr>
<td><a href="http://www.nlykt.ru">http://www.nlykt.ru</a></td>
<td></td>
</tr>
</tbody>
</table>
### Transport

<table>
<thead>
<tr>
<th>25. Project name</th>
<th>Construction of Khandyga – Dzhebariki-Khaya section of Eldikan – Khandyga ALDAN motorway</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Location</strong></td>
<td>Sakha Republic (Yakutia)</td>
</tr>
<tr>
<td><strong>Project initiator</strong></td>
<td>Tomponsky region, Sakha Republic (Yakutia)</td>
</tr>
<tr>
<td><strong>Project characteristics</strong></td>
<td>Provision of all-the-year-round access to Dzhebariki-Khaya coal field for coal consumers. The motorway will increase coal transportation by motor vehicles to 200 ths t, including 100 ths t for consumption in Oymyakonsky region. The motorway will be 45 km long with three bridges of total length of 460 running meters, to be complete by 2013.</td>
</tr>
<tr>
<td><strong>Volume of investment</strong></td>
<td>RUR 7,446.90 m in 2011 prices ($254.16 m)</td>
</tr>
<tr>
<td><strong>Infrastructure available</strong></td>
<td>The construction started in 2009. There have been built 11.2 km of motorway and 72.94 running meters of constructions at 296 km – Khandyga section. The bridge is being built across the Vostochnaya Khandyga River. The funds spent – RUR 1,228.9 m.</td>
</tr>
<tr>
<td><strong>Infrastructure required</strong></td>
<td>Not required</td>
</tr>
<tr>
<td><strong>Cost of project</strong></td>
<td>RUR 7,446.90 m</td>
</tr>
<tr>
<td><strong>Implementation period</strong></td>
<td>2009- 2013</td>
</tr>
<tr>
<td><strong>IRR</strong></td>
<td>No information</td>
</tr>
<tr>
<td><strong>NPV</strong></td>
<td>No information</td>
</tr>
<tr>
<td><strong>Payback period</strong></td>
<td>No information</td>
</tr>
<tr>
<td><strong>Markets</strong></td>
<td>All-the-year-round access to Dzhebariki-Khaya coal field for coal consumers. The motorway will increase coal transportation by motor vehicles to 200 ths t, including 100 ths t for consumption in Oymyakonsky region.</td>
</tr>
<tr>
<td><strong>Investor's involvement</strong></td>
<td>Property of the Russian Federation's subject</td>
</tr>
<tr>
<td><strong>Project detailedness</strong></td>
<td>There are design estimates; sources of financing: the Federal budget, the state budget of the Sakha Republic (Yakutia), extra-budgetary sources.</td>
</tr>
<tr>
<td><strong>CEO of an organization implementing the project</strong></td>
<td>Semyon Viktorovich VINOKUROV, Minister of Transport, Telecommunications and Information Technologies of the Sakha Republic (Yakutia)</td>
</tr>
<tr>
<td><strong>Contacts</strong></td>
<td>Ministry of Transport, Telecommunications and Information Technologies of the Sakha Republic (Yakutia) 677018, Yakutsk, Lenin Ave., 22 Tel.: +7 (4112) 42-23-07, fax: 42-52-48, 42-52-36 e-mail: <a href="mailto:mintrans@gov.sakha.ru">mintrans@gov.sakha.ru</a> <a href="http://www.sakha.gov.ru/mintrans">http://www.sakha.gov.ru/mintrans</a></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>26. Project name</th>
<th>Construction and reconstruction of AMGA motorway sections on route Yakutsk – Amga – Ust-Maya – Eldikan – Yugoryonok – Ayan within the Sakha Republic (Yakutia)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Location</strong></td>
<td>Amginsky and Ust-Maisky regions of the Sakha Republic (Yakutia)</td>
</tr>
<tr>
<td><strong>Project initiator</strong></td>
<td>Sakha Republic (Yakutia)</td>
</tr>
<tr>
<td><strong>Project characteristics</strong></td>
<td>The length of motorways to the settlement of Yugoryonok in the Sakha Republic (Yakutia) totals to 710 km, breaking down as follows: 37 km – with improved asphalt-concrete surface, 220 km – transitional sand-gravel surface of technical category 4, 286 km – hard sand-gravel surface of technical category 5, 167 km – winter road, 600 m – winter ice crossings on the Amga and Aldan rivers. The winter motorway to be</td>
</tr>
</tbody>
</table>
Volume of investment | RUR 6,161 m in 2011 prices ($210.27 m)
---|---
Infrastructure available | The motorway designing was conducted in 2008-2010. There are some design estimates for the 103.5 km long soil road section Amga – Ust-Maya. Works on this section started in 1998, with 60.0 km complete by now. There are no design estimates for the soil section at Ust-Maya – Eldikan leg.
Infrastructure required | Not required
Cost of project | RUR 6,161 m
Implementation period | Up to 2015
IRR | No information
NPV | No information
Payback period | No information
Markets | Construction of 144.4 km of motorways and 1,074.2 running meters of bridges for all-the-year-round passability.
Investor's involvement | Property of the Russian Federation's subject
Project detailedness | There are design estimates; sources of financing: the Federal budget, the state budget of the Sakha Republic (Yakutia), OAO Republic's Investment Company.
CEO of an organization implementing the project | Anatoly Fyodorovich VETOSHKIN, General Director, SE Department on motorways maintenance in the SR(Y)
Contacts | 677007, Yakutsk, Avtodorozhnaya Str., 10/2, Tel. +7 (4112) 35-75-77

27. Project name | Construction of VILYUI public federal motorway, from M-53 BAIKAL motorway through Bratsk, Ust-Kut, Mirny to Yakutsk
Location | Mirninsky region, Sakha Republic (Yakutia)
Project initiator | Federal state enterprise “Department of VILYUI public federal motorway” of the Federal Road Agency
Project characteristics | It is also planned to construct VILYUI motorway at Mirny – Ust-Kut leg, technical category 3 with asphalt-concrete surface, 183 km long, to complete 8 stream crossings and to begin construction of 4 large bridges. Construction and reconstruction of the motorway section involves several gradual stages, including engineering research and development, state expertise of the design estimates.
Volume of investment | RUR 306,880.6 m in 2011 prices ($10,473.74 m).
Infrastructure available | VILYUI motorway serves a key motor artery of the western part of Yakutia. It is the shortest overland way to federal motorways: LENA (Bolshoi Never – Tommot – Yakutsk) and KOLYMA (Yakutsk – Magadan). Besides, it provides access to the border with Irkutsk Oblast and ANABAR republic’s motorway.
Infrastructure required | Not required
Cost of project | RUR 306,880.6 m
Implementation period | Till 2015
IRR | No information
| **NPV** | No information |
| **Payback period** | No information |
| **Markets** | VILYUI motorway is of great significance for social and economic development of regions in Irkutsk Oblast and the Sakha Republic (Yakutia), as it connects to the united All-Russian transport network and provides access to strategic deposits of mineral resources. |
| **Investor's involvement** | Russian federation, subject of the RF, industrial enterprises. |
| **Project detailedness** | Design estimates; sources of financing; the Federal budget funds. |
| **CEO of an organization implementing the project** | Nikolai Ivanovich ANDREEV, Director, “Department of VILYUI public federal motorway” of the Federal Road Agency |
| **Contacts** | 677007, Sakha Republic (Yakutia), Yakutsk, Khabarova Str., 21/6 Tel. +7 (4112) 333-093, fax +7 (4112) 441-404 e-mail: fgu-viluy@yandex.ru |

### 28. Project name: KOLYMA motorway – a road being built from Yakutsk to Magadan

| **Location** | Aldnasky region, Sakha Republic (Yakutia) |
| **Project initiator** | Federal state enterprise “Interregional direction on road construction in the Russian Far East” |
| **Project characteristics** | KOLYMA federal motorway is the only road in eastern part of the Sakha Republic (Yakutia), western and central parts of Magadan Oblast, providing access to the Pacific coast. Construction and reconstruction of the motorway section involves several gradual stages, including engineering research and development, state expertise of the design estimates. |
| **Volume of investment** | RUR 174,171 m in 2011 prices ($5,944.4 m). |
| **Infrastructure available** | At the moment, several complicated geological conditions cannot ensure safe passability all-the-year-round., Being 2,021 km long, KOLYMA motorway continues LENA motorway Bolshoi-Never – Yakutsk. |
| **Infrastructure required** | Not required |
| **Cost of project** | RUR 41,258 m |
| **Implementation period** | Till 2015 |
| **IRR** | No information |
| **NPV** | No information |
| **Payback period** | No information |
| **Markets** | The motorway provides access to the main transport gate – a sea trade port of Magadan, which processes the major cargo flow. Economy of the area at the other end of the motorway is based on gold and non-ferrous metals mining. Almost all transport services in all the industries are rendered by motor transport. The largest cargo flow runs through Magadan – Yakutsk – Magadan road. Therefore, “Kolyma” motorway is a part of interregional transport passage. |
| **Investor's involvement** | Federal property |
| **Project detailedness** | Design estimates; sources of financing; the Federal budget funds. |
| **CEO of an organization implementing the project** | Vladimir Alexandrovich SHVETSOV, Director, Federal state enterprise “Interregional direction on road construction in the Russian Far East” |
29. Project name M-56 LENA motorway from Never to Yakutsk

- **Location**: Aldansky region, Sakha Republic (Yakutia)
- **Project initiator**: Federal state enterprise “Interregional direction on road construction in the Russian Far East”
- **Project characteristics**: M-56 LENA motorway from Never to Yakutsk is an important element in the transport structure of Russia and Yakutia. In the Sakha Republic (Yakutia) it is the only all-the-year-round overland line connecting central, northern and Arctic regions of Yakutia and Magadan Oblast with the Russian Federation transport system. Construction and reconstruction of the motorway section involves several gradual stages, including engineering research and development, state expertise of the design estimates.

- **Volume of investment**: RUR 142,717.3 m in 2011 prices ($4,870.9 m).
- **Infrastructure available**: At the moment, M-56 LENA motorway from Never to Yakutsk has technical category 4 and is 1,157 km long, with 268 km running through Amur Oblast and 889 km – in the Sakha Republic (Yakutia).
- **Infrastructure required**: Not required
- **Cost of project**: RUR 142,717.3 m
- **Implementation period**: Till 2015

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>IRR</td>
<td>No information</td>
</tr>
<tr>
<td>NPV</td>
<td>No information</td>
</tr>
<tr>
<td>Payback period</td>
<td>No information</td>
</tr>
</tbody>
</table>

- **Markets**: M-56 LENA motorway from Never to Yakutsk is enlisted as an object ensuring motor transport traffic within the all-Russian transport corridors. It is 1,157 km long and crosses territories of Amur Oblast and the Sakha Republic (Yakutia), connecting southern and central regions of Yakutia. With further construction of KOLYMA federal motorway, it will connect Magadan and Magadan Oblast with the railway system, Baikal-Amur railroad (BAM) and smaller BAM: BAM – Tynda – Berkakit – Chulman.

- **Investor's involvement**: Federal property
- **Project detailedness**: Design estimates; sources of financing; the Federal budget funds.
- **CEO of an organization implementing the project**: Vladimir Alexandrovich SHVETSOV, Director, Federal state enterprise “Interregional direction on road construction in the Russian Far East”

30. Project name Reconstruction of airports in the Sakha Republic (Yakutia)

- **Location**: Sakha Republic (Yakutia)
- **Project initiator**: Federal state enterprise “Airports of North”
- **Project characteristics**: Stronger and more advanced airport infrastructure, creating effective mechanisms of the federal and republic’s support and air transport traffic

- **Contacts**: 680020, Khabarovsk, Fabrichny per., 2
  Tel. +7 (4212) 473-950, fax +7 (4212) 473-959
  e-mail: dsddv@dalvostok.ru
regulation, optimization of airports activity with state support from the republic’s and federal budgets.

Volume of investment: RUR 3,571 m in 2010 prices ($119.03 m) (FTP “Development of the Russian transport system in 2010-2015”)

Infrastructure available: The project is being implemented using the existing airport facilities

Infrastructure required: Not required

Cost of project: RUR 3,571 m

Implementation period: Till 2015

IRR: No information

NPV: No information

Payback period: No information

Markets: Flight safety, better working conditions, higher airfield handling capacity, environmental safety. Rendering airport services to airlines in the Sakha Republic (Yakutia).

Investor's involvement: Federal property

Project detailedness: Sources of financing: the Federal budget, the state budget of the Sakha Republic (Yakutia), extra-budgetary sources.

CEO of an organization implementing the project: Pavel Vladimirovich KHALIN, General Director, FSE “Airports of North”

Contacts: 677904, Yakutsk, settlement of Magan, 40 Let Pobedy Str., 1
Tel. +7 (4112) 406-404, fax +7 (4112) 406-157
e-mail: aerosever@rambler.ru

31. Project name: Fleet replacement of OAO Yakutia Airlines aircrafts. Purchase of Sukhoi Superjet-100

Location: City of Yakutsk

Project initiator: OAO Yakutia Airlines

Project characteristics: Long-term financial leasing of SSJ-100 aircrafts. Two aircrafts are scheduled to be delivered in 2013.

Volume of investment: The project cost is estimated at RUR 1,500 m in 2010 prices ($50 m)

Infrastructure available: Technical facilities of OAO Yakutia Airlines in the city of Yakutsk

Infrastructure required: Not required

Cost of project: RUR 1,500 m

Implementation period: Financial lease up to 15 years, life cycle 25 years

IRR: 10%

NPV: RUR 312 m (with calculation horizon at 15 years)

Payback period: 15 years

Markets: Operated air routes in the Russian Far East and the Sakha Republic (Yakutia).

Investor's involvement: Loan for construction of the aircrafts to be given into financial leasing

Project detailedness: Development of a business plan for operating SSJ-100 aircrafts.

CEO of an organization implementing the project: Ivan Alexeevich PROSTIT, General Director, OAO Yakutia Airlines

Contacts: 677014, Yakutsk, Bykovskogo Str., 9
Tel. (4112) 44-32-30, fax (4112) 44-30-60,
e-mail: office@yakutia.aero,
http://www.yakutia.aero/
<table>
<thead>
<tr>
<th>32. Project name</th>
<th>Fleet replacement of OAO Yakutia Airlines aircrafts. Purchase of An-140-110 aircrafts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location</td>
<td>City of Yakutsk</td>
</tr>
<tr>
<td>Project initiator</td>
<td>OAO Yakutia Airlines</td>
</tr>
<tr>
<td>Project characteristics</td>
<td>Long-term financial leasing of An-140-110 aircrafts. Two aircrafts are scheduled to be delivered in 2012, another two – in 2013.</td>
</tr>
<tr>
<td>Volume of investment</td>
<td>The project cost is estimated at RUR 1,350 m in 2010 prices ($45 m)</td>
</tr>
<tr>
<td>Infrastructure available</td>
<td>Technical facilities of OAO Yakutia Airlines in the city of Yakutsk</td>
</tr>
<tr>
<td>Infrastructure required</td>
<td>Not required</td>
</tr>
<tr>
<td>Cost of project</td>
<td>RUR 1,350 m</td>
</tr>
<tr>
<td>Implementation period</td>
<td>Financial lease up to 15 years, life cycle 25 years</td>
</tr>
<tr>
<td>IRR</td>
<td>5%</td>
</tr>
<tr>
<td>NPV</td>
<td>RUR 150 m (with calculation horizon at 15 years)</td>
</tr>
<tr>
<td>Payback period</td>
<td>15 years</td>
</tr>
<tr>
<td>Markets</td>
<td>Operated air routes in the Russian Far East and the Sakha Republic (Yakutia).</td>
</tr>
<tr>
<td>Investor's involvement</td>
<td>Loan for construction of the aircrafts to be given into financial leasing</td>
</tr>
<tr>
<td>Project detailedness</td>
<td>Development of a business plan for operating An-140-110 aircrafts</td>
</tr>
<tr>
<td>CEO of an organization</td>
<td>Ivan Alexeevich PROSTIT, General Director, OAO Yakutia Airlines</td>
</tr>
<tr>
<td>Contacts</td>
<td>677014, Yakutsk, Bykovskogo Str., 9, Tel.(4112) 44-32-30, fax (4112) 44-30-60, e-mail: <a href="mailto:office@yakutia.aero">office@yakutia.aero</a>, <a href="http://www.yakutia.aero/">http://www.yakutia.aero/</a></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>33. Project name</th>
<th>Small aviation fleet replacement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location</td>
<td>City of Yakutsk</td>
</tr>
<tr>
<td>Project initiator</td>
<td>OAO Polar Lines company</td>
</tr>
<tr>
<td>Project characteristics</td>
<td>Replacement of the old aircrafts fleet with more modern and economical ones. Higher flight safety, fixed tariffs on air freights, higher quality of services rendered to passengers using air transport.</td>
</tr>
<tr>
<td>Volume of investment</td>
<td>RUR 9,016.2 m in 2011 prices ($307.72 m)</td>
</tr>
<tr>
<td>Infrastructure available</td>
<td>Technical facilities of OAO Polar Lines in the republic's regions</td>
</tr>
<tr>
<td>Infrastructure required</td>
<td>Not required</td>
</tr>
<tr>
<td>Cost of project</td>
<td>RUR 9,016.2 m</td>
</tr>
<tr>
<td>Implementation period</td>
<td>Till 2015</td>
</tr>
<tr>
<td>IRR</td>
<td>No information</td>
</tr>
<tr>
<td>NPV</td>
<td>No information</td>
</tr>
<tr>
<td>Payback period</td>
<td>Small aviation aircrafts will be used for flying between regions of the republic, which is of great social significance, including flights to difficult of access places with low population, medical care flights, flights on commission from the Ministry of Emergency Situations and Forest Fires Prevention Service. Technical characteristics of CM-92, Pilatus-6, DHC-3 aircrafts enable there use for up to 1,000 km distance, speed – to 280 km/h, load – up to 600 kg.</td>
</tr>
<tr>
<td>Markets</td>
<td>Budget of the RF's subject, the company's own funds.</td>
</tr>
<tr>
<td>Investor's involvement</td>
<td>At the present moment, the Russian Federation does not produce small aircrafts certified for operation in the far north.</td>
</tr>
<tr>
<td>Project detailedness</td>
<td>Development of a business plan for operating An-140-110 aircrafts</td>
</tr>
</tbody>
</table>
34. Project name | Construction of the second railway line from Pravaya Lena station to Yakutsk river port station (the left bank) with a bridge across the Lena River near the city of Yakutsk, Sakha Republic (Yakutia)

<table>
<thead>
<tr>
<th>Location</th>
<th>City of Yakutsk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project initiator</td>
<td>FSUE “United customer group of the Federal Railroad Agency”</td>
</tr>
<tr>
<td>Project characteristics</td>
<td>The line constructed will provide railway communication between the city of Yakutsk and Baikal-Amur railroad. The project is of great importance, given creation of a large industrial area in the Sakha Republic (Yakutia) with a series of new productions united in the following clusters: nuclear (Elkonsky uranium mining and processing plant), coal (projects at Neryungri, Denisovskaya and Chulmakan coal complexes), chemical (Seligdar mining and chemical plant, Aldan chemical complex), and metallurgic cluster. The bridge is designed to have one railway line and two motor transport lanes.</td>
</tr>
<tr>
<td>Volume of investment</td>
<td>RUR 79,985.5 m in 2007 prices ($3,124.43 m)</td>
</tr>
<tr>
<td>Infrastructure available</td>
<td>The bridge section of the railway is not electrified. The railway line length – 104.5 km, bridge – 3,200 m.</td>
</tr>
<tr>
<td>Infrastructure required</td>
<td>Not required</td>
</tr>
<tr>
<td>Cost of project</td>
<td>RUR 79,985.5 m</td>
</tr>
<tr>
<td>Implementation period</td>
<td>2010 - 2015</td>
</tr>
<tr>
<td>IRR</td>
<td>No information</td>
</tr>
<tr>
<td>NPV</td>
<td>No information</td>
</tr>
<tr>
<td>Payback period</td>
<td>No information</td>
</tr>
<tr>
<td>Markets</td>
<td>Extension of a new railway line to the left (western) bank of the Lena River and directly to the city of Yakutsk. In future: rapidly developing western Yakutia with its coal, oil and gas fields; putting into operation 3,200 running meters of a bridge.</td>
</tr>
<tr>
<td>Investor's involvement</td>
<td>State property</td>
</tr>
<tr>
<td>Project detailedness</td>
<td>Sources of financing: Federal budget – RUR 76,985.5 m ; extra-budgetary sources – RUR 3,000.0 m.</td>
</tr>
<tr>
<td>CEO of an organization implementing the project</td>
<td>Dmitry Gennadievich CHIZHIKOV, General Director, FSUE “United customer group of the Federal Railroad Agency”</td>
</tr>
<tr>
<td>Contacts</td>
<td>Moscow, Bolshaya Pochtovaya,18, building 5 Tel.: +7 (495) 788-55-70 e-mail: <a href="mailto:office@egz-fazt.ru">office@egz-fazt.ru</a></td>
</tr>
</tbody>
</table>

35. Project name | Reconstruction of the airport in the town of Mirny

<table>
<thead>
<tr>
<th>Location</th>
<th>Town of Mirny, Sakha Republic (Yakutia)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project initiator</td>
<td>JSC ALROSA (ZAO)</td>
</tr>
<tr>
<td>Project characteristics</td>
<td>Aim: compliance with the required standards of civil airports usability. Project solutions: the airport reconstruction — Stage 1 (two launching units): construction of an artificial runaway with supporting facilities;</td>
</tr>
</tbody>
</table>
Stage 2: the airfield and terminal (office building, after-work sanatorium, on-board catering shop, hotel, hangars, parking lot, technical plots).

Brief description: reconstruction and construction of airfield and terminal facilities.

Volume of investment

Preliminary cost of Stage 1 construction is estimated at RUR 9,717 m in 2010 prices ($323.90 m)

Infrastructure available

The project includes infrastructure sites; no additional infrastructure needed.

Infrastructure required

Cost of project

Preliminary cost of Stage 1 construction is estimated at RUR 9,717 m.

Implementation period

Designing and site preparation – 2010; start of construction – 2012, with major building to be complete within 3 years.

IRR

The figures to be determined during design estimates development.

NPV

Payback period

100% response to the population and business demand in air transportation, with higher reliability and quality of services.

Investor's involvement

Will be determined during design estimates development and financing scheme selection. To get the state support, the project is planned to be implemented under Private-Public Partnership framework.

Project detailedness


Technical meetings of JSC ALROSA considered reconstruction and construction options (minutes № 02-03/3/448 of 15.12.2006; minutes № 7/1 of 27.07.07)


Stage 1 of engineering reconstruction and design works (ERDW) with supply facilities – July 2012.

There is a draft project for lower level of ERDW with an access road.

CEO of an organization implementing the project

Yury Andreevich DOINIKOV

First Vice-president, Executive Director, JSC ALROSA (ZAO)

Tel. +7 (41136) 9-01-12 (reception)

Contacts

678170, Sakha Republic (Yakutia), Mirny, Lenin Str., 6

Fax +7 (411-36) 3-04-51, +7 (495) 745-80-61

Valentina Anatolievna POTRUBEIKO

Vice-president, JSC ALROSA (ZAO)

Tel. +7 (41136) 9-01-54 (reception)

http://www.alrosa.ru/
e-mail: info@alrosa.ru
**Power Supply**

<table>
<thead>
<tr>
<th><strong>36. Project name</strong></th>
<th><strong>Construction of Kankunskaya hydropower station</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Location</td>
<td>Aldan region of the Sakha Republic (Yakutia)</td>
</tr>
<tr>
<td>Project initiator</td>
<td>OAO “Yuzhno-Yakutsky GEK” (dependent subsidiary of OAO “RusHydro”). A part of Integrated development of Southern Yakutia investment project. Initiator – OAO Southern Yakutia Development Corporation.</td>
</tr>
<tr>
<td>Project characteristics</td>
<td>Under the plan to increase electric power generation in the Sakha Republic (Yakutia) in order to ensure intensive development of productive forces in the Sakha Republic (Yakutia). Kankunskaya HPS is located at the Timpton River 200 km from its mouth. Installed capacity – 1,200 MW; Average annual electric power generation – 4.9 bn kW/h; Water storage normal maximum operating level – 608.0 m; Top of dead water storage – 587.0 m; Water-surface area under NMOL – 258.8 sq.km; Total water storage capacity – 18.0 cub.km; Useful capacity – 5.0 cub.m.</td>
</tr>
<tr>
<td>Volume of investment</td>
<td>Capital investment into the HPS construction totals to RUR 136,021 m ($5,462.69 m), VAT included (in 2008 prices).</td>
</tr>
<tr>
<td>Infrastructure available</td>
<td>Kankunskya HPS is located 110 km from the existing LENA federal motorway and Amur-Yakutsk railroad. There is a winter motorway connecting the power site with the LENA federal motorway and railroad near the settlement of Maly Namnyr. There are two 220-kV power transmission lines Neryungri HPS – Nizhny Kuranakh; and Kankunskaya HPS construction site will get power from there via 95-km long 220-kV transmission line.</td>
</tr>
<tr>
<td>Infrastructure required</td>
<td>Designing and construction of transport and electric grid infrastructure is to be financed from the Investment Fund of the Russian Federation.</td>
</tr>
<tr>
<td>Cost of project</td>
<td>RUR 136,021 m</td>
</tr>
<tr>
<td>Implementation period</td>
<td>2012-2022, life cycle over 50 years</td>
</tr>
<tr>
<td>IRR</td>
<td>8.3%</td>
</tr>
<tr>
<td>NPV</td>
<td>RUR 3,174 m</td>
</tr>
<tr>
<td>Availability of design estimates</td>
<td>In accordance with the RF Government resolution of 10 March 2009 No. 302-p, designing of the Kankunskaya HPS project documentation will be financed from the Investment Fund of the RF: 2009 – RUR 2,166.6 m, 2010 – RUR 842.6 m.</td>
</tr>
<tr>
<td>Payback period</td>
<td>12 years (simple payback period)</td>
</tr>
<tr>
<td>Markets</td>
<td>Potential power consumers: Seligdar mining and chemical plant – 465 mW, Yakutsk gas processing and chemical center – 196 mW, Elkonsky mining and smelting plant – 300 mW, Tarynakh MPP – 236 mW, Tayozhny MPP – 58 mW.</td>
</tr>
<tr>
<td>Investor's involvement</td>
<td>The project is being implemented under the Public-Private Partnership program, with private capital investments estimated at least 60%.</td>
</tr>
<tr>
<td>Project detailedness</td>
<td>A part of Integrated Development of Southern Yakutia investment project. Designing of the project estimates is financed from the Investment Fund of the RF. In 2008 there were complete documents on “Investment feasibility study for construction of the HPS cascade on the Timpton River”.</td>
</tr>
</tbody>
</table>
B.E. Vedeneev Research Institute has developed pre-project statement “Investment feasibility study for construction of the HPS cascade on the Timpton: Nizhne-Timptonskaya HPS, Idzhekskaya HPS or Kankunskaya HPS” No. 1008.104-1700.03 OI. There is the State Expertise positive conclusion. In 2010 OAO Lengidropjekt started development of design estimates for construction of Kankunskaya HPS.

CEO of an organization implementing the project

Sergey Borisovich UGLOVSKY, Managing Director
OAO Yuzhno-Yakutsk GEK
Mikhail Lvovich BRUK,
General Director, OAO Southern Yakutia Development Corporation

Contacts

Moscow, 57 Profsoyuznaya Str, office 812
Dmitry Borisovich POPOV,
Deputy Managing Director, OAO Yuzhno-Yakutsk GEK
Tel.: (495) 739-33-56,
Yakutsk, Dzerzhinsky Str., 23, office 207
Tel.: +7 (4112) 49-84-15
e-mail: PopovDB@gidroogk.ru
http://www.yakutia.rushydro.ru/

OAO SYDC
127473 Moscow, Seleznyovskaya Str., 11B
Tel.+7 (495) 232-42-44, fax +7 (495) 232-95-13
e-mail: office@sy-corp.ru
http://www.sy-corp.ru

<table>
<thead>
<tr>
<th>37. Project name</th>
<th>Construction of Yakutsk State Regional Electric Power Station (YaGRES) – 2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Location</strong></td>
<td>City of Yakutsk</td>
</tr>
<tr>
<td><strong>Project initiator</strong></td>
<td>OAO JSC YAKUTSKENERGO</td>
</tr>
</tbody>
</table>
| **Project characteristics** | Electric and heat power generation  
Electric capacity - 298 mW,  
Heat capacity - 240 gCal/h  
Annual heat production – 1,673,200 ths kWh/y  
Annual electricity production – 2,409,200 ths kWh/y  
Works to be complete:  
- construction and connecting of communications;  
- construction of 2 km long gas pipeline from the gas distributing station;  
- construction of a building;  
- installation of equipment. |
| **Volume of investment** | RUR 18,177 m in 2009 prices ($573.40 m)                                      |
| **Infrastructure available** | The site will be located at the entrance to the city at Vilyuisk motorway. There is transport infrastructure available. |
| **Infrastructure required** | Construction of heat and electric power grids required.                        |
| **Cost of project** | RUR 18,177 m                                                                    |
| **Implementation period** | Estimated date of launching Stage 1 (170 mW): April 2015 (putting into operation). Project life cycle – 22 years. |
| **IRR**          | 40.30%                                                                         |
| **NPV**          | RUR 85,241 m                                                                    |
| **Payback period** | 5 years                                                                         |
Markets


Heat consumers - enterprises and population of the city of Yakutsk.

Project detailedness

Additional shares issue and becoming a Company’s shareholder

CEO of an organization implementing the project

Oleg Vladimirovich TARASOV, General irector, OAO JSC YAKUTSKENERGO

Contacts

677000, Yakutsk, Fedor Popov Str., 14
Tel. +7 (4112) 21-13-50, fax +7 (4112) 21-13-55
e-mail: inform@yakutskenergo.ru
http://www.yakutskenergo.ru/

38. Project name

Construction of coal electric power station in the settlement of Khandyga and HVL-220 kV Khandyga-Nezhdaninskoe

Location

Tomponsky region, Sakha Republic (Yakutia)

Project initiator

Government of the Sakha Republic (Yakutia)

Project characteristics

Generation and transmission of electric power using the fuel from Dzhebariki-Khaia mine. Capacity – 165 mW, Production – 990 MWh, HVL-220 kV length Khandyga–Nezhdaninskoe – 275 km.

The project is aimed at electric power supply of new mining productions in eastern part of Tomponsky region, as well as compensating electric power deficit in central Yakutia.

The power station will include 3 power units, consisting of a boiler with 9.8 mPa pressure and a turbine generator with capacity of 55/60 mW.

Annual fuel consumption – 717 ths t.

Volume of investment

RUR 19,503.724 m in 2009 prices ($615.25 m)

Infrastructure available

There is a mine near Dzhebariki-Khaia settlement with the same name, its production capacity is up to 1 mn t of coal a year. There is social and housing infrastructure. Transport infrastructure includes all-the-year-round road Khandyga – Dzhebariki-Khaia, 72 km and having access to the federal Yakutsk – Khandyga – Magadan motorway; in summer – river transport along the Aldan River.

Infrastructure required

Not required.

Cost of project

RUR 19,503.724 m

Implementation period

2011 - 2016, project life cycle over 25 years

IRR

20.50%

NPV

RUR 3,361.4 m

Payback period

14 years

Markets

Potential consumers – Verkhne-Menkechensky lead-zinc MPP, Nazhdaninsky gold MMP, settlements Dzhebariki-Khaia, Razvilka, Tyoply Klyuch

Investor's involvement

The project’s implementation requires a strategic investor.
### 39. Project name

Construction of heat and power plant of low capacity in the settlement of Zyryanka (external engineering communications)

<table>
<thead>
<tr>
<th>Location</th>
<th>Verkhnekolymsky region, Sakha Republic (Yakutia)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project initiator</td>
<td>Government of the Sakha Republic (Yakutia) and Verkhnekolymsky region municipal unit</td>
</tr>
<tr>
<td>Project characteristics</td>
<td>Supply of heat and electric power to the population. Combined generation of heat and electric power to supply settlements of Zyryanka and Ugolnoe using local fuel instead of diesel fuel brought from outside. It is planned to construct water supply network, heat and electric power transmitting grids.</td>
</tr>
<tr>
<td>Volume of investment</td>
<td>RUR 2,100 m including VAT in 2010 prices ($70 m)</td>
</tr>
<tr>
<td>Infrastructure available</td>
<td>The plant is situated in the settlement of Zyryanka, coal to be supplied from the settlement of Ugolnoe, which is 60 km away, by motor transport all the year around; cargoes to be shipped by water transport by the Kolyma River.</td>
</tr>
<tr>
<td>Infrastructure required</td>
<td>Not required</td>
</tr>
<tr>
<td>Cost of project</td>
<td>RUR 2,100 m</td>
</tr>
<tr>
<td>Implementation period</td>
<td>No information, project life cycle 24 years</td>
</tr>
<tr>
<td>IRR</td>
<td>No information</td>
</tr>
<tr>
<td>NPV</td>
<td>No information</td>
</tr>
<tr>
<td>Payback period</td>
<td>No information</td>
</tr>
<tr>
<td>Markets</td>
<td>Verkhnekolymsky region, settlement of Zyryanka and Ugolnoe</td>
</tr>
<tr>
<td>Investor's involvement</td>
<td>Construction of the plant (without external grids) is included into the Federal targeted program on Economic and Social Development of the Russian far East and Transbaikalia till 2013, which is financed form the Federal budget.</td>
</tr>
<tr>
<td>Project detailedness</td>
<td>The design estimates are undergoing the state expertise. There is a production design of the plant, positive conclusion of the State Expertise. Design and survey works have been done, cycle 1 construction works have started.</td>
</tr>
<tr>
<td>CEO of an organization implementing the project</td>
<td>Alexander Anatolievich ANTONENKO, Minister of Housing, Communal Service and Power Supply of the Sakha Republic (Yakutia)</td>
</tr>
</tbody>
</table>
40. Project name

**Construction of a multi-functional power supply complex in the settlement of Yurung-Khaya**

**Location**
Anabarsky region, Sakha Republic (Yakutia)

**Project initiator**
OAO SAKHAENERGO

**Project characteristics**
Providing customers with electric power with the use of renewable sources. The multi-functional power supply complex includes a diesel power station. WPS capacity 5 x 150 = 750 kW + DPS 1,050 kW = 1,800 kW. Electric power generation 3.2 m kWh. Diesel fuel economy – 146 t/y. Works to be completed: designing, construction of transmission lines, construction of foundations, purchase and rigging of wind turbines and diesel power stations, electric equipment installation.

**Volume of investment**
RUR 150.9 m in 2010 prices ($5.03 m)

**Infrastructure available**
The settlement of Yurung-Khaya is situated in Anabar River mouth, where it flows into the Arctic Ocean. Transportation – during the navigable period cargoes delivered by the Lena River, then by the sea route to Yurung-Khaya.

**Infrastructure required**
Not required.

**Cost of project**
RUR 150.9 m

**Implementation period**
2013, project life cycle 25 years

**IRR**
21.50%

**NPV**
RUR 94.974 m

**Payback period**
10.6 years

**Markets**
Customers in the settlement (population, housing and communal services sector, social facilities).

**Investor's involvement**
Implementation of the project as a testing ground for various types and modifications to determine potential of their wide use in cold regions, given both technical characteristics and economic parameters.

**Project detailedness**
Business plan of the investment project of construction of a multi-functional power supply complex in the settlement of Yurung-Khaya, Anabarsky region, Sakha Republic (Yakutia)

**CEO of an organization implementing the project**
Nikolai Makarovich PARNIKOV,
General Director, OAO SAKHAENERGO

**Contacts**
677000, Yakutsk, per. Energetikov, 2
Alexander Stepanovich YEFIMOV,
Head of Alternative Energy Sources and New technologies, OAO SAKHAENERGO
Tel. +7 (4112) 497508,
e-mail: efimov@sakha.yakute.elektra.ru
http://www.sakhaenergo.ru
### 41. Project name: Construction and rigging of a wind power station in the settlement of Yukagir

<table>
<thead>
<tr>
<th>Location</th>
<th>Ust-Yansky region, Sakha Republic (Yakutia)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project initiator</td>
<td>OAO SAKHAENERGO</td>
</tr>
<tr>
<td>Project characteristics</td>
<td>Providing customers with electric power with the use of renewable power sources. Electric capacity – 50 kW, Electric power generation – 120 ths kWh. Saving diesel fuel on account of substituting it with renewable energy sources when generating power at diesel stations. Needs: purchase of equipment, construction of transmission lines, construction of foundations, rigging wind turbines and electric technical equipment.</td>
</tr>
<tr>
<td>Volume of investment</td>
<td>RUR 8 m in 2010 prices($0.26 m)</td>
</tr>
<tr>
<td>Infrastructure available</td>
<td>No.</td>
</tr>
<tr>
<td>Infrastructure required</td>
<td>It is necessary to prepare the site, connect the power transmission line.</td>
</tr>
<tr>
<td>Cost of project</td>
<td>RUR 8 m</td>
</tr>
<tr>
<td>Implementation period</td>
<td>2010 - 2011, project life cycle 25 years</td>
</tr>
<tr>
<td>IRR</td>
<td>23%</td>
</tr>
<tr>
<td>NPV</td>
<td>RUR 8.677 m</td>
</tr>
<tr>
<td>Payback period</td>
<td>5 years</td>
</tr>
<tr>
<td>Markets</td>
<td>Consumers in the settlement of Yukagir</td>
</tr>
<tr>
<td>Investor's involvement</td>
<td>Implementation of the project as a testing ground for of various types and modifications to determine potential of their wide use in cold regions, given both technical characteristics and economic parameters.</td>
</tr>
<tr>
<td>Project detailedness</td>
<td>ZAO Research Organization NETRAEL, Moscow, has developed a survey on construction of wind power stations in the Sakha Republic (Yakutia) to supply power to settlements serviced by OAO SAKHAENERGO.</td>
</tr>
<tr>
<td>CEO of an organization implementing the project</td>
<td>Nikolai Makarovich PARNIKOV, General Director, OAO SAKHAENERGO</td>
</tr>
<tr>
<td>Contacts</td>
<td>677000, Yakutsk, per. Energetikov, 2 Alexander Stepanovich YEFIMOV, Head of Alternative Energy Sources and New technologies, OAO SAKHAENERGO Tel. +7 (4112) 497508, e-mail: <a href="mailto:efimov@sakha.yakute.elektra.ru">efimov@sakha.yakute.elektra.ru</a> <a href="http://www.sakhaenergo.ru">http://www.sakhaenergo.ru</a> e-mail: <a href="mailto:mail@sakha.yakute.elektra.ru">mail@sakha.yakute.elektra.ru</a></td>
</tr>
</tbody>
</table>

### 42. Project name: Construction and rigging of a wind turbine in the settlement of Ust-Olenyok

<table>
<thead>
<tr>
<th>Location</th>
<th>Bulunsky region, Sakha Republic (Yakutia)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project initiator</td>
<td>OAO SAKHAENERGO</td>
</tr>
</tbody>
</table>
### Project characteristics
Use of renewable energy sources for generating electric power.
- Capacity – 50 kW.
- Electric power generation – 120 ths kWh/y.
- Saving diesel fuel through substituting it with renewable sources of electric energy generation at diesel power stations. Construction of transmission lines, construction of foundations, wind turbine rigging, electric technical equipment installation.

### Volume of investment
- RUR 8 m in 2010 prices ($0.26 m)

### Infrastructure available
- No

### Infrastructure required
- Construction of power transmission lines, preparing the site

### Cost of project
- RUR 8 m

### Implementation period
- 2010-2011, project life cycle 25 years
- IRR: 30%
- NPV: RUR 13.424 m
- Payback period: 4 years

### Infrastructure available
- It is necessary to prepare the site, connect the power transmission line.

### Markets
- Consumers in the settlement of Ust-Olenyok.

### Investor's involvement
- Implementation of the project as a testing ground for various types and modifications to determine potential of their wide use in cold regions, given both technical characteristics and economic parameters.

### Project detailedness
- ZAO Research Organization NETRAEL, Moscow, has developed a survey on construction of wind power stations in the Sakha Republic (Yakutia) to supply power to settlements serviced by OAO SAKHAENERGO.

### CEO of an organization implementing the project
- Nikolai Makarovich PARNIKOV,
  General Director, OAO SAKHAENERGO

### Contacts
- 677000, Yakutsk, per. Energetikov, 2
- Alexander Stepanovich YEFIMOV,
  Head of Alternative Energy Sources and New technologies, OAO SAKHAENERGO
  Tel. +7 (4112) 497508,
  e-mail: efimov@sakha.yakute.elektra.ru
  http://www.sakhaenergo.ru
  e-mail: mail@sakha.yakute.elektra.ru

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### 43. Project name
**Switching of boiler houses in the town of Lensk to gas**

### Location
- Town of Lensk, Sakha Republic (Yakutia)

### Project initiator
- JSC ALROSA (ZAO)

### Project characteristics
- **Aim:** reliable heat supply of the town of Lensk; implementation of gasification program; lower cost of heat power generation.
- **Project solutions:** modernization of the existing Central heat boiler house with substitution of oil with gaseous and liquid fuel.
- Construction of boiler houses №1,2 using gaseous fuel; switching Small boiler house №5 to gas (ALROSA); switching of the industrial boiler plant to gaseous fuel.
- **Brief description:** switching of Lensk boiler houses to gas under the gasification program.

### Volume of investment
- Cost of construction is estimated at RUR 506.4 m with mixed price-level ($17.28 m). It will be reviewed during feasibility study development.

### Infrastructure available
- Available

### Infrastructure required
- Not required
Cost of project
Cost of construction, compared to analogues, is estimated at RUR 506.4 m (with mixed price-level). It will be reviewed during feasibility study development.

Implementation period

IRR
NPV
Payback period
Figures to be specified during the project's feasibility study

Markets
Heat power supply to customers in the town of Lensk.

Investor's involvement
100% participation of JSC ALROSA investing their own funds; terms of financing and participation of other investors will be considered during feasibility study development.

Project detailedness
Feasibility study to be completed in 2011.

OOO Lenskoe PTS, subsidiary of JSC ALROSA, will operate the modernized fixed assets on renting terms.

CEO of an organization implementing the project
Yury Andreevich DOINIKOV
First Vice-president, Executive Director, JSC ALROSA (ZAO)
Tel. +7 (41136) 9-01-12 (reception)

Contacts
678170, Sakha Republic (Yakutia), Mirny, Lenin Str., 6
Fax +7 (411-36) 3-04-51, +7 (495) 745-80-61
Valentina Anatolievna POTRUBEIKO
Vice-president, JSC ALROSA (ZAO)
Tel. +7 (41136) 9-01-54 (reception)
http://www.alrosa.ru/
e-mail: info@alrosa.ru
### Housing and Communal Sector

#### 44. Project name

<table>
<thead>
<tr>
<th>Location</th>
<th>City of Yakutsk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project initiator</td>
<td>Ministry for Housing, Communal Service and Power Supply of the Sakha Republic (Yakutia)</td>
</tr>
<tr>
<td>Project characteristics</td>
<td>Aim: enhanced reliability of water supply, increased production of water intake, qualitative improvement of fixed assets. The project includes construction of a water intake station of bucket type with a pumping unit of first and second lifting, with capacity of 100.0 ths cub.m a day, chlorination unit and ultraviolet disinfection unit.</td>
</tr>
<tr>
<td>Volume of investment</td>
<td>In 2008 prices, when the design estimated were approved – RUR 1,345.7 m ($54.04 m), in relevant years prices – RUR 1,652.5 m ($55.08 m) for the period 2011-2013.</td>
</tr>
<tr>
<td>Infrastructure available</td>
<td>The water intake is under the authority of JSC VODOKANAL. The engineering and transport infrastructure meets the construction requirements. There is a land site for construction.</td>
</tr>
<tr>
<td>Infrastructure required</td>
<td>Not required.</td>
</tr>
<tr>
<td>Cost of project</td>
<td>In 2008 prices, when the design estimated were approved – RUR 1,345.7 m, in relevant years prices – RUR 1,652.5 m for the period 2011-2013.</td>
</tr>
<tr>
<td>Implementation period</td>
<td>2011 - 2013</td>
</tr>
<tr>
<td>IRR</td>
<td>No information</td>
</tr>
<tr>
<td>NPV</td>
<td>No information</td>
</tr>
<tr>
<td>Payback period</td>
<td>25 years</td>
</tr>
<tr>
<td>Markets</td>
<td>Population and enterprises in the city of Yakutsk</td>
</tr>
<tr>
<td>Investor's involvement</td>
<td>100%</td>
</tr>
<tr>
<td>Project detailedness</td>
<td>The following documents are available: design estimates by JSC Yakutagroproject, done in 2009 w. 2697-CM apx. № 68206; positive expert opinion on design estimates and engineering survey results № 14-1-3-10/33-03(1)-09 of 25.11.2009 by the Department of State Expertise of Design Estimates and Engineering Survey Results in Construction, Sakha Republic (Yakutia).</td>
</tr>
<tr>
<td>CEO of an organization implementing the project</td>
<td>Alexander Ivanovich FEDOTOV, General Director, OAO Republic's Investment Company (RIC) Alexander Anatolievich ANTONENKO, Minister of Housing, Communal Service and Power Supply of the Sakha Republic (Yakutia) Nikolai Vasilievich ZHESTKOV, Director General, OAO VODOKANAL</td>
</tr>
<tr>
<td>Contacts</td>
<td>OAO RIC, 677000, Yakutsk, Ordzhonikidze, 38 tel. +7 (4112) 39-02-51 e-mail: <a href="mailto:ric@ricsakha.ru">ric@ricsakha.ru</a> Ministry of Housing, Communal Service and Power Supply of the Sakha Republic (Yakutia) 677000, Yakutsk, Kirov Str., 13 Tel. +7 (4112) 42-28-75, 34-47-88, 42-25-78 e-mail: <a href="mailto:minjkh@gov.sakha.ru">minjkh@gov.sakha.ru</a> <a href="http://www.sakha.gov.ru/minjkh">http://www.sakha.gov.ru/minjkh</a>, OAO VODOKANAL</td>
</tr>
</tbody>
</table>
**45. Project name** | Construction of waterworks in the city of Yakutsk, Sakha Republic (Yakutia)
---|---
**Location** | City of Yakutsk
**Project initiator** | Ministry for Housing, Communal Service and Power Supply of the Sakha Republic (Yakutia)
**Project characteristics** | Aim - enhanced reliability of water supply, increased production of water intake, qualitative improvement of fixed assets. The project includes construction of a water treatment plant with capacity of 100.0 ths cub.m a day.
**Volume of investment** | In 2008 prices, when the design estimated were approved – RUR 1,094.2 m ($43.94 m), in relevant years prices – RUR 1,434.0 m ($47.80 m) for the period 2011-2013.
**Infrastructure available** | The waterworks are under the authority of JSC VODOKANAL. The engineering and transport infrastructure meets the construction requirements. There is a land site for construction.
**Infrastructure required** | Not required.
**Cost of project** | In 2008 prices, when the design estimated were approved – RUR 1,094.2 m, in relevant years prices – RUR 1,434.0 m for the period 2011-2013.
**Implementation period** | 2012 - 2013
**IRR** | No information
**NPV** | No information
**Payback period** | 90 years
**Markets** | Population and enterprises in the city of Yakutsk
**Investor's involvement** | 100%
**Project detailedness** | The following documents are available: design estimates by JSC Yakutagroproject, done in 2009 у. 2710-CМ арк. № 68169; positive expert opinion on design estimates and engineering survey results № 14-1-3-10/33-03(2)-09 of 14.09.2009 by the Department of State Expertise of Design Estimates and Engineering Survey Results in Construction, Sakha Republic (Yakutia).
**CEO of an organization implementing the project** | Alexander Anatolievich ANTONENKO,
Minister of Housing, Communal Service and Power Supply of the Sakha Republic (Yakutia)
Nikolai Vasilievich ZHESTKOV
Director General, OAO VODOKANAL
**Contacts** | Ministry of Housing, Communal Service and Power Supply of the Sakha Republic (Yakutia)
677000, Yakutsk, Kirov Str., 13
Tel. +7 (4112) 42-28-75, 34-47-88, 42-25-78
e-mail: minjkx@gov.sakha.ru
http://www.sakha.gov.ru/minjkh,
OAO VODOKANAL
677001, Yakutsk, Bogdana Chizhika Str., 19
Tel. +7 (4112) 21-01-63, fax +7 (4112) 21-52-89
e-mail: yvdk@sakha.ru
http://vodokanal.ya1.ru/
<table>
<thead>
<tr>
<th><strong>46. Project name</strong></th>
<th>Biological treatment plant with capacity of 20,000 cub.m a day in the town of Lensk</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Location</strong></td>
<td>Town of Lensk, Sakha Republic (Yakutia)</td>
</tr>
<tr>
<td><strong>Project initiator</strong></td>
<td>JSC ALROSA (ZAO)</td>
</tr>
<tr>
<td><strong>Project characteristics</strong></td>
<td>Aim: protection of the Lena River, being Category 1 water body situated in the Arctic basin, from water untreated by full biological treatment. Compliance with existing quality standards of communal services provided to the population in the town of Lensk. Increased industrial capacity up to 7,300 ths cub.m a year (20.3 ths cub.m. A day), in the framework of the town development plan. Project solutions: construction of an integrated facility for sewage and residues treatment (Main building: office and production building, biological treatment plant; reception and discharge unit; industrial facility; compost storage; transforming substation; power unit; anti-fire reservoirs with pumping unit; check gate), with capacity of 20,000 cub.m. A day. Brief description: construction in 1991-2008 (RUR 336.348 m of capital investment). Since 2009 has been put to standby. The biological treatment plant construction to be completed in 2015-2018.</td>
</tr>
<tr>
<td><strong>Volume of investment</strong></td>
<td>Cost of construction in forecast prices makes RUR 1,804.148 m ($61.57 m)</td>
</tr>
<tr>
<td><strong>Infrastructure available</strong></td>
<td>Is included into the project designed.</td>
</tr>
<tr>
<td><strong>Infrastructure required</strong></td>
<td>No additional infrastructure required.</td>
</tr>
<tr>
<td><strong>Cost of project</strong></td>
<td>Cost of construction in forecast prices makes RUR 1,804.148 m</td>
</tr>
<tr>
<td><strong>IRR</strong></td>
<td>Figures to be specified during the project's actualization and recalculation.</td>
</tr>
<tr>
<td><strong>NPV</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Payback period</strong></td>
<td>Waterworks services rendered to customers in the town of Lensk.</td>
</tr>
<tr>
<td><strong>Markets</strong></td>
<td>The project is to be implemented as a regional investment project financed from the budget; financing and investor's involvement terms are to be specified during the project's adjustment.</td>
</tr>
<tr>
<td><strong>Investor's involvement</strong></td>
<td>There is a production project on “Adjustment of production project on site “ in the town of Lensk. Biological treatment plant with capacity of 20,000 cub.m. a day”, developed in 2005. Positive expert opinion on design estimates and engineering survey results № 10/35-94-06-08 of 18.11.2009 by the Department of State Expertise of Design Estimates and Engineering Survey Results in Construction, Sakha Republic (Yakutia). Feasibility study done in 2009; the project to be reviewed</td>
</tr>
<tr>
<td><strong>Project detailedness</strong></td>
<td></td>
</tr>
<tr>
<td><strong>CEO of an organization implementing the project</strong></td>
<td>Yury Andreevich DOINIJKOV First Vice-president, Executive Director, JSC ALROSA (ZAO) Tel. +7 (41136) 9-01-12 (reception)</td>
</tr>
<tr>
<td><strong>Contacts</strong></td>
<td>678170, Sakha Republic (Yakutia), Mirny, Lenin Str., 6 Fax +7 (411-36) 3-04-51, +7 (495) 745-80-61 Valentina Anatolievna POTRUBEIKO Vice-president, JSC ALROSA (ZAO) Tel. +7 (41136) 9-01-54 (reception) <a href="http://www.alrosa.ru/">http://www.alrosa.ru/</a> e-mail: <a href="mailto:info@alrosa.ru">info@alrosa.ru</a></td>
</tr>
</tbody>
</table>
### Construction

<table>
<thead>
<tr>
<th>Project name</th>
<th>Expansion of cement production with launching of the third technological line and increasing the plant capacity to 600 ths t of Portland cement a year in the settlement of Mokhsogollokh</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Location</strong></td>
<td>Sakha Republic (Yakutia), Khangalassky region, settlement of Mokhsogollokh</td>
</tr>
<tr>
<td><strong>Project initiator</strong></td>
<td>OAO Yakutcement</td>
</tr>
</tbody>
</table>
| **Project characteristics** | 13. Reconstruction of electric filters in the firing house – equipment manufactured by ELEX AG, Switzerland.  
An investor can appoint the equipment supplier.                                                                                                                                                      |
| **Volume of investment** | RUR 231.40 m in 2007 prices ($9.03 m)                                                                                                                                                                                                                     |
| **Infrastructure available** | Land plot, transport infrastructure, electric power, gas, water and heat supply                                                                                                                                                                             |
| **Infrastructure required** | Not required                                                                                                                                                                                                                                               |
| **Cost of project** | Cost of the equipment delivery in 2007 prices – RUR 289.25 m                                                                                                                                                                                           |
| **Implementation period** | 3 years                                                                                                                                                                                                                                                 |
| **IRR** | No information                                                                                                                                                                                                                                             |
| **NPV** | No information                                                                                                                                                                                                                                             |
| **Payback period** | 4.6 years                                                                                                                                                                                                                                                 |
| **Markets** | The republic's companies in construction, mining, oil and gas industry and others                                                                                                                                                                         |
| **Investor's involvement** | Lent funds                                                                                                                                                                                                                                                |
| **Project detailedness** | “Justification of investing unto construction of a technological line using cement wet-mix production” is developed by OAO “SibNIIproektcement” in 2007.                                                                                                        |
| **CEO of an organization implementing the project** | Alish Zabid-ogly MAMEDOV, General Director, OAO Yakutcement  
Yelena Gareevna KRYUCHKOVA, Deputy General Director on Capital Construction, Tel. +7 (411-44) 47-319,  
Alexander Borisovich MATVEEV, Head of Financial Department, Tel. +7(411-44) 48-070  
e-mail: mohoks@mail.ru |
| **Contacts** |                                                                                                                                                                                                                                                          |

<table>
<thead>
<tr>
<th>Project name</th>
<th>Launching a facility for production of dry building composites, flooring cement and water-proof composite gypsum matrix, restoration of the building lime facility</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Location</strong></td>
<td>Sakha Republic (Yakutia), Khangalassky region, settlement of Mokhsogollokh</td>
</tr>
<tr>
<td><strong>Project initiator</strong></td>
<td>OAO Yakut State Construction Design and Research Institute, OAO Yakutcement</td>
</tr>
</tbody>
</table>
| **Project characteristics** | Launching and restoring of the facility for production of:  
- flooring cement with capacity up to 40 ths t a year (including water-proof one);  
- lime with capacity up to 16 ths t a year;  
- dry building composites of a wide range with capacity up to 30 ths t |
| **Volume of investment** | RUR 289.25 m in 2007 prices ($9.03 m)                                                                                                                                                                                                                     |
| **Infrastructure available** | Land plot, transport infrastructure, electric power, gas, water and heat supply                                                                                                                                                                             |
| **Infrastructure required** | Not required                                                                                                                                                                                                                                               |
| **Cost of project** | Cost of the equipment delivery in 2007 prices – RUR 289.25 m                                                                                                                                                                                           |
| **Implementation period** | 3 years                                                                                                                                                                                                                                                 |
| **IRR** | No information                                                                                                                                                                                                                                             |
| **NPV** | No information                                                                                                                                                                                                                                             |
| **Payback period** | 3.5 years                                                                                                                                                                                                                                                 |
| **Markets** | The republic's companies in construction, mining, oil and gas industry and others                                                                                                                                                                         |
| **Investor's involvement** | Lent funds                                                                                                                                                                                                                                                |
| **Project detailedness** | “Justification of investing unto construction of a technological line using cement wet-mix production” is developed by OAO “SibNIIproektcement” in 2007.                                                                                                        |
| **CEO of an organization implementing the project** | Alish Zabid-ogly MAMEDOV, General Director, OAO Yakutcement  
Yelena Gareevna KRYUCHKOVA, Deputy General Director on Capital Construction, Tel. +7 (411-44) 47-319,  
Alexander Borisovich MATVEEV, Head of Financial Department, Tel. +7(411-44) 48-070  
e-mail: mohoks@mail.ru |
| **Contacts** |                                                                                                                                                                                                                                                          |
### Integrated development of Quarter 84 in the city of Yakutsk

**Location**
Sakha Republic (Yakutia), city of Yakutsk

**Project initiator**
OAO Almazy Anabara (Diamonds of Anabar)

**Project characteristics**
The social and economic goal is to meet demand of the solvent population in affordable housing through construction of comfortable blocks of flats in the city of Yakutsk (three blocks of 416 flats and two blocks of 432 flats with total area of 147.3 ths sq.m).

**Volume of investment**
RUR 6,475.5 m in 2011 prices ($221 m)

**Infrastructure available**
There is a 15 ha land site allotted; it is integrated into the city's transport network.

**Infrastructure required**
Electric power, heat, gas and water supply of the site

**Cost of project**
RUR 6,690.5 m

**Implementation period**
3 years

**IRR**
61.5%

**NPV**
RUR 655.1 m

**Payback period**
3.5 years

**Markets**
Population in the city of Yakutsk

**Investor's involvement**
Lent funds

**Project detailedness**
Design estimates, business plan, positive conclusion of the state expertise; a construction site allotted in Quarter 84

**CEO of an organization implementing the project**
Matvei Nikolaevich YEVSEEV,
General Director, OAO Almazy Anabara

**Contacts**
677000, Yakutsk, Chernyshevskevskogo Str., 6
Sergei Alexandrovich ULAROV, Aide to General Director
Tel. +7 (411-2) 45-11-00 (ext. 4315)
e-mail: ularovsa@alanab.ru
http://alanab.ykt.ru/

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**Volume of investment**
RUR 700 m in 2010 prices ($23.33 m)

**Infrastructure available**
Land plot, transport infrastructure, electric power, gas, water and heat supply

**Infrastructure required**
Not required

**Cost of project**
RUR 850 m

**Implementation period**
5 years

**IRR**
No information

**NPV**
No information

**Payback period**
5.6 years

**Markets**
The republic's companies in construction, mining, oil and gas industry and others

**Investor's involvement**
Lent funds

**Project detailedness**
Business plan for dry construction composites and water-proof gypsum facilities, developed by OAO Yakut State Construction Design and Research Institute.

**CEO of an organization implementing the project**
Olga Innokentievna MATVEEVA,
General Director, OAO Yakut State Construction Design and Research Institute

**Contacts**
677000, Yakutsk, Dzerzhinskogo Str., 20
Tel. +7 (411-2) 45-22-95
e-mail: yapniis@ysn.ru
http://www.yapniis.ru/

---

**Project name**
Integrated development of Quarter 84 in the city of Yakutsk

**Location**
Sakha Republic (Yakutia), city of Yakutsk

**Project initiator**
OAO Almazy Anabara (Diamonds of Anabar)

**Project characteristics**
The social and economic goal is to meet demand of the solvent population in affordable housing through construction of comfortable blocks of flats in the city of Yakutsk (three blocks of 416 flats and two blocks of 432 flats with total area of 147.3 ths sq.m).

**Volume of investment**
RUR 6,475.5 m in 2011 prices ($221 m)

**Infrastructure available**
There is a 15 ha land site allotted; it is integrated into the city's transport network.

**Infrastructure required**
Electric power, heat, gas and water supply of the site

**Cost of project**
RUR 6,690.5 m

**Implementation period**
3 years

**IRR**
61.5%

**NPV**
RUR 655.1 m

**Payback period**
3.5 years

**Markets**
Population in the city of Yakutsk

**Investor's involvement**
Lent funds

**Project detailedness**
Design estimates, business plan, positive conclusion of the state expertise; a construction site allotted in Quarter 84

**CEO of an organization implementing the project**
Matvei Nikolaevich YEVSEEV,
General Director, OAO Almazy Anabara

**Contacts**
677000, Yakutsk, Chernyshevskevskogo Str., 6
Sergei Alexandrovich ULAROV, Aide to General Director
Tel. +7 (411-2) 45-11-00 (ext. 4315)
e-mail: ularovsa@alanab.ru
http://alanab.ykt.ru/
## Timber Processing

### 50. Project name: OOO ALMAS development

- **Location**: Sakha Republic (Yakutia), Lensky region, Olyokminsky region, city of Yakutsk
- **Project initiator**: OOO ALMAS
- **Project characteristics**:
  - The main company’s activity is logging and processing of timber, export-oriented production, pre-fabricated wooden houses output, construction of low-rise wooden buildings.
  - The project is aimed at lower cost of economy-class wooden buildings through larger timber logging and processing volume. This requires purchase of timber logging machines and timber carriers; construction of new forest roads; purchase of technological lines for production of wooden houses.
  - The project will create new workplaces.
- **Volume of investment**: RUR 310.5 m in 2010 prices ($10.35 m)
- **Infrastructure available**: Production facility
- **Infrastructure required**: Construction of forest roads
- **Cost of project**: RUR 621.0 m
- **Implementation period**: 3 years
- **IRR**: No information
- **NPV**: No information
- **Payback period**: 5 years
- **Markets**: Asian Pacific and European countries, Russian regions, Sakha Republic (Yakutia)
- **Investor's involvement**: Lent funds
- **Project detailedness**: Business plan
- **CEO of an organization implementing the project**: Andrei Yurievich NIKOLAEV, Director, OOO ALMAS
- **Contacts**:
  - 677004, Yakutsk, 50 Let Sovetskoi Armii Str., 86/4 A
  - Tel. +7 (411-2) 44-96-09
  - e-mail: lpk@alanab.ru
  - http://alanab.ykt.ru/content/blogcategory/165/45/

### 51. Project name: Launching of desiccation service at ZAO YUPITER

- **Location**: Sakha Republic (Yakutia), Lensky region, town of Lensk
- **Project characteristics**:
  - Launching a timber desiccation facility, modernization of timber processing facility, construction of forest roads, creation of new workplaces
- **Volume of investment**: RUR 150.0 m in 2010 prices ($5 m)
- **Infrastructure available**: Production facility in the town of Lensk, Lensky region, timber logging unit in Lensky region
- **Infrastructure required**: Construction of forest roads
- **Cost of project**: RUR 210.0 m
- **Implementation period**: 3 years
- **IRR**: No information
- **NPV**: No information
- **Payback period**: 5 years
- **Markets**: Domestic market of the Sakha Republic (Yakutia)
- **Investor's involvement**: Share in the charter capital
- **Project detailedness**: Business plan
52. Project name: Working out of a strategic plan on establishing a timber facility in the settlement of Nizhny Kuranakh

Location: Sakha Republic (Yakutia), Aldansky region, settlement of Nizhny Kuranakh

Project initiator: OOO FORMAT

Project characteristics:
The project is aimed at launching a modern facility on producing export-oriented products, timber logging unit, biofuel producing facility, construction of forest roads to new undeveloped woodlands.

Volume of investment: RUR 300 m in 2010 prices ($10 m)

Infrastructure available:
There is a timber processing unit with modern German equipment in the settlement of Nizhny Kuranakh, Aldansky region, railroad dead-end

Infrastructure required: Construction of forest roads

Cost of project: RUR 600.0 m

Implementation period: 2 years

IRR: No information

NPV: No information

Payback period: 5 years

Markets:
European and Asian Pacific countries, domestic market of the Republic (Yakutia),

Investor's involvement: Lent funds

Project detailedness: Investment project

CEO of an organization implementing the project: Sergei Vyacheslavovich ZAIKIN,
General Director, OOO FORMAT

Contacts:
115184, Moscow, Ozerkovsky per., 12, office 402
Tel. +7 (495) 721-16-79
e-mail: mail@format-yakutia.ru

53. Project name: Launch of timber production by OOO Logging Unit STVOR

Location: Sakha Republic (Yakutia), Lensky region

Project initiator: OOO Logging Unit STVOR

Project characteristics:
Launching timber processing with the use of timber resources of Lensky region, exporting the output to Europe and Asian Pacific countries, creating new workplaces.
Designed capacity: industrial wood logging – over 100.0 ths cub.m; processed goods – over 70 ths cub.m. Reconstruction and construction of new forest tracks.

Volume of investment: RUR 257.4 m in 2010 prices ($8.58 m)

Infrastructure available:
There is upper and lower storages; wood processing facility, requiring modernization of primary equipment; repair facilities; forest roads; housing.

Infrastructure required: Construction of forest roads

Cost of project: RUR 495.0 m

Implementation period: 3 years

IRR: 53.1%

NPV: 317,6 млн. руб.
<table>
<thead>
<tr>
<th><strong>Payback period</strong></th>
<th>5 years</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Markets</strong></td>
<td>Asian Pacific countries, Europe, Russian regions, domestic market of the Sakha Republic (Yakutia)</td>
</tr>
<tr>
<td><strong>Investor's involvement</strong></td>
<td>Lent funds</td>
</tr>
<tr>
<td><strong>Project detailedness</strong></td>
<td>Business plan</td>
</tr>
<tr>
<td><strong>CEO of an organization implementing the project</strong></td>
<td>Vladimir Vasilievich KORYAKIN, Director, ООО Logging Unit STVOR</td>
</tr>
<tr>
<td><strong>Contacts</strong></td>
<td>677000, Yakutsk, Dzerzhinskogo Str., 2 Tel. +7 (411-2) 47-63-29, cell # +7 (924) 175-01-40 e-mail: <a href="mailto:alex8784400@mail.ru">alex8784400@mail.ru</a></td>
</tr>
</tbody>
</table>
### Agriculture

<table>
<thead>
<tr>
<th>54. Project name</th>
<th>Development of agricultural production facility in the settlement of Vitim</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location</td>
<td>Lensky region, Sakha Republic (Yakutia)</td>
</tr>
<tr>
<td>Project initiator</td>
<td>Ministry of Agriculture of the SR(Y), OOO Vitim-Agro</td>
</tr>
<tr>
<td>Project characteristics</td>
<td>The project is designed to:</td>
</tr>
<tr>
<td></td>
<td>1. supply whole-milk products to a milk-processing plant producing cultured milk products for the population; Products: hardly transportable milk and cultured milk products from basic-fat marketable milk produced at the animal farm in volume of 650 t. Meeting demand in cultured milk products by closed institutions and retail shops network.</td>
</tr>
<tr>
<td></td>
<td>2. Production of pork, breeding piglets for the population in the settlement of Vitim and neighboring areas.</td>
</tr>
<tr>
<td></td>
<td>3. Egg-oriented chicken farm with 10,000 laying hens in s. Vitim.</td>
</tr>
<tr>
<td></td>
<td>4. All-the-year-round production of vegetables and greens for selling fresh and processing.</td>
</tr>
<tr>
<td></td>
<td>5. Wasteless manufacturing of agricultural products.</td>
</tr>
<tr>
<td></td>
<td>Construction of agricultural complex facilities in s. Vitim, agricultural production based on high technology, new vehicles, productive cattle, complex approach to building agricultural facilities – everything in order to supply the population with consumer goods and create new workplaces:</td>
</tr>
<tr>
<td></td>
<td>- cattle farm for 212 heads of milkers and 282 heads of young stock in s. Vitim and the village of Tolon, Lensky region of the SR(Y).</td>
</tr>
<tr>
<td></td>
<td>- pig farm for 47 heads of sows.</td>
</tr>
<tr>
<td></td>
<td>- egg-oriented chicken farm for 10,000 laying hens.</td>
</tr>
<tr>
<td></td>
<td>- greenhouse vegetable production in s. Vitim.</td>
</tr>
<tr>
<td></td>
<td>- food producing facility in s. Vitim.</td>
</tr>
<tr>
<td></td>
<td>At the construction site preparation period (engineering and transport infrastructure), the project is financed by OAO “RIC”, with the state customer being SE State Customer Service (SGZ) under Government of the Sakha Republic (Yakutia); a state contract for construction and rigging works is signed.</td>
</tr>
<tr>
<td>Volume of investment</td>
<td>RUR 1,568.6 m in 2010 prices ($52.28 m)</td>
</tr>
<tr>
<td>Infrastructure available</td>
<td>Transport, electric grid and engineering infrastructure</td>
</tr>
<tr>
<td>Infrastructure required</td>
<td>Gasification of the settlement of Vitim</td>
</tr>
<tr>
<td>Implementation period</td>
<td>Up to the year 2017, project life cycle 26 years</td>
</tr>
<tr>
<td>Cost of project</td>
<td>RUR 1,568.6 m</td>
</tr>
<tr>
<td>IRR</td>
<td>10.08%</td>
</tr>
<tr>
<td>NPV</td>
<td>RUR 1,578.4 m</td>
</tr>
<tr>
<td>Project design estimates</td>
<td>Design estimates are developed.</td>
</tr>
<tr>
<td></td>
<td>Stage 1 design estimates are developed for the following sites:</td>
</tr>
<tr>
<td></td>
<td>9. food plant with meat and fish product shops, milk plant with capacity of 3 tons a shift, bakery and confectioner's shop woth capacity of 1.5 tons a shift, soft drinks shop with capacity 50 ths a year;</td>
</tr>
<tr>
<td></td>
<td>10. slaughter point;</td>
</tr>
<tr>
<td></td>
<td>11. maintenance unit (garage for 10 vehicles with stores and repair shops, shed for agricultural vehicles, cold store);</td>
</tr>
<tr>
<td></td>
<td>12. veterinary unit with a laboratory;</td>
</tr>
</tbody>
</table>
13. office building with sanitary post;
14. cattle farm for 212 heads of loose housing system with full herd turnover;
15. pig farm for 47 heads of principle sows.

Estimated cost of the site construction amounts to RUR 753,678 m. At the moment Stage 1 design estimates are undergoing state expertise at the State Expertise Department of the Sakha Republic (Yakutia). For designing of Stage 2 sites there was an auction held and a state contract № 2-5 of 22 February 2011 signed with OOO DOM Construction Company. The contract amount is RUR 17,65. The state contract is registered in the Registrar of State Contracts of the Sakha Republic (Yakutia) on 25 February 2011 and given № 0000911000003. The design works are to be completed by 1 August 2011.

Stage 2 sites:
15. chicken farm for 10,000 birds;
16. dung-yard for the cattle and pig farms with capacity of 10,000 tons;
17. potato storage with capacity of 500 tons;
18. biological waste processing facility with capacity of 1 ton a shift;
19. greenhouses with total area of 6,000 sq.m, including used in winter – 1,000 sq.m, in spring and summer – 5,000 sq.m;
20. post control;
21. 35 km of motor roads;
22. silo pit with capacity of 1,200 tons;
23. irrigation and drainage system for 50 ha of arable lands;
24. power supply to arable lands with 30 km long transmission lines;
25. expansion of arable lands by 1,000 ha;
26. engineering and geological survey and topographic mapping of the territory, required for performing works under clauses 1-10 of the present section;

positive conclusion of the State Expertise Department of the Sakha Republic (Yakutia).

Payback period: 12.25 years
Information on infrastructure available: Power supply, communications network, engineering facilities, gasification in future.

Markets: Supply of local products to workers of oil companies operating in western Yakutia and the north of Irkutsk Oblast.

Investor’s involvement: The extend of an investor’s involvement is to be determined by an investment agreement upon completion of design estimates and the construction site preparation.

Project detailedness: Feasibility study – developed and approved by the state expertise; design estimates for Stage 1 objects – developed; design estimates for engineering and transport infrastructure objects - developed. The project was discussed at a meeting of the Expert Board on regional investment policy under the Ministry of Regional Development of the RF on 25 August 2010. To include it into the list of priority investment projects, the Board recommended to revise the project as a project aimed at integrated development of the entire area.
### 55. Project name: Reconstruction and modernization of fish processing facility

<table>
<thead>
<tr>
<th>Location</th>
<th>City of Yakutsk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project initiator</td>
<td>OOO Yakutsk Fish Plant</td>
</tr>
<tr>
<td>Project characteristics</td>
<td>Replacement of obsolete equipment and production of safe fish products in compliance with European standards and HASSP. Production capacity – 1,000 tons of fresh frozen fish stored at a time. Types of products: smoked, salted, balyk-type, cured products, preserves and delicatessen. Production volume: 2011 – 714.8 tons; 2012 – 752.5 tons; 2013 – 771.8 tons; 2014 – 792.1 tons, 2015 – 812.6 tons.</td>
</tr>
<tr>
<td>Volume of investment</td>
<td>RUR 133 m in 2011 prices ($4.53 m)</td>
</tr>
<tr>
<td>Infrastructure available</td>
<td>Heat, water and electric power supply under agreement with OAO YAKUTIA Agricultural Company</td>
</tr>
<tr>
<td>Infrastructure required</td>
<td>Not required</td>
</tr>
<tr>
<td>Cost of project</td>
<td>RUR 133 m</td>
</tr>
<tr>
<td>Implementation period</td>
<td>2012 - 2013</td>
</tr>
<tr>
<td>IRR</td>
<td>No information</td>
</tr>
<tr>
<td>NPV</td>
<td>No information</td>
</tr>
<tr>
<td>Payback period</td>
<td>12 years</td>
</tr>
<tr>
<td>Markets</td>
<td>Territory of the Russian Federation</td>
</tr>
<tr>
<td>Investor's involvement</td>
<td>OOO Yakutsk Fish Plant will participate in paying for design estimates in amount of RUR 2 m.</td>
</tr>
<tr>
<td>Project detailedness</td>
<td>Design estimates done</td>
</tr>
<tr>
<td>CEO of an organization</td>
<td>Yelena Kirillovna KUVSHINOVA</td>
</tr>
<tr>
<td>implementing the project</td>
<td>Director, OOO Yakutsk Fish Plant</td>
</tr>
<tr>
<td>Contacts</td>
<td>677000, Yakutsk, Truda Str., 1</td>
</tr>
<tr>
<td></td>
<td>Tel. +7 (4112) 45-90-58</td>
</tr>
<tr>
<td></td>
<td>e-mail: <a href="mailto:fish1928@mail.ru">fish1928@mail.ru</a></td>
</tr>
</tbody>
</table>

### 56. Project name: Processing of fish harvested in the republic without quotas

<table>
<thead>
<tr>
<th>Location</th>
<th>City of Yakutsk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project initiator</td>
<td>OOO CheZaRo+, individual entrepreneur A.N. Chertkov</td>
</tr>
<tr>
<td>Project characteristics</td>
<td>The project is aimed at intensive promotion of new competitive fish products on markets of the Sakha Republic (Yakutia), Far-Eastern regions and central parts. The enterprise staff develop new types of products from local fish species harvested without quotas (pike, cisco, peled, crucian carp), planning to produce over 100 fish products. Increased volume of fish products manufacturing up to 6,000 tons.</td>
</tr>
</tbody>
</table>
Tasks: construction of fish processing facilities with capacity up to 6,000 tons; purchase of modern fish-processing equipment; certification of newly-developed fish products.

Objects to be built: construction of a fish-processing facility in the city of Yakutsk, Aviatorov Str., 86, compiling with the international standards:
- cost of the building to home the fish processing facility with capacity of 6,000 tons of all fish species will total to RUR 112.4 m;
- cost of fish-processing equipment (lines for filleting, curing, freezing and packing, manufactured by Norbert Schaller Gesmbh (Germany)) will total to RUR 250.0 млн руб.;
- establishment of stationary shops for initial fish processing at fishing sites will total to RUR 120.0 m;
- miscellaneous expenses – RUR 37.6 m.

Volume of investment RUR 520 m in 2009 prices ($16.40 m), including:
- RUR 260 m of bank loan;
- RUR 54.6 m from the budget of the Sakha Republic (Yakutia);
- RUR 205.4 m from the Investment Fund of the Russian Federation.

Infrastructure available Transport and electric grid infrastructure

Cost of project RUR 520 m

Implementation period 1 year

IRR 35%

NPV RUR 192.4 m at 7% discounting rate

Payback period 7.5 years on discounted terms

Markets Sakha Republic (Yakutia), Russian Far East, city of Moscow and European part of Russia

Investor's involvement The extend of an investor’s involvement is to be determined by an investment agreement upon completion of design estimates and the construction site preparation.

Project detailedness Feasibility study is developed. The project was discussed at a meeting of the Expert Board on regional investment policy under the Ministry of Regional Development of the RF to be included into the list of priority investment projects. The Board recommended to revise the project as an integrated development project and to include stationary shops for initial processing of fish at fishing sites for better quality of raw fish delivered to the city of Yakutsk for finished treatment. Also, the Federal Department on Fishery in the RF suggested including the project into the extra-budgetary part of the Federal target program on Development of industrial-scale fishery in the RF.

CEO of an organization implementing the project Alexander Nikolaevich CHERTKOV, Director

Contacts 677000, Yakutsk, Korolenko Str., 2/2,
Tel. +7 (4112) 422-720, cell # +7 (914) 2705185
e-mail: chezaro@mail.ru

57. Project name Development of innovative production of biologically active food additives (BAA) and cosmetics from Northern reindeer antlers with the use of new biotechnologies

Location City of Yakutsk

Project initiator Closed Joint-stock TABA National Reindeer Company (ZAO NRC TABA)
Project characteristics

Project aims:
Commodity production in reindeer husbandry via production of new products (BAA, preparations and cosmetics from antlers and other reindeer endocrine material).

Products manufactured:
- hygienic preparation for baths *Aqua-Tabapan-UU* (antler baths are recommended by the Russian Research Center for Recovery Medicine and Balneology, Ministry for Healthcare of the RF, for slower aging, patient's improved condition under atherosclerosis and other diseases);
- mud applications made from antler cake (recommended for rheumatic and articular diseases);
- encapsulated BAA *Tabapan* (for improved intellectual and physical performance, stronger immune system, better sexual function);
- sliced antlers *Solpan* (recommended for improved intellectual and physical performance, stronger immune system, better sexual function);
- cosmetic creams based on antler hydrolyzate: nourishing, anti-age, protecting, massage, for eye-lids.

There is no analogous production based on reindeer raw materials in the Russian Federation; whereas the reindeer herd in the Sakha republic (Yakutia) is capable of supplying the necessary volume of antlers without affecting the reindeer population. The BAA production's designed capacity requires up to 12 tons of raw antlers a year.

Volume of investment
RUR 46.0 m in 2010 prices ($1.53 m)

Infrastructure available
There is a BAA producing shop with total area of 1,588.9 sq.m. It has been reconstructed, supplied with an autonomous boiler unit.

Expanded production requires the following:
- to conduct construction and rigging in the existing building to launch perfume and cosmetic articles;
- to purchase additional technological equipment;
- to purchase a 200 kW transformer substation, provide water supply ans sewage, increase gas boiler unit's capacity, construct a hard-cover road.

Implementation period
6 years

Cost of project
RUR 80 m, including:
- own funds – RUR 34 m;
- investments – 46 m.

IRR
18.6%

NPV
RUR 0.424 m

Payback period
Payback period (discounted) – 61 months.
Payback period (not-discounted) – 44 months.

Markets
Russia, and later overseas countries, upon receipt of the international certificate

Investor's involvement
Share in business (51% of charter capital of ZAO TABA National Company), or funds lent for 10 years, with the principle debt payment starting from the third year of financing.

Project detailedness
Business plan is developed.

There are design estimates for construction of a shop producing perfume and cosmetic articles in the city of Yakutsk.

There has been launched production of encapsulated BAA and
hydrolyzate from Northern reindeer antlers. Four types of cosmetic creams are produced. The commodity products won eight gold medals at various Russian exhibitions.

Documents:
- Certificate of state registration №77.99.11.3.Y.1696.3.10 of 19.03.2010 for Solpan antler slices food BAA;
- Certificate of state registration №77.99.11.3.Y.1694.3.10 of 19.03.2010 for Tabapan antler powder food BAA;
- Compliance certificate № POCC RU.ПК05.B 31868 № 8354807 for Tabapan protecting cream, universal Tabapan-Erhim massage cream;
- Compliance certificate № POCC RU.ПК05.B 25476 № 7776581 for Tabapan anti-age cream, Tabapan nourishing cream;
- Resolution on state registration of Tabapan trade mark of 9 December 2010.

CEO of an organization implementing the project
Alexei Yegorovich MANDAROV,
General Director, ZAO NRC TABA
677000, Yakutsk, Ordzhonikidze Str., 20

Contacts
Tel. +7 (4112) 34-01-56, fax +7 (4112) 42-04-77
e-mail: taba@sakha.ru

58. Project name
Establishment of a joint venture on breeding Yakut horses and foal meat processing

Location
Churapchinsky region, Sakha Republic (Yakutia)

Project initiator
OAO Republic's Investment Company

Project characteristics
Export of foal products to international consumer markets, South Korea in particular. The projects is based on unique dietary and therapeutic properties of Yakut foal meat.

Volume of investment
RUR 100 m in 2011 prices ($3.41 m).

Infrastructure available
Federal motorway Moscow – Magadan, running through the territory of Churapchinsky region; developed infrastructure in the settlement of Churapcha, the regional center.

Infrastructure required
Construction of processing facilities and refrigerating units.

Implementation period
5 years

Cost of project
RUR 200 m

IRR
Being approved

NPV
Being approved

Payback period
Being approved

Markets
RF, Kazakhstan, South Korea

Investor's involvement
Investments up to 50%

Project detailedness
The project documentation is being developed

CEO of an organization implementing the project
Alexander Ivanovich FEDOTOV,
General Director, OAO RIC
677000,Yakutsk, Ordzhonikidze Str., 38
tel. +7 (4112) 39-02-51
e-mail: ric@ricsakha.ru
### Innovative projects

**59. Project name**

Developing a technology and launching a facility for producing preparation based on polyunsaturated fat acids of young Yakut horse

<table>
<thead>
<tr>
<th>Location</th>
<th>Company with limited liabilities (OOO) “Scientific-production unit Biotechnologies of the North”</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project initiator</td>
<td>Company with limited liabilities (OOO) “Scientific-production unit Biotechnologies of the North”, Yakutsk Research Institute of Agriculture</td>
</tr>
</tbody>
</table>
| Project characteristics | Developing a technology and launching a facility for producing preparations and biologically active additives based on polyunsaturated fat acids from internal fat of young Yakut breed horses.  

**Critical technology of the federal level:** Chemical and biological synthesis of active medical and food structures; their further testing on cell cultures, animals and in a clinic; development of a production technology (standard requirements).  

Fat of young Yakut horses contains polyunsaturated fat acids (linoleic, arachidonic and alfa-linoleic fat acids); their concentration at 25.5% makes it a potential source of producing Omega-3 and Omega-6 fat acid preparations. At present, Omega-3 and Omega-6 fat acids are extracted from seafood. However, with the decrease in world fish reserves and growing pollution of the world ocean, the horse fat provides an additional and environmentally-pure source.  

The project will also contribute into safeguarding preservation of the Yakut horse gene fund; on the international scale – provide perspective export-oriented product. Analogues of the preparation being created are used for treatment and prevention of a wide range of diseases:  
- atherosclerosis and its complications – ischemic heart disease, myocardial infarction;  
- arterial hypertension, stroke;  
- alimental obesity;  
- functional and organic gastrointestinal malfunctions in children;  
- oncological diseases;  
- tuberculosis;  
- gastrointestinal tract diseases with ferment insufficiency and subsequent nutrients intake disorders;  
- conditions after digestive tract resection (use of fatty emulsions for parenteral feeding).  

Preparations containing polyunsaturated fat acids of ω-3 family (α-linoleic acid), extracted from fat of young Yakut horses, will be in demand and suit new-comers in industrial centers and cities. High concentration of α-linoleic acid makes foal fat a promising raw material for export.  

| Volume of investment | Total investment: at least RUR 38 m ($0.83 m) for implementing of stage 2 and 3 under SRART-2007 innovative projects' program;  
- Federal budget: up to RUR 13 m for all three stages under START-2007 program held by the Federal Fund for supporting small businesses in science and technology sector. |
<p>| Infrastructure available | On the initial stage, the project uses infrastructure of the Yakutsk research Institute of Agriculture, Russian Agricultural Academy; Research Institute of Diet, Russian Academy of Medical Sciences; and Industrial Park, M.K. Ammosov Northeastern Federal University. |</p>
<table>
<thead>
<tr>
<th>Infrastructure required</th>
<th>With extensive project development, the need in additional infrastructure is to be determined in consultations with investors and partners.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project cost</td>
<td>RUR 38 m</td>
</tr>
<tr>
<td>Implementation period</td>
<td>36 months</td>
</tr>
<tr>
<td>IRR</td>
<td>42.4 %</td>
</tr>
<tr>
<td>NPV for stage 3</td>
<td>RUR 5.8 m</td>
</tr>
<tr>
<td>Markets</td>
<td>Russian and the world market.</td>
</tr>
<tr>
<td>Investor's involvement</td>
<td>An investor’s share in profit – to be negotiated; share in the charter capital – up to 25%, depending on the volume of investment.</td>
</tr>
<tr>
<td>Project's detailedness</td>
<td>The innovative project is a winner of START-2007 contest held by the Federal Fund for supporting small businesses in science and technology sector. Stage 1 is complete: standard requirements for the raw material developed, “Foalium” trade mark received; business plan available.</td>
</tr>
<tr>
<td>CEO of an organization implementing the project</td>
<td>Konstantin Maksimovich STEPANOV, General director, “SPU Biotechnologies of the North”, Candidate of Veterinary Sciences, Associate professor, Honorable agriculture worker of the Sakha Republic (Yakutia), defended his doctoral thesis in 2010.</td>
</tr>
<tr>
<td>Contacts</td>
<td>677013, Yakutsk, Kalandarishvili Str., 21, building 1, office 57 Tel./fax +7 (4112) 21-45-69, 35-04-84, cell # + 7 914 270 35 87 e-mail: <a href="mailto:stenco07@mail.ru">stenco07@mail.ru</a></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>60. Project name</th>
<th>“Basalt – new technologies” in the area of “Basalt-plastic nano-structured composites for the Russian North”</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location</td>
<td>677000, Yakutsk, Avtodorozhnaya Str., 20, office 204</td>
</tr>
<tr>
<td>Project initiator</td>
<td>Company with limited liabilities (OOO) TBM</td>
</tr>
</tbody>
</table>
| Project characteristics | Product's under the project:  
• Basalt continuous fiber (3,350 t/y)  
- reinforcement of concrete and other constructions;  
- manufacture of composite materials (rods, profiles, tanks, tubes, nets);  
- manufacture of woven and nonwoven materials (for automobile, plane, vessel and bridge constructions, wind-power generators).  
• Basalt-plastic reinforcement (2,500 t/y)  
- reinforcement for concrete constructions;  
- reinforcement for road carpet.  
• Basalt-plastic road geonet (1,400 ths cub.m/y)  
- reinforcement of road carpets;  
- reinforcement of embankments, earth-deposits, slopes, beautification.  
• Basalt-plastic constructions and products (34,700 cub.m/y)  
- industrial and civil engineering. |
| Volume of investment| Total investment: RUR 820 m in 210 prices ($27.33 m), including own funds: RUR 70 m. Borrowed funds: ROSNANOTECH State Corporation — RUR 400 m, OAO Republic’s Investment Company (RIC) — RUR 150 m, OAO RosBR – RUR 200 m. |
| Infrastructure available | All infrastructure available. |
| Infrastructure required | Additionally required power grid and engineering networks (RUR 107.6 m). |
Project cost: RUR 820 m
Implementation period: 2010 - 2017
IRR: 13.5%
NPV: RUR 30.9 m
Payback period: 66 months
Markets: Potential market – the market of reinforcement materials and products such as basalt continuous fiber, basalt-plastic reinforcement, road geonet, reinforced concrete constructions in the Sakha Republic (Yakutia) and other regions of the Russian Far East.
The regional reinforcement market, given the current building scale as of 2010, amounts to around 24-26 thousand tons of steel reinforcement a year, equivalent to 3 thousand tons of basalt-plastic reinforcement. Stage 1 of the project focuses on the Sakha market and substitution of steel reinforcement brought from other regions by the alternative one.

Investor's involvement:
- Share in OOO TBM - 40%
- Share in OAO Ros BR - 25%
- Share in ROSNANOTECH - 35%

Project's detailedness:
- Positive assessment by the state expertise performed by Ros BR.
- Patent technological expertise by ROSNANOTECH.
- Financing: funds borrowed from OAO RIC at RUR 150 m; loan from OAO RosBR through OAO Bank of Moscow for the amount of RUR 100 m.

CEO of an organization implementing the project:
Directir general of OOO TBM
Yegor Petrovich ZHIRKOV
677000, Yakutsk, Ordzhonikidze Str., 38, office 105
Tel. +7 (4112) 390279, cell # +7 (924) 7652580
e-mail: gastep@yandex.ru

61. Project name: Production of motor fuel from solid fuel minerals and mechanic thermochemical reactor for its realization

Location: City of Neryungri, Sakha Republic (Yakutia)
Project initiator: OOO YAKUTIA, Moscow Institute for Solid Fuel Minerals
Project characteristics:
The technology of hydrogenation processing of coal into liquid fuel includes several processes happening under different physical and chemical conditions, improved by latest achievements of Russian and foreign science and practice. The technology proposed is remarkable for its high economic efficiency (compared with the industrial technology used in Germany and related research, recently done in the USA, Japan, Great Britain, and other countries); potential of receiving liquid fuel from coal with competitive prices, compared with their production from crude oil (cost of 1 ton of coal oil is up to $150).
Besides, there are other advantages of Russian technology of producing motor fuels through coal hydrogenation under low hydrogen pressure (6 mPa for brown coals and 10 mPa for black coal) compared with processes developed and being improved in the USA, Germany, Japan, and Great Britain:
1. Lower capital investment into building an industrial facility by 5 times compared with the use of 20-30 mPa pressure.
2. Reduced total consumption of hydrogen for producing marketable motor fuels to 5-6% against 13-14% of foreign analogues due to decreased volume of water and gas formation.
3. Since the Russian technology uses swirl combustion chamber for
drying coal instead of rotary tube drier, the use of metal reduces by 22
times at this stage.
4. The use of vibratory coal grinding in dispensers results in 5.5 times
lower cost for coal grinding compared with ball crushers used in
foreign practice.
5. Slime semi-coking has been replaced by high-speed burning in
cyclone furnace.
6. The use of highly-porous active catalysts for hydro-refinement of
primary coal distillates halves the number of treatment stages when
producing commercial gasolines, jet engine and diesel fuels.
7. Short-cycle adsorbing treatment for refinement of circulating
hydrogenous gas reduces costs at this stage by 12 times, compared
with the known adsorbing techniques of refinement.
8. The technique of gasification in boiling substance under pressure
and hot gas refinement for production of fuel gases (power station and
process) increases efficiency from 60-70% to 85%, reduces capital
costs in comparison with the known industrial techniques (LURGI,
KOPPERS-TOTZEK and WINKLER).
9. The use of a new-generation hydrogenation reactor (mechanic
thermochemical reactor) reduces consumption of metal at this stage by
25 times; power consumption – by 30 times; site area – by 17 times;
and productivity increases by 12.5 times.
10. Products
- coal oil – 10.4 ths t/y;
- EURO-3 gasoline — 2.8 ths t;
- low-sulfur EURO-4 diesel fuel- 6.2 ths t;
- annual coal processing volume – 33.4 ths t.
11. Alternative products:
- paving bitumen – 4.7 ths t;
- EURO-3 gasoline — 4.3 ths t.

Volume of investment
Total investment volume – RUR 1,260 m in 2010 prices ($42 m).
Capital investment – RUR 260 m.
Circulating assets – RUR 1,000 m.

Infrastructure available
Electric power generation 400kW; there are access roads; engineering
communications.
Land – cadastral №14:19:101001:0025, area of 19,195 cub.m.
Buildings and constructions under ownership; maintenance facilities –
5,741 cub.m, 2-storey office building – 1,152 cub.m.

Infrastructure required
Mainline industrial facilities (configuration of the pilot facility for synthetic liquid fuel production — 250 t of coal/day)
- design work 28.0
- mainline production (coal preparation and liquefaction shop, fractionation) 460.0
- production of hydrogen from propane and side hydrogenous gases emitting during coal liquefaction; 85.0
- regeneration of molybdenum catalyst. 16.0
Auxiliary facilities:
- relay tank; 57.0
- relay tank pumps; 12.0
- treatment facilities and water recycling; 68.0
- engineering block and laboratory; 37.0
- flare system;  
- fire tanks;  
- 10-day coal storage;  
- reagents and catalysts storage;  
- recipient station;  
- air compression station;  
- oxygen compression station and cylinder storage;  
- station for loading marketable goods into tank trucks;  
- materials and supplies for launch complex (stage 1).

<table>
<thead>
<tr>
<th>Project cost</th>
<th>Implementation period</th>
<th>IRR</th>
<th>NPV</th>
<th>Payback period</th>
</tr>
</thead>
<tbody>
<tr>
<td>RUR 1,260 m</td>
<td>4 years</td>
<td>36%</td>
<td></td>
<td>Precise calculation to be done under the project development stage</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4 years</td>
</tr>
</tbody>
</table>

Markets
- Mining industry  
  Demand – diesel fuel 80%  
- Road-building vehicles  
  Demand – diesel fuel 70%  
- Bulldozers  
  Demand – Diesel fuel 100%  
  Presale conservation  
- Freight vehicles  
  Demand – Diesel fuel 100%

Investor's involvement  
50% in ROSNANOTECH in accordance with the provisions

Project's detailedness  
Application to ROSNANOTECH № ID 967, the Russian Federation patent № 2396303;  

CEO of an organization implementing the project  
Vasily Ivanovich REVA, Director General  
Supervisor – Professor Anatoly Stanislavovich MALOLETNEV, Doctor of technical sciences

Contacts:  
Neryungri, Donetskaya Str., 34 a  
Tel./fax +7 (41147) 9-21-53, cell # +7 (924) 362-34-50, +7 (924) 160-43-34  
e-mail: yakutiya@neru.sakha.ru

62. Project name  
Contribution of gas-chemical complex (GCC) in central region of the Sakha Republic (Yakutia)

Location  
Sakha Republic (Yakutia), settlement of Zhatai

Project initiator  
Closed joint-stock company “Eastern-Siberian Gas-chemical Company” (ZAO VSGHK)

Project characteristics  
Gas-chemical complex in the Sakha Republic (Yakutia) includes the following:
- Construction and operation of a pilot facility producing 3.5 ths t of methanol and 1.5 ths t of oil products a year;
- Construction of gas-chemical complex producing 610 ths t of oil products, 450 ths t of methanol (with potential expansion to 1.5 m t) and 200 ths t of ammonia a year, to be launched in the period 2012-2016.

Besides creating new jobs and a new facility, the project will result in a
significant synergetic effect in a number of spheres for the Far Eastern Federal district and Eastern Gas Program, both in short-term and long-term perspective:

- increased efficiency of state programs designed for development of the regional infrastructure being implemented to ensure reliable life-support of the population in Central Yakutia;
- use of available resources for natural gas production and transportation in Yakutia, processing new types of cargoes in far-eastern ports;
- increased reliability of gas production at unique fields due to methanol supply from the facility located nearby. In general, methanol form Central Yakutia may be supplied to Chayanda and Kovyktinskoe fields, as well. Reduced cost of methanol transportation will ensure better efficiency of the Eastern Gas Program;
- in future, the industrial facility being created would train qualified personnel for gas-chemical facilities to be launched in Krasnoyarsk Krai, Irkutsk Oblast, Western and Southern Yakutia and Primorsky Krai;
- technologies for natural gas processing are being adjusted for developing gas fields in Kamchatka and the Arctic shelf;
- the opportunity for Russian companies to enter the chemical market in the Asian Pacific, where they are not present at the moment;
- wider range of products compared with VOSTOK-50 plan stipulated in the Program for creating a united system of gas supply in Eastern Siberia and the Russian Far East.

The project has been included in the list of priority projects of the Ministry for Regional Development of the Russian Federation. It is approved by the Government of the Sakha Republic (Yakutia) and municipal authorities, and is included into the Scheme of Integrated Development of Production Forces, Transport and Power Industry in the Sakha Republic (Yakutia) till 2020 as a priority investment project, and into Power Supply Strategy in the Sakha Republic (Yakutia) till 2030. The application has been sent for fiscal support of the project to the regional permanent tax commission.

All stages of the project, starting from raw material base, infrastructure for natural gas production, transportation, export and distribution of finished products, have been prepared and have necessary facilities and reserves.

The results achieved by ZAO VSGHK and its infrastructure reserves enable launch of the production as soon as in 2012.

Methanol production is the first stage of the designed gas-chemical center, which is intended to process up to 2.5 b cub.m of natural gas and produce up to 2.2 m t of products to be sold on both the Russian and the world's markets.

### Volume of investment

<table>
<thead>
<tr>
<th>Stage</th>
<th>Description</th>
<th>Cost (2011 prices)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage 1</td>
<td>the first launching complex (methanol 450 ths t a year)</td>
<td>RUR 8,000 m</td>
</tr>
<tr>
<td>Stage 1</td>
<td>the first launching complex and Stage 2</td>
<td>RUR 54,000 m</td>
</tr>
</tbody>
</table>
Sources of financing, in 2011 prices:
- own funds (investment into share capital) – up to RUR 20,000 m;
- investor's borrowed funds – up to RUR 45,000 m;
- budget of the Sakha Republic (Yakutia) – up to RUR 1,500 m;
- OAO ROSNANOTECH – up to RUR 4,500 m.

Infrastructure available
Central Yakutia (3,200 km – tariff distance to port of Nakhodka) has more advantageous geographic location in respect to Asian markets than Irkutsk Oblast (4,200 km) and Krasnoyarsk Krai (5,300 km), and enjoys all the necessary infrastructure for the project's implementation:

1. Two gas trunk pipelines along the entire territory with the additional line in most parts and the last section of the third line to be complete soon. The construction is funded from the republic's budget under the Gasification Program and the federal budget investments. Completion time: 2010. After the construction is complete, transportation capacity will reach 4.5 b cub.m/year.
3. There is a methanol terminal in Nakhodka, able to transship over 1.3 m tons of oil-chemical products and methanol a year.

Thus, the project to launch a gas-chemical complex in Central Yakutia has available infrastructure and prepared resources base.

Distance, km

<table>
<thead>
<tr>
<th>Distance</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>to the settlement border</td>
<td>4.3</td>
</tr>
<tr>
<td>to the Lena River</td>
<td>5.5</td>
</tr>
<tr>
<td>to M56 motorway</td>
<td>1.2</td>
</tr>
<tr>
<td>to the railroad designed</td>
<td>2</td>
</tr>
<tr>
<td>to the gas trunk pipeline</td>
<td>4</td>
</tr>
</tbody>
</table>

Infrastructure required

The following infrastructure is required on the project site:
- gas trunk pipeline with capacity of at least 1.3 b cub.m a year and operational pressure at least 1.6 mPa;
- railroad connection with carrying capacity up to 1.3 m tons of products;
- 31 mW (Stage 1 – the first launching complex) and about 160 mW at full capacity.

Project cost

Stage 1 – the first launching complex and Stage 2 – the fourth launching complex (methanol 450 ths t a year and synthetic fuels 610 ths t a year) – RUR 54,000 m

Implementation period

Construction – up to 2017
Production – from 2013

IRR
18.9 %

NPV
RUR 11,222 m

Payback period
6.54 years

Markets
Methanol:
- domestic market/gas producing enterprises in Eastern Siberia and the Russian Far East;
- export to Asian Pacific countries;
Synthetic liquid fuels:
- domestic market/ Sakha Republic (Yakutia).

Investor's involvement
Sources of financing, in 2011 prices:
- own funds (investment into share capital) – up to RUR 20,000 m;
- investor's borrowed funds – up to RUR 45,000 m;
- budget of the Sakha Republic (Yakutia) – up to RUR 1,500 m;
- OAO ROSNANOTECH – up to RUR 4,500 m.

The project of creating a gas-chemical complex in Central Yakutia is included into the Scheme of Integrated Development of Production Forces, Transport and Power Industry in the Sakha Republic (Yakutia) till 2020. It was considered at the meeting of the State Duma's Federal Assembly, Committee on Northern and Far Eastern Issues, minutes № 31 of 9 April 2009. The project was discussed at the meeting in the Federal Assembly's Council of Federation, resolution № 8-1 of 26 May 2009. Minutes № 10 of the Board on Science and Technical Policy under president of the Sakha Republic (Yakutia) of 12 April 2007.

16. completion of the project's documents (including the list of documents available on the project), including necessary expert opinions stipulated by the RF legislation (tax, legal, environmental, technical, economic and other relevant authorities)

The declaration (petition) of intentions to invest into construction of a gas-chemical complex in the Sakha Republic (Yakutia) (capacity – 450 ths t of methanol a year, 400 ths t of SLF a year, 200 ths t of ammonia a year).

Opinions on the declaration:
• Ministry of Industry of the Sakha Republic (Yakutia) № 08-2424;
• Ministry of r Economic Development of the Sakha Republic (Yakutia) № И-07-4330;
• Ministry for Nature Protection of the Sakha Republic (Yakutia) № 11-09/6-3743);
• Ministry of Property relations of the Sakha Republic (Yakutia) № И-010-7505;
• State Committee on Prices – Regional Fuel Commission № 01-1589;
• Megino-Kangalassky municipal unit, no ref.#;
• OAO Sakhatransneftegaz № 2983 KI.


Project documentation S-01759:
- preliminary schematic technological diagrams;
- initial data for designing;
- preliminary list of equipment.

Bankable feasibility study has been done. For the first time in Russia, we have done feasibility study and analysis of GTL-products production involving a foreign licensor.

17. The list of activities on the project's implementation done and being done at the moment

Activities are being performed on developing methanol production project;
Documents on land are being prepared;
Arranging interaction with potential investors and attracting investment.

CEO of an organization implementing the project
Alexander Yurievich KLIMENTIEV
Director General, ZAO VSGHK
Sakha Republic (Yakutia), settlement of Zhatai, Severnaya Str.,29
cell # +7 (985) 9980449
e-mail: esgpc@mail.ru, t_diamonds@mail.ru

Contacts:
### 63. Project name
Developing a technology of producing and composition of the detoxicant biologically active additive “Yagel” (Reindeer moss), effective for correcting metabolic dysfunctions (insular diabetes, atherosclerosis, autoimmune allergic conditions)

<table>
<thead>
<tr>
<th><strong>Project initiator</strong></th>
<th>Institute for Biological Problems of Cryolithozone, Siberian Branch, Russian Academy of Sciences</th>
</tr>
</thead>
</table>
| **Project characteristics** | Project aim: developing a technology of producing biopreparations with detoxicant and antidrug effect basing on amino-β- oligosaccharides extracted from lichen, effective for correcting metabolic dysfunctions (insular diabetes, atherosclerosis, autoimmune allergic conditions); marketing of the product.  
Type of product: water-alcoholic solutions, encapsulated powders. |
| **Volume of investment** | RUR 30 m in 2010 prices($1 m) |
| **Infrastructure available** | The research and development is being done at the Institute for Biological Problems of Cryolithozone, Siberian branch, Russian Academy of Sciences, and Biochemistry department, M.K. Ammosov Northeastern Federal University. |
| **Infrastructure required** | Significant investment will be required for construction of the industrial facility in the city of Yakutsk. |
| **Implementation period** | 1.5 years, project life cycle 10 years |
| **Project cost** | RUR 30 m |
| **IRR** | 35% |
| **NPV** | $ 0.3 m |
| **Payback period** | 3 years |
| **Markets** | Russian and foreign (South-East Asia and the EU) markets of biopreparations and biologically active additives. |
| **Investor's involvement** | Joint completion of the research and development, production supply, investment into production, establishment of joint production, cooperation in selling the production in the RF and the EU. A share in profit – to be negotiated. |
| **Project's detailedness** | There are the RF patents for invention, permissions from the Russian Agency for Health and Consumer Rights to produce and sell the products. The technological project is ready to be implemented. |
| **CEO of an organization implementing the project** | Director of IBPC, SB, RAS  
Pavel Alexandrovich REMIGAILO  
677980, Yakutsk, Lenin Ave., 41  
Boris Moiseevich KERSHENGOLTS,  
cell # +7 (914) 235-11-78  
e-mail: kershen@mail.ru |
| **Contacts:** |  |

### 64. Project name
Development and production of polymer sealing devices and materials for operating vehicles under severe Russian Arctic conditions in various industries

| **Location** | City of Yakutsk |
| **Project initiator** | Company with limited liabilities (OOO) NORDELAST |
Project characteristics

Project aims:
- creation and production of new cold-resistant elastomer materials;
- development of elastomer sealing devices and materials with enhanced operational properties and designed for various-industry vehicles used in the Russian Arctic.

Manufactured products:
1. Sealing parts and devices for vehicles used for the Russian Arctic zone (sealing parts for heavy quarry vehicles, drilling rigs, pipeline transport, technological equipment, automobile and railroad transport, power industry sites, etc.).
   Cold-resistant molded rubber technical articles, protected by the RF patents, which ensure high reliability and durability of operation under Arctic conditions.
   The assortment produced – over 500 dimension types; customers – over 300 enterprises in coal, diamond and gold mining, transport, utilities and communal service in the Sakha Republic (Yakutia).
2. Testing of climate resistance of elastomer materials and articles at a special area simulating all kinds of deterioration under cold climate.

Volume of investment
RUR 3.8 m in 2010 prices ($0.12 m)

Infrastructure available
The major industrial facility in the city of Yakutsk is based on infrastructure of the Institute of Oil and Gas, Siberian Branch, Russian Academy of Sciences.

Infrastructure required
Not considerable investment into infrastructure required.

Implementation period
1.5 year, project life cycle 15 years

Project cost
RUR 10.0 m

IRR
22%

NPV
RUR 1.7 m

Payback period
6 years

Markets
Enterprises in the city of Yakutsk and the Sakha Republic (Yakutia); in perspective, Russian and foreign manufacturers of vehicle and equipment to be operated under cold climate.

Investor's involvement
Professional marketing and product promotion – elastomer sealing articles and devices for vehicles operating in various industries in the Arctic regions of Russia beyond the republic.

Project's detailedness
The innovative project is a winner of START-2004 contest held by the Federal Fund for supporting small businesses in the science and technology sphere, Stage 3 participant. The production is established.

CEO of an organization implementing the project
Raima Fazallyanovna BIKLIBAEVA
Director General, OOO NORDELAST

Contacts:
677007, Yakutsk, Avtodorozhnaya Str., 20
Tel/fax +7 (4112) 35-79-32
e-mail: nordelast@mail.ru

65. Project name
Development and implementation of innovative technologies of diamond processing

Location
City of Yakutsk

Project initiator
Company with limited liabilities (OOO) SAKHASOFT

Project characteristics
Project aim: commercialization of the research done on physical
properties of raw and polished diamonds with the use of mathematical simulation in diamond cutting industry. Types of products:
1) new fancy cut;
2) services on optimal raw diamonds marking

<table>
<thead>
<tr>
<th>Volume of investment</th>
<th>RUR 10 m in 2011 prices ($0.34 m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infrastructure available</td>
<td>No considerable investments required foe infrastructure development. Licensed activity and service rendering is planned at the own facility.</td>
</tr>
<tr>
<td>Infrastructure required</td>
<td>Not required.</td>
</tr>
<tr>
<td>Project cost</td>
<td>RUR 10.0 m</td>
</tr>
<tr>
<td>Implementation period</td>
<td>2 years</td>
</tr>
<tr>
<td>IRR</td>
<td>44%</td>
</tr>
<tr>
<td>NPV</td>
<td>RUR 0.7 m</td>
</tr>
<tr>
<td>Payback period</td>
<td>5 years</td>
</tr>
<tr>
<td>Markets</td>
<td>Russian and foreign diamonsters.</td>
</tr>
<tr>
<td>Investor's involvement</td>
<td>Investments into creation of intellectual activity results. Share in the profit gained – to be negotiated.</td>
</tr>
<tr>
<td>Project's detailedness</td>
<td>There is a patent, registered PC software.</td>
</tr>
<tr>
<td>CEO of an organization implementing the project</td>
<td>Yury Mikhailovich GRIGORIEV Director, OOO SAKHASOFT</td>
</tr>
<tr>
<td>Contacts</td>
<td>677013, Yakutsk, Kulakovsky Str., 48, office 607 Tel. +7 (4112) 49-68-62, cell # +7 (924) 165-2193 e-mail: <a href="mailto:grigyum@yandex.ru">grigyum@yandex.ru</a></td>
</tr>
</tbody>
</table>

**66. Project name**

Development and production of polymer tribotechnical composite items, based on fluoroplastic, for using under extreme weather conditions in cold regions

<table>
<thead>
<tr>
<th>Location</th>
<th>City of Yakutsk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project initiator</td>
<td>Company with limited liabilities (OOO) TECHNOPLAST</td>
</tr>
<tr>
<td>Project characteristics</td>
<td>Project aim: creation and production of new polymer composite materials for anti-friction and abrasive parts and devices with improved operational features and designed for various-industry vehicles used in cold regions of Russia. Types of products: 1. Anti-friction articles (slider bearings, packing glands, washers, thrust bearings, reference and guiding rings, end gaskets, ball bearing back valve) for motor transport, machinery and equipment, heavy quarry vehicles, hydraulic and pneumatic systems, stop valves, oil and gas pipelines; 2. Abrasive articles: abrasive wheels, grinding wheels, honing wheels; 3. Customer-made materials with required characteristics.</td>
</tr>
<tr>
<td>Volume of investment</td>
<td>Up to RUR 3.75 m in 2010 prices ($0.12 m)</td>
</tr>
<tr>
<td>Infrastructure available</td>
<td>In 2011 it is planned to launch a scientific, educational and industrial site at Northeastern Federal University's premises, to purchase main technological equipment.</td>
</tr>
<tr>
<td>Infrastructure required</td>
<td>Not required</td>
</tr>
<tr>
<td>Project cost</td>
<td>RUR 8.25 m</td>
</tr>
<tr>
<td>Implementation period</td>
<td>1.24 years</td>
</tr>
<tr>
<td>IRR</td>
<td>26%</td>
</tr>
<tr>
<td>NPV</td>
<td>RUR 1.88 m</td>
</tr>
<tr>
<td>Payback period</td>
<td>3 years</td>
</tr>
</tbody>
</table>
Markets
- mining enterprises of the Sakha Republic (Yakutia) (OAO YAKUTUGOL, AK ALROSA, ZAO South-Verkhoyansk Mining Company, OAO JSC Nizhne-Lenskoe, JSC SAKHANEFTEGAZ, OAO ALDANZOLOTO, JSC Almazy Anabara), neighbors in the Far-Eastern Federal District;
- motor transport enterprises;
- utilities and communal service enterprises;
- fuel and power complex: Yakutsk Heat Power Station, JSC YAKUTSKENERGO, Power Generating Station;
- diamond cutting and fuel production: JSC Tuymaada Diamond, JSC Choron Diamond, JSC KAMERAL, State committee om Precious Stones and Metals, OAO KRISTALL;
- owners of motor vehicles.

The innovative project is a winner of START-2005 contest held by the Federal Fund for supporting small businesses in the science and technology sphere, Stage 2 participant.

Production of sample items is performed at the Institute of Oil and Gas, Siberian Branch, Russian Academy of Sciences.

Investor's involvement
Investment into production
- joint supply of products;
- cooperation in creating new materials;
- launch of a joint production.

Share in the profit gained – to be negotiated.

Project's detailedness
RUR 2 m have been invested since 2005. There is a business-plan, technological regulations, expert opinion. Developers: Institute for Oil and Gas, Siberian Branch, Russian Academy of Sciences; Biochemistry Department, Northeastern Federal University.

CEO of an organization implementing the project
Sardana Afanasievna SLEPTSOVA
Director, OOO TECHNOPLAST

Contacts:
677016, Yakutsk, Kulakovskiy Str., 48, office 583
cell # +7 (924) 1683745
e-mail: ssard@yandex.ru

67. Project name
Development and implementation of techniques of processing low-quality hard-to-cut raw diamonds

Location
City of Yakutsk

Project initiator
Company with limited liabilities (OOO) Scientific-research enterprise FRAMEZIT

Project characteristics
Aim of the project: sales of the developed and creation of new techniques of processing low-quality diamonds for improved efficiency of using them (science-based production). Types of products: diamond tools (microtomes, chisels, edges), inserts of low-quality diamonds in jewelry production, technical products.

Volume of investment
RUR 45.0 m in 2006 prices($1.65 m)

Infrastructure available
No considerable investment into infrastructure required, as the facility is based at the Institute of Diamond and Precious Metals Geology, RAS, Yakutsk.

Infrastructure required
Not required

Project cost
RUR 45 m

Implementation period
18 months

IRR
35%

NPV
RUR 22.5 m
<table>
<thead>
<tr>
<th><strong>Payback period</strong></th>
<th>3 years</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Markets</strong></td>
<td>Russian and foreign producers of diamond tools, equipment and machinery, made with the use of low-quality diamonds, for scientific-technical sphere and jewelry production.</td>
</tr>
<tr>
<td><strong>Investor's involvement</strong></td>
<td>100%</td>
</tr>
<tr>
<td><strong>Project detailedness</strong></td>
<td>There are 2 patents received on the project results. Business plan – being detailed. No expert conclusions.</td>
</tr>
<tr>
<td><strong>CEO of an organization implementing the project</strong></td>
<td>Pavel Pavlovich SHAMAEV, Director, Scientific-research enterprise FRAMEZIT</td>
</tr>
<tr>
<td><strong>Contacts:</strong></td>
<td>677007, Yakutsk, Lenin Ave., 39, office 18 Tel. +7 (4112) 33-65-66 e-mail: <a href="mailto:centerdiam@yandex.ru">centerdiam@yandex.ru</a></td>
</tr>
</tbody>
</table>

### 68. Project name

**Development and promotion of a regional portals network in Russian and CIS cities basing on Ykt.ru network's technology and know-how**

<table>
<thead>
<tr>
<th><strong>Location</strong></th>
<th>City of Yakutsk</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Project initiator</strong></td>
<td>Company with limited liabilities SAKHA INTERNET NEW TECHNOLOGIES Company</td>
</tr>
</tbody>
</table>
| **Project characteristics** | The project is aimed at deploying multi-service information portals in regions of the Russian Federation, ensuring large number of visitors and gaining profit from advertisement and Internet-services, high capitalization of portals.  
Type of product:  
27. Multi-service regional Internet-portals – high-technology integrated systems, basic modules and services, being software and technical complexes developed and owned by OOO SAKHA INTERNET NT.  
Major advantages of the portals:  
- high science linkage of the modules and innovative solutions enabling the system's efficient operation;  
- high complexity and capital intensity of implementing similar solutions on the Russian market, which ensures its competitiveness;  
- distributed operation model provides for high-level scalability of the system with low costs for server equipment;  
- possibility to sell media and context Internet advertisement, the most promising type of advertising.  
In order to develop portals in the Russian regions we involve partners out of regional Internet providers. SAKHA INTERNET NT Company provides server equipment, software, promotion know-how, content, consulting and methodological support.  
In 2010 the portals are launched in the cities of Khabarovsk, Irkutsk, Ulan-Ude, Krasnoyarsk, Petropavlovsk-Kamchatsky, Blagoveshensk. Next in the line: Astrakhan, Vladivostok, Norilsk, and others. |
| **Volume of investment** | Subject to negotiations |
| **Infrastructure available** | Project's strategic partners providing technical infrastructure: TRANSTELECOM, SIBTELECOM. Since 2011, negotiations are being held with DALSVYAZ Company. |
| **Infrastructure required** | Not required |
| Project cost | Business plan includes launching of 20 portals in 2010-2012. Cost of the project starting from RUR 56 m in 2010 prices ($1.86 m) |
| Implementation period | 2 years |
| IRR | No information |
| NPV | No information |
| Payback period | 3 years |
| Markets | Advertisers based in the regions where the portals are located. Users of the Internet services, interactive entertainments from the portal visitors. |
| Investor's involvement | Possible assigning of a share in the project. Cost and size of a share – to be negotiated. |
| Project's detailedness | A portal solution ready to be deployed. Business plan. Standard contracts, layouts, banners, videos, etc. Promotion know-how. |
| CEO of an organization implementing the project | Arsen Grigorievich TOMSKY |
| Contacts: | 677000, Yakutsk, per. Glukhoi 2/1 |
| E-mail: | far@yaknet.com |

**69. Project name** Production of autoclaved concrete from local raw materials protected as a know-how for construction of housing and production buildings

**Location** City of Yakutsk, under program on “Development of innovative infrastructure of M.K. Ammosov North-Eastern Federal University (NEFU) “Arctic Innovative Center” (to implement resolution of the Russian Government of 09 April 2010 N 219 “On state support of innovative infrastructure development in federal educational institutions of higher professional education”); there is being created a small innovative enterprise (SIE) OOO Stroikomposit with participation of M.K. Ammosov NEFU.

**Project initiator** Engineering Department and Industrial Park of the Arctic Innovative Center, M.K. Ammosov NEFU

**Project characteristics** The present technology of erecting walls of cast-in-place frame buildings involves heavy brick work with polystyrene foam or basalt slab insulation. This technique ensures thermal protection on account of the thermal insulation layer, which may reach 200 mm. The main drawback of this approach is the use of concrete blocks as undercoating layer not providing any thermal protection, as well as low durability of polystyrene foam and mineral wool boards.

The use of one-layer wall constructions, depending on the brickwork thickness (up to 600 mm), results in considerable loss of area. Besides, such materials as cement wood or polystyrene-concrete in residential buildings leads to poorer ecology in apartments, as they emit harmful compounds (phenol, formaldehyde, sterol, etc.). Concrete-foam or composite blocks (concrete-foam layer from two sides, polystyrene foam) have low firmness and durability.

By its physical and technical characteristics, autoclaved foam concrete is the optimum construction material in the North. Autoclave foam concrete blocks may be used as constructional and insulating wall materials when making low-rise buildings. When used in multi-layer wall constructions and ventilated facades in cast-in-place reinforced concrete frame buildings, autoclave foam concrete can be used not only as undercoating layer, but as an insulating layer, as well, thus
reducing thickness of the main insulator (polystyrene foam and basalt wool boards) and enhancing the building's thermal stability. Besides, autoclaved foam concrete blocks are used as partition slabs, considerably reducing load on the floor and the foundation, consequently.

Production of autoclaved foam concrete in volume of 9,000 cub.m a year (35 cub.m a day) from local raw materials protected as a know-how. The equipment is a technological line with capacity of 35 cub.m of foam concrete a day. In future, there is a possibility to extend production with purchase and installation of the second (70 cub.m day) and the third (105 cub.m) lines. The main advantage of autoclave processing is quick curing of the product, better durability, improved performance of the facility.

Volume of investment
Forecast volume of the NEFU investment into the project totals to RUR 42.812 m in 2010 prices ($1.427 m), breaking down as follows: 2010 – RUR 39.812 m; 2011 – RUR 1.5 m; 2012 – RUR 1.5 m.

Volume of investments and resources attracted from partners and investors for the project development: at least 40% of the NEFU investment.

Infrastructure available
On the initial stage, the project uses infrastructure of Engineering Department and Industrial Park, Arctic Innovative Center, M.K. Ammosov NEFU.

Infrastructure required
Under project's intensive development, the infrastructure required is determined together with investors and partners.

Market cost
To be determined together with investors and partners

Implementation period
No information

IRR
No information

NPV
No information

Payback period
No information

Markets
By the year 2015, the demand in the Sakha Republic (Yakutia) may reach 61.0 m reference bricks; by 2020 – 76.1 m units.

OOO Stroikomposit is a member of the republic's target program on low-rise construction in the city of Yakutsk and neighboring regions, whose implementation requires a lot of construction materials, and primarily, foam concrete wall materials.

In addition, the NEFU will use most of the company's products and services. The university is planning erection of such major sites as a library for 3 million books in the city of Yakutsk; a studying building of 34 ths sq.m; the Medical Institute's buildings; a dormitory for 941 beds in quarter 67 in Yakutsk; and others. Construction of the dormitory for 941 beds alone would need about 5,773 sq.m of wall materials (the site's total area – 14,431.4 sq.m).

Investor's involvement
To be negotiated

Project's detailedness
Business proposal

CEO of an organization implementing the project
Roman Romanovich NOGOVITSYN,
Director, Arctic Innovative Center,
M.K. Ammosov NEFU

Contacts:
Arctic Innovative Center, M.K. Ammosov NEFU
677000, Yakutsk, Kulakovskogo Str., 42, office 110
Tel./fax +7 (4112) 32-03-89, e-mail: mggo04@mail.ru
<table>
<thead>
<tr>
<th><strong>70. Project name</strong></th>
<th><strong>Construction of wooden frame buildings from energy efficient modules with the use of modified biological flame retardant</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Location</strong></td>
<td>City of Yakutsk, under program on “Development of innovative infrastructure of M.K. Ammosov North-Eastern Federal University (NEFU) “Arctic Innovative Center” (to implement resolution of the Russian Government of 09 April 2010 N 219 “On state support of innovative infrastructure development in federal educational institutions of higher professional education”); there is being created a small innovative enterprise (SIE) OOO Nordwood with participation of M.K. Ammosov NEFU.</td>
</tr>
<tr>
<td><strong>Project initiator</strong></td>
<td>Engineering Department and Industrial Park of the Arctic Innovative Center, M.K. Ammosov NEFU</td>
</tr>
<tr>
<td><strong>Project characteristics</strong></td>
<td>The main advantage of the module approach is considerably reduced construction cycle, especially of the stage performed 'on spot'. Since most of operations are done at an industrial facility, builders spend much less time on the site and assembly takes just several days, resulting in quicker completion of a project on whole. Moreover, the technique ensures higher standardization and preciseness of making constructions and interior trim. Also, construction process gets more continuous, not depending on weather conditions. At the moment, there are a few enterprises in the republic that have modern technologies of manufacturing pre-fabricated wooden houses. They are situated in the city of Yakutsk, Lensk, Olyokminsk and in Aldansky region: - OOO ALMAS, city of Yakutsk, using МХМ (massiv holz mauer — massive wooden wall) technology; - OAO Tabaga Timber Company, producing pre-fabricated wooden houses from square logs; - OOO Fazenda, Yakutsk, producing wooden slab-frame wooden houses. Growing demand for wooden houses construction in the Sakha Republic (Yakutia) requires massive increase in facilities processing timber and structural change of timber industry in general. The project is aimed at meeting these challenges.</td>
</tr>
<tr>
<td><strong>Volume of investment</strong></td>
<td>Forecast volume of the NEFU investment into the project totals to RUR 9.77581 m in 2010 prices ($0.325 m), breaking down as follows: 2010 – RUR 6.77581 m; 2011 – RUR 1.5 m; 2012 – RUR 1.5 m. Volume of investments and resources attracted from partners and investors for the project development: at least 40% of the NEFU investment.</td>
</tr>
<tr>
<td><strong>Infrastructure available</strong></td>
<td>On the initial stage, the project uses infrastructure of Engineering Department and Industrial Park, Arctic Innovative Center, M.K. Ammosov NEFU.</td>
</tr>
<tr>
<td><strong>Infrastructure required</strong></td>
<td>Under project's intensive development, the infrastructure required is determined together with investors and partners.</td>
</tr>
<tr>
<td><strong>Project cost</strong></td>
<td>To be determined together with investors and partners</td>
</tr>
<tr>
<td><strong>Implementation period</strong></td>
<td>No information</td>
</tr>
<tr>
<td><strong>IRR</strong></td>
<td>No information</td>
</tr>
<tr>
<td><strong>NPV</strong></td>
<td>No information</td>
</tr>
<tr>
<td><strong>Payback period</strong></td>
<td>No information</td>
</tr>
<tr>
<td><strong>Markets</strong></td>
<td>Construction services market in Sakha Republic (Yakutia)</td>
</tr>
</tbody>
</table>
**Investor's involvement**  
To be negotiated  
**Project's detailedness**  
Business proposal  
**CEO of an organization implementing the project**  
Roman Romanovich NOGOVITSYN,  
Director, Arctic Innovative Center,  
M.K. Ammosov NEFU

**Contacts:**  
Arctic Innovative Center, M.K. Ammosov NEFU  
677000, Yakutsk, Kulakovskogo Str., 42, office 110  
Tel./fax +7 (4112) 32-03-89,  
e-mail: mggo04@mail.ru

<table>
<thead>
<tr>
<th><strong>71. Project name</strong></th>
<th>Development and implementation of rational construction solutions for multi-layer walls in houses</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Location</strong></td>
<td>City of Yakutsk, under program on “Development of innovative infrastructure of M.K. Ammosov North-Eastern Federal University (NEFU) “Arctic Innovative Center” (to implement resolution of the Russian Government of 09 April 2010 N 219 “On state support of innovative infrastructure development in federal educational institutions of higher professional education”); there is being created a small innovative enterprise (SIE) OOO Optimstroi with participation of M.K. Ammosov NEFU.</td>
</tr>
<tr>
<td><strong>Project initiator</strong></td>
<td>Engineering Department and Industrial Park of the Arctic Innovative Center, M.K. Ammosov NEFU, the projects' partner and SIE co-founder – OOO Intelstroi, a participant of START-2006 Program of the Federal Fund for supporting small businesses in science and technology sector.</td>
</tr>
</tbody>
</table>
| **Project characteristics** | Innovative features:  
- lower labor coefficient of assembly, with works done from inside without scaffolding or work platforms;  
- facade panel load transferred directly to bearing structure instead of weaker walls;  
- potentially, no need for brick work, which is extremely hard to be done in winter, with the wall internal layer being made from thin sheet materials along curved profile frames or wooden bars;  
- no need for making ventilated air space;  
- lower temperature stress on filler structure;  
- no straight-through joints;  
- improved manufacturability of pre-fabricated items;  
- lower consumption of expensive reinforcement;  
- use of filling insulation in addition to the one with boards;  
- introduction of quick assembly of thermal contour around a building in order to insulate the interior from negative external environment impact; this enables performance of winter brick work and thermal insulation under more favorable conditions;  
- lower labor coefficient of works and wet-mix process at a construction site.  
Compared to walls with facade insulation systems (mounted and contact), the construction gets more durable. Besides, there is no need for mounting scaffolding or work platforms.  
| **Volume of investment** | Forecast volume of the NEFU investment into the project totals to RUR 4.19 m in 2010 prices ($0.126 m), breaking down as follows: |
2010 – RUR 0.29 m; 2011 – RUR 2.4 m; 2012 – RUR 1.5 m.

Volume of investments and resources attracted from partners and investors for the project development: at least 40% of the NEFU investment.

**Infrastructure available**

On the initial stage, the project uses infrastructure of Engineering Department and Industrial Park, Arctic Innovative Center, M.K. Ammosov NEFU.

**Infrastructure required**

Under project's intensive development, the infrastructure required is determined together with investors and partners.

**Project cost**

To be determined together with investors and partners.

**Implementation period**

No information

**IRR**

No information

**NPV**

No information

**Payback period**

No information

**Markets**

Construction services market in Sakha Republic (Yakutia)

**Investor's involvement**

To be negotiated

**Project's detailedness**

Business proposal

**CEO of an organization implementing the project**

Roman Romanovich NOGOVITSYN, Director, Arctic Innovative Center, M.K. Ammosov NEFU

**Contacts:**

Arctic Innovative Center, M.K. Ammosov NEFU
677000, Yakutsk, Kulakovskogo Str., 42, office 110
Tel./fax +7 (4112) 32-03-89,
e-mail: mggo04@mail.ru

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**Project name**

Development and implementation of innovative techniques of territory planning basing on remote access and GIS-technologies

**Location**

City of Yakutsk, under program on “Development of innovative infrastructure of M.K. Ammosov North-Eastern Federal University (NEFU) “Arctic Innovative Center” (to implement resolution of the Russian Government of 09 April 2010 N 219 “On state support of innovative infrastructure development in federal educational institutions of higher professional education”); there is being created a small innovative enterprise (SIE) OOO Innovative Center for Urban Planning with participation of M.K. Ammosov NEFU.

**Project initiator**

Engineering Department and Industrial Park of the Arctic Innovative Center, M.K. Ammosov NEFU

**Project characteristics**

The projects promotes implementation of a number of services:
- implementation, introduction and maintenance of Information System of Urban Planning Support (ISUPS) in municipal units, research and development activity in designing, monitoring and implementation of territory planning documents;
- innovative technology of personnel training and re-training in the sphere of territory planning for municipal units of the Sakha Republic (Yakutia), with training being done on a real geoinformation database. Target training of specialists with remote access to the real ISUPS database of municipal units with the use of Web-GIS;
- creation of a model shop making architectural models and industrial prototypes of various models. Production of promotion samples of small architectural forms of the national color.

**Volume of investment**

Forecast volume of the NEFU investment into the project totals to RUR 4.4337 m in 2010 prices ($0.148 m), breaking down as follows:
2010 – RUR 1.4337 m; 2011 – RUR 1.5 m; 2012 – RUR 1.5 m.

Volume of investments and resources attracted from partners and investors for the project development: at least 40% of the NEFU investment.

<table>
<thead>
<tr>
<th>Infrastructure available</th>
<th>On the initial stage, the project uses infrastructure of Engineering Department and Industrial Park, Arctic Innovative Center, M.K. Ammosov NEFU.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infrastructure required</td>
<td>Under project's intensive development, the infrastructure required is determined together with investors and partners.</td>
</tr>
<tr>
<td>Project cost</td>
<td>To be determined together with investors and partners</td>
</tr>
<tr>
<td>Implementation period</td>
<td>No information</td>
</tr>
<tr>
<td>IRR</td>
<td>No information</td>
</tr>
<tr>
<td>NPV</td>
<td>No information</td>
</tr>
<tr>
<td>Payback period</td>
<td>No information</td>
</tr>
<tr>
<td>Markets</td>
<td>Market of design and marketing services in construction and related industries in the Sakha Republic (Yakutia)</td>
</tr>
<tr>
<td>Investor's involvement</td>
<td>To be negotiated</td>
</tr>
<tr>
<td>Project's detailedness</td>
<td>Business proposal</td>
</tr>
<tr>
<td>CEO of an organization implementing the project</td>
<td>Roman Romanovich NOGOVITSYN, Director, Arctic Innovative Center, M.K. Ammosov NEFU</td>
</tr>
<tr>
<td>Contacts</td>
<td>Arctic Innovative Center, M.K. Ammosov NEFU 677000, Yakutsk, Kulakovskogo Str., 42, office 110 Tel./fax +7 (4112) 32-03-89, e-mail: <a href="mailto:mggo04@mail.ru">mggo04@mail.ru</a></td>
</tr>
</tbody>
</table>

**73. Project name**  Creation of electronic catalogs with 3D visualization, modeling, and presentations for designing, construction and other spheres

**Location**  City of Yakutsk, under program on “Development of innovative infrastructure of M.K. Ammosov North-Eastern Federal University (NEFU) “Arctic Innovative Center” (to implement resolution of the Russian Government of 09 April 2010 N 219 “On state support of innovative infrastructure development in federal educational institutions of higher professional education”); there is being created a small innovative enterprise (SIE) OOO Perspektiva with participation of M.K. Ammosov NEFU.

**Project initiator**  Engineering Department and Industrial Park of the Arctic Innovative Center, M.K. Ammosov NEFU

**Project characteristics**  The projects promotes implementation of a number of services:
- visualization of objects as a 3D model to determine whether it is suitable for a certain style, environment, etc.;
- comprehensive approach to restoration with the use of BIM technology. Creation of electronic catalogs using local and national databases. Use of three-dimension models for restoration;
- modern technologies of high-quality illumination and lighting control: apartments, offices, restaurants. Exterior lighting of buildings, parks, and streets.

**Volume of investment**  Forecast volume of the NEFU investment into the project totals to RUR 4.4665 m in 2010 prices ($0.149 m), breaking down as follows: 2010 – RUR 1.4665 m; 2011 – RUR 1.5 m; 2012 – RUR 1.5 m. Volume of investments and resources attracted from partners and
Infrastructure available
On the initial stage, the project uses infrastructure of Engineering Department and Industrial Park, Arctic Innovative Center, M.K. Ammosov NEFU.

Infrastructure required
Under project's intensive development, the infrastructure required is determined together with investors and partners.

Project cost
To be determined together with investors and partners

Implementation period
No information

IRR
No information

NPV
No information

Payback period
No information

Markets
Market of design and marketing services in construction and related industries in the Sakha Republic (Yakutia)

Investor's involvement
To be negotiated

Project's detailedness
Business proposal

CEO of an organization
Roman Romanovich NOGOVITSYN, Director, Arctic Innovative Center, M.K. Ammosov NEFU

Contacts:
Arctic Innovative Center, M.K. Ammosov NEFU
677000, Yakutsk, Kulakovskogo Str., 42, office 110
Tel./fax +7 (4112) 32-03-89,
e-mail: mggo04@mail.ru

74. Project name
Development and implementation of bone flour and fish oil production from cisco fish waste

Location
City of Yakutsk, under program on “Development of innovative infrastructure of M.K. Ammosov North-Eastern Federal University (NEFU) “Arctic Innovative Center” (to implement resolution of the Russian Government of 09 April 2010 N 219 “On state support of innovative infrastructure development in federal educational institutions of higher professional education”); there is being created a small innovative enterprise (SIE) OOO Dary Yakutii (Gifts of Yakutia) with participation of M.K. Ammosov NEFU.

Project initiator
Medical Institute and Industrial Park of the Arctic Innovative Center, M.K. Ammosov NEFU, project's partner State Unitary Enterprise Sakhamedprom, Sakha Republic (Yakutia)

Project characteristics
This will be the first theoretically and practically proven normative base for producing biologically active additives (BAA), polyunsaturated Omega-3 and Omega-6 fat acids and concentrated products from fish waste in order to improve their quality and reduce wastes under industrial fish processing.

The combination of fish oil, which is a valuable natural product with many components good for health, and fish bone calcium results in creation of a natural product with high biological activity.

The project is very promising in terms of export-oriented production.

Volume of investment
Forecast volume of the NEFU investment into the project totals to RUR 8.4234 m in 2010 prices ($0.28 m), breaking down as follows: 2010 году – RUR 5.4234 m; 2011 – RUR 1.5 m; 2012 – RUR 1.5 m.

Volume of investments and resources attracted from partners and investors for the project development: at least 40% of the NEFU investment.
### Infrastructure available
On the initial stage, the project uses infrastructure of Medical Institute, M.K. Ammosov NEFU, SUE Sakhadmedprom, Sakha Republic (Yakutia), and Industrial Park, Arctic Innovative Center, M.K. Ammosov NEFU.

### Infrastructure required
Under project's intensive development, the infrastructure required is determined together with investors and partners.

### Project cost
To be determined together with investors and partners

### Implementation period
No information

### IRR
No information

### NPV
No information

### Payback period
No information

### Markets
The republic, the RF, Asian Pacific and EU countries.

### Investor's involvement
To be negotiated

### Project's detailedness
Business proposal

### CEO of an organization implementing the project
Roman Romanovich NOGOVITSYN, Director, Arctic Innovative Center, M.K. Ammosov NEFU

### Contacts:
Arctic Innovative Center, M.K. Ammosov NEFU
677000, Yakutsk, Kulakovskogo Str., 42, office 110
Tel./fax +7 (4112) 32-03-89,
e-mail: mggo04@mail.ru

### 75. Project name
Manufacturing of light steel thermal profiles with improved cross-section shapes and implementation of new technologies for assembling exterior filler structures in frame construction

### Location
City of Yakutsk, under program on “Development of innovative infrastructure of M.K. Ammosov North-Eastern Federal University (NEFU) “Arctic Innovative Center” (to implement resolution of the Russian Government of 09 April 2010 N 219 “On state support of innovative infrastructure development in federal educational institutions of higher professional education”); there is being created a small innovative enterprise (SIE) OOO Adgesia MK with participation of M.K. Ammosov NEFU.

### Project initiator
Engineering Department and Industrial Park of the Arctic Innovative Center, M.K. Ammosov NEFU, the project's partner – OOO Adgesia

### Project characteristics
Innovative features:
Light steel thin-wall constructions (LSTW) use cold-bent profiles of open and closed cross-section.
One of the LSTW advantages is the use of thin-wall profiles with preliminary wall perforation (so called thermal profiles) for filler constructions (walls, ceilings, etc.), which improves thermal parameters of a building filler construction. Introduction of the new profile also results in shorter construction period.
Another important feature is inclusion of non-metal materials. For example, when calculating thickness of external walls depending on longitudinal stress, designers think of joint performance of profiles and and interior and exterior boarding made form various gypsum and concrete materials, OSB, as well as the adjusted frame type with higher rigidity.
Preliminary design engineering with the use of up-to-date software (including 3D modeling) significantly reduced the steel construction...
weight, consequently, decreasing cost of construction, as well as work period. For example, steel constructions in a one-storey house weigh 25 kg/sq.m and up; in a two-storey house – 38 kg/sq/m and up.

Integration of space modeling (automatic compilation of project documentation) with automatized production of constructive elements enables manufacturing of fully identifiable fragments, with some allowance, which are assembled on a construction site within short period of time.

LSTW offer light weight along with durability, stability (especially for seismic load), simplicity and easiness of assembling, combined bearing and filling functions. All these features increase labor efficiency by 1.5-2 times and bring the technical level of metal construction industry nearer to machinery production.

The new-generation ventilation system, without any additional expenses, may decrease humidity to the desired quantity and lower power consumption for heating due to the air recuperation; and the output is process water.

| Volume of investment | Forecast volume of the NEFU investment into the project totals to RUR 16.35 m in 2010 prices ($0.545 m), breaking down as follows: 2010 – RUR 1.35 m; 2011 – RUR 13.5 m; 2012 – RUR 1.5 m. Volume of investments and resources attracted from partners and investors for the project development: at least 40% of the NEFU investment. |
| Infrastructure available | On the initial stage, the project uses infrastructure of Engineering Department, OOO Adgesia and Industrial Park, Arctic Innovative Center, M.K. Ammosov NEFU. |
| Infrastructure required | Under project's intensive development, the infrastructure required is determined together with investors and partners. |
| Project cost | To be determined together with investors and partners |
| Implementation period | No information |
| IRR | No information |
| NPV | No information |
| Payback period | No information |
| Markets | Development potential of OOO Adgesia MK stems from implementation of the republic's target program on housing designed for the years 2011-2015, including a subprogram on individual housing construction; development of agriculture; social programs on building hospitals, medical stations, kindergartens, schools, commercial buildings and constructions, etc. The estimated demand in the Sakha Republic (Yakutia) is as follows: 2011 – construction of 22 of cowsheds under the program on consumer production development in the republic; construction of 209 medical stations all over the republic, small-number schools and kindergartens in rural areas; individual housing; high-rise housing, including towns of Srednekolymsk and Olenyok in 2011; provision of amenities in temporary settlements near oil and gas fields, including a two-storey office building in the settlement of Ust-Kuiga in 2011. |
| Investor's involvement | To be negotiated |
| Project's detailedness | Business proposal |
| CEO of an organization implementing the project | Roman Romanovich NOGOVITSYN, Director, Arctic Innovative Center, M.K. Ammosov NEFU |
Contacts: Arctic Innovative Center, M.K. Ammosov NEFU
677000, Yakutsk, Kulakovskogo Str., 42, office 110
Tel./fax +7 (4112) 32-03-89,
e-mail: mggo04@mail.ru
### Nature Protection

#### 76. Project name
Construction of ranger camp sites in specially protected territories in the Sakha Republic (Yakutia)

<table>
<thead>
<tr>
<th>Location</th>
<th>The plan is to build camps in 74 resource reserves and 6 nature parks in the Sakha Republic (Yakutia)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project initiator</td>
<td>Ministry for Nature Protection of the Sakha Republic (Yakutia)</td>
</tr>
<tr>
<td>Project characteristics</td>
<td>Main developer: Department for specially protected nature territories, Ministry for Nature Protection of the Sakha Republic (Yakutia). Aim of the project: better working and living conditions for state rangers working at specially protected nature territories. The camps include: a visitors’ cabin, a rangers’ cabin, transport garages, sauna, cold store and fuel and lubricants storage. Cost of each camp is estimated at RUR 1.25 m.</td>
</tr>
<tr>
<td>Volume of investment</td>
<td>RUR 100.4 m in 2009 prices ($3.16 m)</td>
</tr>
<tr>
<td>Infrastructure available</td>
<td>Transport infrastructure, land sites.</td>
</tr>
<tr>
<td>Infrastructure required</td>
<td>Power and engineering grids</td>
</tr>
<tr>
<td>Cost of project</td>
<td>RUR 100.4 m</td>
</tr>
<tr>
<td>Implementation period</td>
<td>2011 - 2016</td>
</tr>
<tr>
<td>IRR</td>
<td>No information</td>
</tr>
<tr>
<td>NPV</td>
<td>No information</td>
</tr>
<tr>
<td>Payback period</td>
<td>No information</td>
</tr>
<tr>
<td>Markets</td>
<td>No information</td>
</tr>
<tr>
<td>Investor's involvement</td>
<td>Investors needed to implement the project.</td>
</tr>
<tr>
<td>Project detailedness</td>
<td>In 2010 OOO EcoProject designed a standard camp for rangers of specially protected nature territories.</td>
</tr>
<tr>
<td>CEO of an organization implementing the project</td>
<td>Vladimir Afanasievich GRIGORIEV</td>
</tr>
</tbody>
</table>
| Contacts | Ministry for Nature Protection of the Sakha Republic (Yakutia)  
677000, Yakutsk, Dzerzhinsky Str., 3/1  
Tel. +7 (4112) 24-12-90, fax 42-13-72  
e-mail: sterh@sakha.ru  
http://www.sakha.gov.ru/min-ohrany-prirody |

#### 77. Project name
Establishment of a nursery for rare and endangered species of Yakutia

<table>
<thead>
<tr>
<th>Location</th>
<th>Sakha Republic (Yakutia), Khangalassky region, Pokrovsk motorway, 50 km, bedrock coast of the Lena River</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project initiator</td>
<td>Ministry for Nature Protection of the Sakha Republic (Yakutia)</td>
</tr>
</tbody>
</table>
| Project characteristics | The project is developed with the aim to keep and breed rare and endangered animal species of Yakutia. At the moment, the republic has not a single nursery for breeding animal species enlisted in the Red Data Book of Yakutia. It makes sense to conduct this activity in an institution having experience in keeping wild animals and infrastructure required.  
The Republic's Zoo ORTO-DOIDU, under the Ministry for Nature Protection of the Sakha Republic (Yakutia), has been working for 10 years. It is a member of “Safeguarding of Cranes in Eurasia” and “Creating Reserve Populations of Siberian Grouse” programs (European-Asian Regional Association of Zoos and Aquariums); a member of the Northern Forum's “Northern Zoos Cooperation” working group. |

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*Note: All prices are in 2009 RUR and USD. IRR and NPV are not available.*
The ORTO-DOIDU nursery would solve a number of nature-protecting tasks and contribute to safeguarding biodiversity in Yakutia.

The following aims are to be fulfilled under the project:
- accumulating and safeguarding the gene fund of local fauna protected species for further dispersal in natural habitat and reconstruction of vanishing natural populations;
- participating in international programs on rare and endangered species breeding;
- conducting study of rare animal species of Yakutia.

Volume of investment: RUR 12.0 m in 2009 prices ($0.37 m)

Infrastructure available: Land site of 60 ha on the Lena River bedrock shore, infrastructure of the Republic's Zoo ORTO-DOIDU.

Infrastructure required: 1,000 km long road, 1,000 m long power transmission line, industrial facility (for boiler house, laboratory, hatching apparatus, electrical control unit), food storage, enclosures for birds and ungulates, 1,135 m long fencing.

Cost of project: RUR 24.0 m

Implementation period: 10 years

IRR: No information

NPV: No information

Payback period: Payback of the project – social. Under optimal conditions, it is possible to safeguard most vulnerable species.

Markets: Nature territories of the Sakha Republic (Yakutia)

Investor's involvement: Investor's share in the profit gained – to be negotiated.

Project detailedness: Requirements specification for design estimated development.

CEO of an organization implementing the project: Luka Nikolaevich SAFONOV, Director, Republic's Zoo ORTO-DOIDU

Contacts: Sakha Republic (Yakutia), Khamgalassky region, Pokrovsk motorway, 50 km.
Tel./fax +7 (4112) 22-52-59
e-mail: ykt-zoo@rambler.ru
http://zoo.ykt.ru/

78. Project name: Timber production with further export

Location: City of Yakutsk, settlements of Tabaga and Vladimirovka

Project initiator: State autonomous institution “Center for Inventory, Reproduction, Protection and Safeguarding of Forests in the Sakha Republic (Yakutia)”

Project characteristics: Timber production with capacity of 20-30 ths cub.m for export.

Volume of investment: RUR 230 m in 2010 prices ($7.66 m)

Infrastructure available: There are industrial facilities in 10 regions of the Sakha Republic (Yakutia); vehicles; land sites for industrial facilities.

Infrastructure required: Larger power generating capacity, if necessary.

Cost of project: RUR 230 m

Implementation period: 6 – 8 months

IRR: No information

NPV: No information

Payback period: 2-3 years

Markets: China, Japan, EU, Canada

Investor's involvement: Investor becomes a co-founder of the project.
Design estimates and business plan are being developed.

Maxim Yegorovich NEUSTROEV, Deputy General Director, Center for Inventory, Reproduction, Protection and Safeguarding of Forests in the Sakha Republic (Yakutia)

Yakutsk, Kesha Alexeev Str., 9/1
Tel. +7 (4112) 36-28-95, cell # +7 (914) 2715-256
e-mail: gau-les@mail.ru, max-gau@mail.ru
http://www.sakha.gov.ru/node/15647
### 79. Project name: Construction of a waste-processing plant in the city of Yakutsk

<table>
<thead>
<tr>
<th>Location</th>
<th>City of Yakutsk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project initiator</td>
<td>Company with limited liabilities (OOO) SOKOR Holding</td>
</tr>
<tr>
<td>Project characteristics</td>
<td>Thorough processing of solid consumer waste. Annual capacity of processing – 70 ths t of dry garbage a year under one-shift operating mode. According to MUE “Spetavtokhozyaistvo”, average monthly collection of solid waste amounts to 38 ths cub.m. Solid waste processing includes: 1. Acceptance of mixed and separately collected consumer solid waste. 2. Conveyer sorting of the waste and recycling of polymers, pulp, textile, metals, glass. 3. With the use of recycled materials, production of various constructions, building materials, consumer goods, filter plates, nonwoven materials, agglomerate, granulate, polymer film and pipes, toilet paper, biohumus, marketable compost.</td>
</tr>
<tr>
<td>Volume of investment</td>
<td>RUR 550 m in 2009 prices ($17.35 m)</td>
</tr>
<tr>
<td>Infrastructure available</td>
<td>Transport and electric grid infrastructure. Raw material – solid consumer waste in volume of 110 ths t a year, delivered directly to the plant by MUE “Spetavtokhozyaistvo” trucks. Building and finishing materials will be sold on the plant’s territory and transported by customers themselves.</td>
</tr>
<tr>
<td>Infrastructure required</td>
<td>Not required</td>
</tr>
<tr>
<td>Implementation period</td>
<td>7 years, project life cycle 20-25 years</td>
</tr>
<tr>
<td>Cost of project</td>
<td>- sorting station - RUR 95.5 m; - waste processing facility- RUR 454.5 m</td>
</tr>
<tr>
<td>IRR</td>
<td>55%</td>
</tr>
<tr>
<td>NPV</td>
<td>RUR 2,800 m</td>
</tr>
<tr>
<td>Payback period</td>
<td>3 years</td>
</tr>
<tr>
<td>Markets</td>
<td>Sakha Republic (Yakutia), the Russian Far East.</td>
</tr>
<tr>
<td>Investor's involvement</td>
<td>Lent resources, potential participation on business at 50%.</td>
</tr>
<tr>
<td>Project detailedness</td>
<td>There is a business plan; a land plot and a building for the plant; agreements with equipment suppliers and consumers of the plant’s products.</td>
</tr>
<tr>
<td>CEO of an organization implementing the project</td>
<td>Yelena Vladimirovan PETROVA, Director, OOO SOKOR Holding</td>
</tr>
<tr>
<td>Contacts</td>
<td>677000, Yakutsk, Lenin Ave., 3/1, office 403 cell # +7 (924) 177-45-11 e-mail: <a href="mailto:evpetrova@mail.ru">evpetrova@mail.ru</a></td>
</tr>
</tbody>
</table>

### 80. Project name: Launching a facility for production of building materials

<table>
<thead>
<tr>
<th>Location</th>
<th>Megino-Kangalassky region, Sakha Republic (Yakutia)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project initiator</td>
<td>Private entrepreneur (PE) M.O. Kaplin</td>
</tr>
<tr>
<td>Project characteristics</td>
<td>The village of Tyungulu and a number of other close settlements are building several large industrial and cultural sites like a sports and recreation center, a hospital. In 2011, they are planning to repair the school roof, to perform capital repairs of the technical college dormitory, etc. Entrepreneur Kaplin supplies all these objects with lumber. In general, there is a growing demand for lumber due to gasification of</td>
</tr>
</tbody>
</table>
the village Tyungulu and other close settlements, as well as intensive building in the private sector.
In perspective, it is possible to supply lumber to enterprises and population of adjacent regions (Ust-Aldansky, Churapchinsky, Tattinsky).
The enterprise uses ATLANT powersaw bench.
In 2010, the enterprise got a loan from the Small Business Development Fund of the Sakha Republic (Yakutia) and bought a TAIGA multiple-saw bench, with capacity of 2,400 cub.m a year, and a TAIGA butt-end reducing bench.
For future development and expansion of the project, investments are required for the following assets:
- MTZ-82 based loader;
- 20-ton truck;
- timber processing equipment with capacity of 9.0 ths cub.m.

<table>
<thead>
<tr>
<th>Volume of investment</th>
<th>Infrastructure available</th>
</tr>
</thead>
<tbody>
<tr>
<td>RUR 10.5 m in 2011 prices ($0.35 m)</td>
<td>The enterprise is situated in the settlement of Nizhny Bestyakh, the administrative center of Megino-Kangalassky region. It is a large transport hub with:</td>
</tr>
<tr>
<td>- river ferry Nizhny Bestyakh - Yakutsk;</td>
<td>- cargo berth and electric grid infrastructure;</td>
</tr>
<tr>
<td>- federal motorway “Lena” and “Kolyma”;</td>
<td>- in future – a railroad hub.</td>
</tr>
</tbody>
</table>

Infrastructure required: Not required
Implementation period: 2012 - 2013, project life cycle 25 years
Cost of project: RUR 10.5 m
IRR: Cash drive starting from 2008:
2008 – RUR 1.2 m;
2009 – RUR 2.5 m.;
2010 – RUR 5.5 m.
NPV: RUR 1.650 m
Payback period: 3 years
Markets: Megino-Kangalassky region, other regions of the Sakha Republic (Yakutia) across the river from Yakutsk
Investor's involvement: Share in business, lent resources – RUR 9 m.
Project detailedness: Design estimates, business plan, work experience.
CEO of an organization implementing the project: Private entrepreneur Milenty Osipovich KAPLIN
Contacts: 678075, Sakha Republic (Yakutia), Megino-Kangalassky region, village of tyungulu, Ozernaya Str., 6
Tel. +7 (411-43) 2-34-79, cell # +7 (914) 2908804

81. Project name: Roundwood logging and saw timber production in Chapanda

Location: Ust-Maisky region, Sakha Republic (Yakutia)
Project initiator: OOO Timber Logging Company DIAMANTER
Project characteristics: OOO Diamanter focuses on industrial wood logging and processing, as well as construction of low-rise wooden houses. Larger volume of wood logging requires purchase of modern wood logging equipment and timber carriers, as well as timber processing equipment.
Volume of investment: RUR 60.0 in 2010 prices ($ 2 m),
including RUR 45.0 m ($ 1.5 m) – borrowed funds,
RUR 15.0 m – own funds
The logging and lumber production site is located 40 kn from the settlement of Belkachi, Ust-Maisky region, Sakha Republic (Yakutia). The industrial facilities are located in the city of Yakutsk, the settlement of Nizhny Bestyakh. Chappanda site. The site has a 160kV diesel station. The mobile round-saw bench, set at Chapanda site, has capacity of up to 1.5 ths cub.m of round timber a month.

### Infrastructure available

Motorways for transporting timber logged in the winter period, opportunity to transport timber by the river transport.

### Implementation period

<table>
<thead>
<tr>
<th>Cost of project</th>
<th>2011 - 2012, project life cycle 25 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>RUR 60 m</td>
<td>RUR 38 m</td>
</tr>
<tr>
<td>IRR</td>
<td>No information</td>
</tr>
<tr>
<td>NPV</td>
<td>No information</td>
</tr>
<tr>
<td>Payback period</td>
<td>3 years</td>
</tr>
<tr>
<td>Markets</td>
<td>Domestic market of the Sakha Republic (Yakutia)</td>
</tr>
</tbody>
</table>

### Investor's involvement

Share in the charter capital

### Project detailedness

Business plan

### CEO of an organization implementing the project

Albert Titovich ZAKHAROV

### Contacts

677004, Yakutsk, Markhinka Str., 1 «А».
Tel. +7 (4112) 40-30-21, cell # +7 (914) 2705991
e-mail: les.2007@mail.ru

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**82. Project name**

Launching a timber logging and processing facility in Ust-Maisky region

<table>
<thead>
<tr>
<th>Location</th>
<th>Ust-Maisky region, Sakha Republic (Yakutia)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project initiator</td>
<td>OOO Maya Les</td>
</tr>
<tr>
<td>Project characteristics</td>
<td>The enterprise will launch a timber logging and processing facility with capacity of over 20.0 ths cub.m of wood, saw timber production at up to 15.0 ths cub.m, biological fuel – up to 2.0 ths tons. The projects includes: 18. purchase of timber logging and transporting vehicles; 19. purchase of timber sawing and processing equipment; 20. purchase of equipment for biofuel production; 21. construction of 40 km of forest roads; 22. construction of garages for 11 vehicles.</td>
</tr>
<tr>
<td>Volume of investment</td>
<td>RUR 38.0 m in 2011 prices ($1.29 m)</td>
</tr>
<tr>
<td>Infrastructure available</td>
<td>Motorways for transporting timber logged in the winter period, opportunity to transport timber by the river transport.</td>
</tr>
<tr>
<td>Implementation period</td>
<td>2011 - 2012, project life cycle 25 years</td>
</tr>
<tr>
<td>Cost of project</td>
<td>RUR 38 m</td>
</tr>
<tr>
<td>IRR</td>
<td>No information</td>
</tr>
<tr>
<td>NPV</td>
<td>No information</td>
</tr>
<tr>
<td>Payback period</td>
<td>3 years</td>
</tr>
<tr>
<td>Markets</td>
<td>Ust-Maisky and neighboring regions, the Aldan River basin, cities and towns of Yakutsk, Tommot, Neryungri.</td>
</tr>
<tr>
<td>Investor's involvement</td>
<td>Share in charter capital</td>
</tr>
<tr>
<td>Project detailedness</td>
<td>Business plan</td>
</tr>
<tr>
<td>CEO of an organization implementing the project</td>
<td>Valery Nikolaevich POPOV</td>
</tr>
<tr>
<td>Contacts</td>
<td>Director, OOO Maya Les</td>
</tr>
<tr>
<td></td>
<td>678620, Sakha Republic (Yakutia), Ust-Maisky region, settlement of Ust-Maya, Bragilova Str., 9</td>
</tr>
<tr>
<td></td>
<td>cell #. +7 (924) 1734054,</td>
</tr>
<tr>
<td></td>
<td>e-mail: <a href="mailto:MayLes@mail.ru">MayLes@mail.ru</a></td>
</tr>
</tbody>
</table>
### 83. Project name

**Launching of timber logging and processing facility in Gorny region**

<table>
<thead>
<tr>
<th>Location</th>
<th>Gorny region, Sakha Republic (Yakutia)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project initiator</td>
<td>Administration of Gorny Ulus municipal unit</td>
</tr>
<tr>
<td>Project characteristics</td>
<td>Establishment of timber logging and processing facility in Gorny region (ulus)</td>
</tr>
<tr>
<td>Volume of investment</td>
<td>RUR 200.0 m in current prices ($6.82 m), including:</td>
</tr>
<tr>
<td></td>
<td>- funds from Gorny Ulus MU budget – RUR 5.0 m;</td>
</tr>
<tr>
<td></td>
<td>- funds from the state budget of the Sakha Republic (Yakutia) – RUR 150.0 m;</td>
</tr>
<tr>
<td></td>
<td>- funds from the Federal budget- RUR 38.0 m;</td>
</tr>
<tr>
<td></td>
<td>- own funds – RUR 2.0 m;</td>
</tr>
<tr>
<td></td>
<td>- borrowed funds – 5.0 m.</td>
</tr>
<tr>
<td>Infrastructure available</td>
<td>A hard-surface federal road Mirny – Yakutsk. Electric power supply from the high-voltage line.</td>
</tr>
<tr>
<td>Implementation period</td>
<td>2011-2014, project life cycle 25 years</td>
</tr>
<tr>
<td>Cost of project</td>
<td>RUR 200 m in current prices</td>
</tr>
<tr>
<td>IRR</td>
<td>No information</td>
</tr>
<tr>
<td>NPV</td>
<td>No information</td>
</tr>
<tr>
<td>Payback period</td>
<td>10 years</td>
</tr>
<tr>
<td>Markets</td>
<td>The town of Mirny, Vilyuisk group of the regions in the Sakha Republic (Yakutia), Yakutsk, Khabarovsk Krai, Amur Oblast</td>
</tr>
<tr>
<td>Investor's involvement</td>
<td>50% in charter capital</td>
</tr>
<tr>
<td>Project detailedness</td>
<td>Business plan</td>
</tr>
<tr>
<td>CEO of an organization implementing the project</td>
<td>Pyotr Nikolaevich ALEXEEV, Head of Gorny Ulus MU</td>
</tr>
<tr>
<td>Contacts</td>
<td>678030, Gorny region, village of Berdigestyakh, Lenin Str., 8 Tel. +7 (411-31) 4-16-36 e-mail: <a href="mailto:gornecn@mtcs.ru">gornecn@mtcs.ru</a> <a href="http://www.gornyulus.ru/">http://www.gornyulus.ru/</a></td>
</tr>
</tbody>
</table>

### 84. Project name

**Production of synthetic motor fuels from Kharbalakh field coal**

<table>
<thead>
<tr>
<th>Location</th>
<th>Village of Kharbalakh, Tattinsky region, Sakha Republic (Yakutia)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project initiator</td>
<td>Administration of Tattinsky ULUS municipal unit, Sakha Republic (Yakutia)</td>
</tr>
<tr>
<td>Project characteristics</td>
<td>Purchase of a production facility for coal processing with a tank farm. This facility would enable production of a synthetic motor fuel and liquified hydrocarbon gas from processes coal of Kharbalakh field, using the technology of fast thermal decomposition, in order to supply regions of the Sakha Republic (Yakutia) across the Lena River from Yakutsk.</td>
</tr>
<tr>
<td>Volume of investment</td>
<td>RUR 387.11 m in 2010 prices ($12.90 m)</td>
</tr>
<tr>
<td>Infrastructure available</td>
<td>OAO TELEN has a license for Kharbalakh coal field development.</td>
</tr>
</tbody>
</table>
The field's capacity guarantees the sufficient volume for processing. Crashing and sorting equipment is owned by OAO TELEN.

**Infrastructure required**
- Buildings: a processing facility with a tank park, co-generation of minimal capacity of 1.0 mW, automatic management system, gas-filling station with a refuelling point, industrial laboratory, equipment for gas liquifying;
- Transport: gas truck, quarry dump truck, loader, excavator;
- Land plot of 1.5 ha.

**Implementation period**
- Cost of project: RUR 387.110 m
- IRR: 3 years
- NPV: RUR 453.43 m
- Payback period: 5 years
- Markets: Other regions of the Sakha Republic (Yakutia) across the river from Yakutsk

**Investor's involvement**: 100%

**Project detailedness**: Business plan

**CEO of an organization implementing the project**: Prokopy Dmitrievich RAKHLEEV, OAO TELEN

**Contacts**
- 678666, Sakha Republic (Yakutia), Tattinsky region, village of Kharbalakh
- Tel. +7 (41152) 24-371, 24461, fax 24401.
- e-mail: telen1985@mail.ru

### 85. Project name
**Launching a facility on timber logging and processing**

**Location**
Amginsky region, Sakha Republic (Yakutia)

**Project initiator**
OOO Amgalesprom

**Project characteristics**
The project is to launch an effective facility for timber logging and processing on the territory of Amginsky region, Sakha Republic (Yakutia). Investments will help the enterprise to increase industrial timber logging by 3 times, totaling to 20.0 ths cub.m, and to produce up to 15.0 ths t of saw timber.

The borrowed funds are planned to be used for purchase of wood carriers, construction of 60 km of forest tracks and a garage for 8 vehicles.

**Volume of investment**
- RUR 23.27 m in 2009 prices ($0.73 m)

**Infrastructure available**
The enterprise owns timber processing facilities in the villages of Amga and Bologur, a turnery in v. Amga

**Infrastructure required**: Not required

**Implementation period**
- Cost of project: RUR 23.27 m
- IRR: Being calculated
- NPV: Being calculated
- Payback period: 3.5 years
- Markets: Amginsky region and regions across the river from Yakutsk

**Investor's involvement**: Commercial bank loans

**Project detailedness**: Business plan

**CEO of an organization implementing the project**: Nikaloi Yudovich BARABANOV, Director, OOO Amgalesprom

**Contacts**
- 678600, Республика Саха (Якутия) Амгинский улус, с.Амга, ул. Ипподромная, 1
### Project name: Construction of road service facilities at public motorways

#### Location

At VILYUI federal public motorway – the territory of the city of Yakutsk (25th km), Verkhnevilyuisk region (670th km, v. Khor), Nyurbinsky region (790th km, t. Nyurba), Suntarsky region (866th km, v. Sheya or 870th km, v. Kutana), Mirninsky region (1151th km, s. Novy);

At KOLYMA federal public motorway – being approved;

At LENA federal public motorway – being approved due to reconstruction works;

4. At public motorways of republic's and municipal levels – in accordance with resolution of the Sakha Republic (Yakutia) government №986-p of 6 September 2010 “On recommended scheme of distributing road service facilities at public motorways in the Sakha Republic (Yakutia)”.

#### Project initiator

Ministry of Entrepreneurship, Tourism and Employment of the Sakha Republic (Yakutia)

#### Project characteristics

Under the project, each road service facility includes a motel for 20 beds, cafe for 30 people, minimarket, service station, heated parking for cars and trucks. The gasoline station consists of the operator's cabin with necessary conveniences, two tanks of 10 cub.m and one tank of 20 cub.m; it is designed to operate at temperatures down to -60 C. Heating will be supplied by a module boiler unit with capacity of 1.6MW, using gas, reduced crude, oil, diesel and solid fuel.

#### Volume of investment

RUR 51.48 m in the current prices of 2010, 2 quarter ($1.71 m)

#### Infrastructure available

- Transport infrastructure

#### Infrastructure required

Electric power grid and engineering infrastructure

#### Project cost

RUR 17.28 m in the current prices of 2010, 2 quarter (cost of each complex)

#### Implementation period

2012 - 2016, the project's life cycle is over 25 years

#### IRR

Being calculated

#### NPV

Being calculated

#### Payback period

Being calculated

#### Markets

Municipal units, where the public motorways run: KOLYMA federal motorway – five units, namely Megino-Kangalassky, Churapchinsky, Tattinsky, Tomponsky and Oimyakonsky regions; LENA federal motorway – four units, namely Neryunginskiy, Aldansky, Khangalassky, Megino-Khangalassky regions; VILYUI federal motorway – six units, namely Gorny, Vilyuisky, Verkhnevilyuisky, Nyurbinsky, Suntarsky and Mirninsky regions.

#### Investor's involvement

An investor is required for implementation of the project. The project is to receive the state support under the republic's target program “Development of entrepreneurship and tourism in the Sakha Republic (Yakutia) in 2012-2016”.

#### Project detailedness

The project documentation is developed for “Complex of road service facilities”, including architectural and construction solutions, heating and ventilation, water supply ans sewage, electric power supply, power equipment, designs and estimates.
CEO of an organization implementing the project

Yekaterina Ivanovna KORMILITSYNA, Minister of Entrepreneurship, Tourism and Employment of the Sakha Republic (Yakutia)
Ministry of Entrepreneurship, Tourism and Employment of the Sakha Republic (Yakutia)
677018, Yakutsk, P. Alexeeva Str., 6/1
Tel. +7 (4112) 42-13-27, факс 34-27-65
e-mail: minpred@gov.sakha.ru
http://www.sakha.gov.ru/minpred

Contacts:
### Project name
Tourist recreation cluster in the Sakha Republic (Yakutia) “The Northern World” (special economic zone of the tourist recreation type)

<table>
<thead>
<tr>
<th>Location</th>
<th>City of Yakutsk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project initiator</td>
<td>Ministry of Entrepreneurship, Tourism and Employment of the Sakha Republic (Yakutia)</td>
</tr>
</tbody>
</table>

#### Project characteristics
The project is being implemented in central Yakutia, 33 km from the city of Yakutsk, on the left Lena River bank; total area – 5.9 ths ha. The project site is situated in two neighboring municipal units: the city of Yakutsk and Khangalassky region (the Tabaga Cape). It is one of the most picturesque and well-developed places on the Lena River. The Northern World project will benefit from unique natural and climatic conditions: extremely low temperature and permafrost, mineral water springs.

The project includes construction of the following sites: the World Mammoth Center, museum and research institution, The Kingdom of Permafrost underground complex, the Northern Mosaic and the Town Estates ethnographic parks, all-the-year-round ski resort, the “Lenskie zori” sanatorium, an amusement park and an accommodation complex with a 5-star hotel (100 people), a 3-star hotel (100 people) and a cottage camp (100 people).

#### Volume of investment
RUR 5,106 m in 2011 prices ($174.27 m), including:
- the RF budget – RUR 940 m;
- the SR(Y) budget – RUR 820 m;
- local budgets – RUR 5 m
- private investment – RUR 3,300 m.

#### Infrastructure available
By the year 2013, all-type transport communications will meet on the territory of the cluster: railroad, motorway, aviation and river transports. The external infrastructure of the project if finance from the Federal and the republic’s budgets: construction of a railroad to the city of Yakutsk, a railroad-automobile bridge across the Lena River, construction of a new airport terminal, a railway station, development of the Yakutsk river port, reconstruction and construction works at the federal motorways: “Lena”, “Kolyma”, “Vilyui”; regional-level roads: “Amga”, “Umnas”, “Yana” and “Kobyai”. The project site has convenient access by asphalt roads leading directly to the objects. The distance to the river port – 36 km; the nearest railroad station – 23 km; the international Yakutsk airport – 40 km. The territory has reliable power and gas supply, mobile communication infrastructure, mineral water springs.

In future, with construction of the bridge across the Lena River, it is planned to reconstruct a motorway to the city of Yakutsk, making the site even more accessible; it will also connect the city with a large number of regions across the river. Also in future, it is planned to construct an own water intake.

#### Infrastructure required
The project includes construction of 12 running kilometers of internal roads, ensuring transport communication inside the zone, and about 3 km of an access road; construction of a gas vent and gas boiler-house for autonomous heat supply; a power transmission line. Water supply will be provided from the Tabaga water intake; sewage will be
Implementation period: 2011 - 2017

Cost of project: RUR 5,106 m
IRR: 16.9%
NPV: RUR 2,033.2 m
Payback period: 6 years

Markets: Domestic tourism market of the SR(Y) and the RF. International incoming tourism market, mostly from the Asian Pacific countries.

Investor's involvement: Implementation of the project requires investment of RUR 5,100 m, including:
- the RF budget – RUR 943 m (infrastructure and the World Museum);
- the regional budget – RUR 818 m (infrastructure and the Town Estates and the Northern Mosaic parks);
- local budgets – RUR 5 m (infrastructure);
- and private investment – RUR 3,340 m (all-the-year-round ski resort, the Kingdom of Permafrost, the Northern Mosaic and the Town Estates parks, the accommodation complex).

Each object may be considered a separate investment project.

Project detailedness: Approved by resolution of the Sakha Government, Concept of the project’s implementation in the SR(Y), feasibility study and design estimates (business plan) were considered and approved by the Ministry for Economic Development of the RF. The expertise was conducted by the State Department of Expertise of the Sakha Republic (Yakutia), Sakha Academy of Sciences. The revised design estimated were approved by resolution of the Economic Council under Sakha Government of 20 January 2010, № 74/3.

The cluster borders – outlined; the cluster draft layout – designed; the project’s expertise by leading foreign consulting agencies – done; the World Mammoth Museums’ exposition and scheme (layout, architectural and scientific) – complete. The design estimates will be finalized in the 1st quarter 2011.

The project has been approved by the Expert Board on regional investment policy under the Ministry of Regional Development of the RF and enlisted as a priority project under the Program of inter-regional cooperation of the Russian Far East and Eastern Siberia with the north-east of the People’s Republic of China (2009-2018).

CEO of an organization implementing the project: Yekaterina Ivanovna KORMILITSYNA, Minister of Entrepreneurship, Tourism and Employment of the Sakha Republic (Yakutia)

Contacts: Ministry of Entrepreneurship, Tourism and Employment of the Sakha Republic (Yakutia)
677018, Yakutsk, P. Alexeeva Str., 6/1
Tel: +7 (4112) 34-46-06, 34-49-59
e-mail: minpred@gov.sakha.ru
http://www.sakha.gov.ru/minpred

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88. Projects name: **Tourist recreation cluster in Khangalassky region of the Sakha Republic (Yakutia)**

Location: Khangalassky region of the Sakha Republic (Yakutia)

Project initiator: Government of the Sakha Republic (Yakutia),
MU Khangalassky Region Administration
Project characteristics

Creation of a tourism center for attracting investment into traveling industry under public-private partnership.

The main purpose is to convert the region into the central tourism place in the Sakha Republic (Yakutia), so that tourism becomes a profitable industry in the republic’s economy. It may ensure employment of the rural population, provide decent living standards, increase revenues of all levels of the budget, ensure effective management of traveling resources.


- “Coachmen’s village Yelanka” cultural and ethnographic complex is designed to include a traditional house, various buildings to show old coachmen’s lifestyle, a river mill. The house will serve a museum of coachmen's lifestyle, with exhibits collected in southern villages. The tourist facility is situated on the left Lena River bank, 60 m above the water level.

- “Samartai” tourist complex is situated on the right Lena River bank. It includes the following places of interest: Kysyl-Syr location, where Tygyn Darkhan, the prominent figure in the Sakha history, was born; Turuk-Khaia, a sacred place; “Kyuryulyur”, a cascade of waterfalls on the Menda River.

- “Buluus” tourist complex is based on the unique nature monument – a permanent glacier. In winter, underground springs bring their waters to the surface and they freeze; in summer, the glacier does not melt and makes a wonderful site among green grass and trees. The tourist facility is situated near the place where the spring comes out and forms the glacier.

- “Orto Doidu” tourist-ethnographic complex is a traditional place to be visited by the republic’s guests. It is locate 49 km south of Yakutsk in a most picturesque place in the river valley. There is a restaurant for 120 people, a hunter’s hut for 25 people, an open-air café, a ritual site for celebrating the national summer festival Ysyakh with 16 traditional summer dwellings.

Volume of investment

Implementation of the project requires investment of RUR 348.09 m ($10.98 m), including:

- RUR 52.3 m for infrastructure development;
- RUR 140.25 m for tourist recreation sites;
- RUR 155.5 m for furniture and equipment.

The investment project has been developed in accordance with order by the Ministry for Economic Development of Russia of 31 July 2006 № 212.

Infrastructure available

The project site has convenient access by asphalt roads leading directly to the objects. The territory has partial power and gas supply. In future, with construction of the bridge across the Lena River, it is planned to reconstruct a motorway to the city of Yakutsk, making the site even more accessible.

Relevant proximity to the city of Yakutsk, picturesque banks of the Lena River, existing tourist infrastructure and relatively stable tourist flow.

“Coachmen’s village Yelanka”:
- a museum, various buildings to show old coachmen’s lifestyle, a river mill; access roads; a village of the same name with infrastructure.
“Buluus”:
- temporary constructions like pavilions, tables and benches.

“Orto Doidu”:
- a restaurant for 120 people, a hunter's cabin, sliding slopes, a dance-floor for 300 people, an open-air café, a ritual site for celebrating the national summer festival Ysyakh with 16 dwellings.

“Samartai”:
- operating “Samartai” ethnographic museum.

Infrastructure required
For all-the-year-round functioning, each of the complexes requires:
29. Internal and access motorways;
30. Gas vents;
31. Gas boiler-house;
32. Heat supply network;
33. Transformation station;
34. Electric grids;
35. Water supply and sewage network;
36. Communications means;
37. Viewing point.

Implementation period
Stage 1 – 2010-2019
Investment into construction of objects and infrastructure. Launching.
Stage 2 – 2020-2029
Completion of construction; receiving stable profit by investors.

Cost of project
IRR 49.3 %
NPV RUR 1,002.8 m

Payback period
Average payback period – 3 years and 7 months, including:
- “Coachmen’s village Yelanka” – 3 years 5 months;
- “Buluus” – 3 years 4 months;
- “Orto Doidu” - 3 years 9 months;
- “Samartai” – 2 years 9 months.

Markets
The SR(Y) domestic tourism and in-coming tourism: Asian Pacific countries (Japan, Korea, China), Germany, the USA, Great Britain, France.

Investor's involvement
Construction of the cluster objects – on investor’s account

Project detailedness
Investment project “Creation of tourist recreation investment sites in Khangalassky region of the Sakha Republic (Yakutia);
Concept of “Coachmen’s village Yelanka” integrated development;
General Plan of “Coachmen’s village Yelanka” integrated development.

CEO of an organization
Yekaterina Ivanovna KORMILITSYNA,
Minister of Entrepreneurship, Tourism and Employment of the Sakha Republic (Yakutia)

Contacts
Ministry of Entrepreneurship, Tourism and Employment of the Sakha Republic (Yakutia)
677018, Yakutsk, P. Alexeeva Str., 6/1
Tel: +7 (4112) 34-46-06, 34-49-59
e-mail: minpred@gov.sakha.ru
http://www.sakha.gov.ru/minpred
Annual average exchange rates
of Russian ruble to USD

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Report on data exchange rates of the Central Bank of Russia

Projections according to the decree of the Government of the Sakha Republic (Yakutia) from August 10, 2010 No. 357 “The forecast of socio-economic development of the Sakha Republic (Yakutia) in 2011 and for the period until 2013”.
Ministries

Ministry of External Relations of the Sakha Republic (Yakutia)
Minister – Mr. Valery I. MAXIMOV
30, Lenin ave., Yakutsk, Sakha (Yakutia) 677011
Tel.: +7 4112 342441
Fax: +7 4112 341939
E-mail: mvs@gov.sakha.ru

Ministry of Housing and Utilities of the Sakha Republic (Yakutia)
Minister – Mr. Alexander A. ANTONENKO
13, Kirov str., Yakutsk, Sakha (Yakutia) 677000
Tel.: +7 4112 422578
Fax: +7 4112 422739
E-mail: minjkh@gov.sakha.ru

Healthcare Ministry of the Sakha Republic (Yakutia)
Minister – Mr. Alexander V. GOROKHOV
30, Lenin ave., Yakutsk, Sakha (Yakutia) 677011
Tel.: +7 4112 424022
Fax: +7 4112 421772
E-mail: minzdrav@gov.sakha.ru

Ministry of State Property of the Sakha Republic (Yakutia)
Minister – Mr. Viktor P. EFIMOV
8, Ammosov str., Yakutsk, Sakha (Yakutia) 677000
Tel.: +7 4112 341655
Fax: +7 4112 421363
E-mail: mio@gov.sakha.ru

Ministry of Culture and Spiritual Development of the Sakha Republic (Yakutia)
Minister – Mr. Andrey S. BORISOV
30, Lenin ave., Yakutsk, Sakha (Yakutia) 677011
Tel.: +7 4112 421163
Fax: +7 4112 421248
E-mail: minkult@gov.sakha.ru

Ministry of Sciences and Professional Education of the Sakha Republic (Yakutia)
Minister – Mr. Yury S. KUPIRIYANOV
36, Kurashov str., Yakutsk, Sakha (Yakutia) 677007
Tel.: +7 4112 455156, 423589
Fax: +7 4112 425159
E-mail: minnauka@gov.sakha.ru

Ministry of Construction and Building Materials Industry of the Sakha Republic (Yakutia)
Minister – Mr. Sergey Y. DEREPOVSKY
8, Ammosov str., Yakutsk, Sakha (Yakutia) 677000
Tel.: +7 4112 424412
Fax: +7 4112 341413
E-mail: minstroy@gov.sakha.ru

Ministry of Transportation, Communications and Information of the Sakha Republic (Yakutia)
Minister – Mr. Semen V. VINOKUROV
22, Lenin ave., Yakutsk, Sakha (Yakutia) 677018
Tel.: +7 4112 423070
Fax: +7 4112 425636
E-mail: mintrans@gov.sakha.ru

Sakha Republic (Yakutia) Labour and Social Development Ministry
Minister – Mr. Nikolay N. DEGTYARYOV
6/1, Petr Alexeev str., Yakutsk, Sakha (Yakutia) 677000
Tel.: +7 4112 424034
Fax: +7 4112 340425
E-mail: mintrud@gov.sakha.ru

Ministry of Finance of the Sakha Republic (Yakutia)
Minister – Mr. Vadim A. NOVIKOV
12, Kirov str., Yakutsk, Sakha (Yakutia) 677007
Tel.: +7 4112 423684
Fax: +7 4112 423337
E-mail: minf-kanc@gov.sakha.ru

Ministry of Economic Development of the Sakha Republic (Yakutia)
Minister – Mr. Mikhail A. OSIPOV
28, Lenin ave., Yakutsk, Sakha (Yakutia) 677022
Tel.: +7 4112 420310
Fax: +7 4112 421089
E-mail: minekon@gov.sakha.ru

State Committee on Geology and Natural Resources of the Sakha Republic (Yakutia)
Chairman – Mr. Leonid N. KOVALEV
13, Kirov str., Yakutsk, Sakha (Yakutia) 677892
Tel.: +7 4112 423503
Fax: +7 4112 423587
E-mail: goscomgeo@gov.sakha.ru
State Committee on Trade and Supply Resources of the Sakha Republic (Yakutia)
Chairman – Mr. Viktor V. OMUKOV
22, Lenin ave., Yakutsk, Sakha (Yakutia) 677000
Tel.: +7 4112 423438
Fax: +7 4112 421066
E-mail: goscomtorg@gov.sakha.ru

State Committee on Sports and Physical Training of the Sakha Republic (Yakutia)
Chairman – Mr. Mikhail D. GULYAEV
4, Lenin ave., Yakutsk, Sakha (Yakutia) 677000
Tel.: +7 4112 340849
Fax: +7 4112 340849
E-mail: goscomsport@gov.sakha.ru

State Committee on Pricing Policy of the Sakha Republic (Yakutia)
Chairman – Mrs. Valentina I. LEMESHEVA
28, Lenin ave., Yakutsk, Sakha (Yakutia) 677000
Tel.: +7 4112 343439
Fax: +7 4112 344648
E-mail: scomtsen@gov.sakha.ru
Representative Offices

Permanent Representation of the Sakha Republic (Yakutia) under the President of the Russian Federation
Permanent representative – Mr. Alexander K. AKIMOV
107078, Moscow, 3/26 Myasnitsky proezd
Tel./fax: (495) 628-42-21

Permanent Representation of the Sakha Republic (Yakutia) in Saint-Petersburg
Permanent representative – Mrs. Galina M. MAKAROVA
199053, Saint-Petersburg, 1/10 Birzhevoi pereulok, 1st floor
Tel./fax: (812) 323-34-46

Permanent Representation of the Sakha Republic (Yakutia) in the Far Eastern Federal District in Khabarovsk
Permanent representative – Mr. Georgy D. NIKONOV
680000, Khabarovsk, 16 Volochaevskaya Str.
Tel./fax: (4212) 31-58-58

Representation of the Sakha Republic (Yakutia) within the RF Trade Representation in the PRC
Representative – Mr. Alexander I. YADREEV
100600 China, Beijing, Dongzhimennei Dajie, Mashao Hutong, 27A
Tel.: (86-10) 653-222-01, fax: (86-10) 653-253-98

Assignee on the Sakha Republic (Yakutia) matters in Toronto, Canada – Mrs. Marina T. DESYATKINA,
200 North Service Rd, Unit1, Suite 375, Oakville, Toronto, ON L6M 241 Canada
Tel.: (1-905) 334-49-66

Representation of the Sakha Republic (Yakutia) at the Northern Forum Secretariat in Anchorage, USA
Representative – Mrs. Anastasia N. BOZHEDONOVA
4401 University Drive, APU Carr-Goitstein Center, Suite 221 Anchorage, Alaska 99508 USA
Tel.: (1-907) 561-32-80, fax (1-907) 561-66-4
<table>
<thead>
<tr>
<th>Company name, CEO</th>
<th>Activity</th>
<th>Address</th>
</tr>
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</table>
| JSC “ALROSA” (ZAO)  
President – Fyodor Borisovich ANDREEV | Diamond mining | 678170, Sakha Republic (Yakutia), Mirny, 6 Lenin Str. Tel.: (411-36) 2-23-02  
Fax: (411-36) 2-50-30  
E-mail: adm.AK@alrosa-mir.ru |
| OAO “Almazy Anabara”  
General Director – Matvey Nikolaevich YEVSHEEV | Diamond mining, timber industry | 677000, Sakha Republic (Yakutia), Yakutsk, 6 Chernyshevskogo Str. Tel.: (4112) 45-01-00, 42-01-02  
Fax: (4112) 42-50-30 |
| OAO “Nizhne-Lenskoe”  
General Director – Vladimir Romanovich KYCHKIN | Diamond mining | 677000, Sakha Republic (Yakutia), Yakutsk, 4 Lenin Ave., Tel.: (4112) 34-41-00 |
| OAO “Aldanzoloto” GRK  
General Director – Igor Yurievich SUKHOBAEVSKY | Gold mining | 678940, Sakha Republic (Yakutia), Aldansky region, s. Nizhny Kuranakh, 14 Stroiteley Str. Tel.: (411-45) 6-29-41  
Fax: (411-45) 3-08-82 |
| OAO “Surgutneftegaz”  
General Director – Vladimir Leonidovich BOGDANOV | Oil production | 628415, Tyumenskaya Oblast, Surgut, 1 Kukuevitskogo Str. Tel.: (3462) 42-61-33  
Tel. Moscow office: (495) 980-15-86  
E-mail: secret_b@surgutneftegas.ru |
| OAO “Sakhatransneftegaz”  
General Director – Viktor Ivanovich SAMOILOV | Gas production and transportation | 677000, Sakha Republic (Yakutia), Yakutsk, 18 Ammosov Str. Tel.: (4112) 42-49-95  
Fax: (4112) 42-48-44  
E-mail: sakhatransneftegaz@mail.ru |
| OAO “Yakut Fuel and Power Company”  
General Director – Igor Leonidovich DEMIDOV | Gas production | 677015, Sakha Republic (Yakutia), Yakutsk, 4/1 Khalturina Str. Tel.: (4112) 22-39-11  
Fax: (4112) 22-35-74  
E-mail: JSC-YGP@ygp.ru |
| OOO “Taas-Yurekh neftegazdobycha”  
General Director – Ivan Mikhailovich MENSHEIKOV | Oil production | 678144, Sakha Republic (Yakutia), Lensk, 32A Pervomaiskaya Str. Tel.: (411-37) 4-62-88  
Fax: (411-37) 4-62-96  
E-mail: iroil@mail.ru, iroil@yandex.ru |
| OAO Holding Company “Yakutugol”  
Acting director – Igor Valerievich KHAFIZOV | Coal mining and enrichment | 678960, Sakha Republic (Yakutia), Neryungri, 3/1 Lenin Str. Tel.: (411-47) 96-125  
Fax: (411-47) 4-20-24  
E-mail: post@yakutugol.ru |
| OAO «Southern Yakutia Corporation»  
General Director – Mikhail Lvovich BRUK | Implementation of “Integrated Development of Southern Yakutia” investment project | Moscow, 11B Selezniovskaya Str. Tel.: (495) 232-42-44  
Fax: (495) 232-95-13  
E-mail: office@sy-corp.ru |
| OAO JSC “Yakutskenergo”  
General Director – Oleg Vladimirovich TARASOV | Generation, transmission and distribution of electric and heat power | 677000, Sakha Republic (Yakutia), Yakutsk, 14 F. Popova Str. Tel.: (4112) 21-13-50  
Fax: (4112) 21-13-55  
E-mail: inform@yakute.elektra.ru |
<table>
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<th>Company Name</th>
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<tr>
<td><strong>GUP “ZhKH RS(Y)”</strong></td>
<td>Generation and distribution of heat power</td>
<td>677000, Sakha Republic (Yakutia), Yakutsk, 5, 50 let Sovetskoy Armii</td>
<td>Tel.: (4112) 39-93-03, Fax: (4112) 39-93-26</td>
</tr>
<tr>
<td><strong>OOO “Yakutia Airlines”</strong></td>
<td>Cargo and passenger air traffic</td>
<td>677014, Sakha Republic (Yakutia), Yakutsk, 9 Bykovskogo Str.</td>
<td>Tel./fax: (4112) 44-30-60, E-mail: <a href="mailto:yakutia@yakutia.ru">yakutia@yakutia.ru</a></td>
</tr>
<tr>
<td><strong>OOO JSC “Railroads of Yakutia”</strong></td>
<td>Railway transportation</td>
<td>678900, Sakha Republic (Yakutia), Aldan, 14 Mayakovskogo Str.</td>
<td>Tel.: (411-45) 3-26-35, Fax: (411-45) 3-22-56, Tel. Yakutsk office: (4112) 42-05-00, 42-51-06, 42-51-19, 42-41-32</td>
</tr>
<tr>
<td>**OOO “Lena River Shipping Company”</td>
<td>Cargo and passenger river transport traffic</td>
<td>677000, Sakha Republic (Yakutia), 2 Dzerzhinskogo Str.</td>
<td>Tel.: (4112) 34-10-77, Fax: (4112) 34-10-77, E-mail: <a href="mailto:telecom@sakha.ru">telecom@sakha.ru</a></td>
</tr>
<tr>
<td><strong>OOO “Sakhatelecom”</strong></td>
<td>Telecommunications</td>
<td>677000, Sakha Republic (Yakutia), 22 Kurashova Str.</td>
<td>Tel.: (4112) 42-37-08, 42-38-75, Fax: (4112) 34-10-77, E-mail: <a href="mailto:direct@lorp.ru">direct@lorp.ru</a></td>
</tr>
<tr>
<td><strong>OOO “Republic's Investment Company”</strong></td>
<td>Investment activity</td>
<td>677000, Sakha Republic (Yakutia), 38 Ordzhonikidzhe Str.</td>
<td>Tel. (4112) 39-02-51, Fax: (4112) 34-42-07, E-mail: <a href="mailto:ric@ricsakha.ru">ric@ricsakha.ru</a></td>
</tr>
<tr>
<td><strong>OOO JSB “Almazergienbank”</strong></td>
<td>Banking</td>
<td>677000, Sakha Republic (Yakutia), 1 Lenin Ave.</td>
<td>Tel.: (4112) 34-22-22, 8-800-100-34-22, Fax: (4112) 425-425, E-mail: <a href="mailto:bank@albank.ru">bank@albank.ru</a></td>
</tr>
<tr>
<td><strong>OOO “EPL Diamond”</strong></td>
<td>Jewelry production and retail</td>
<td>677022, Sakha Republic (Yakutia), 4 Oymyakonskogo Str.</td>
<td>Tel.: (4112) 35-41-51, Fax: (4112) 35-10-92</td>
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<tr>
<td><strong>FAPC “Yakutia”</strong></td>
<td>Food product manufacturing, catering</td>
<td>677009, Sakha Republic (Yakutia), 68 Dzerzhinskogo Str.</td>
<td>Tel.: (4112) 45-90-06, Fax: (4112) 45-90-58, E-mail: <a href="mailto:fapc@sakha.ru">fapc@sakha.ru</a></td>
</tr>
<tr>
<td><strong>OOO “Integrated house-building factory”</strong></td>
<td>Building of houses, production of construction materials</td>
<td>677002, Sakha Republic (Yakutia), Yakutsk, Pokrovsky Trakt, 6 km</td>
<td>Tel.: (4112) 43-17-30, 43-13-16, 35-10-90, Fax: (4112) 35-28-67</td>
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<tr>
<td><strong>OOO “Yakutcement”</strong></td>
<td>Production of cement and crushed stone</td>
<td>678020, Sakha Republic (Yakutia), Khangalassky ulus, 32 Zavodskaya Str.</td>
<td>Tel.: (411) 48-0-21, 47-9-13, Fax: (411) 48-1-45, E-mail: <a href="mailto:info@yakutcement.ru">info@yakutcement.ru</a>, <a href="mailto:sale@yakutcement.ru">sale@yakutcement.ru</a></td>
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<td><strong>GUP “Committee on precious metals and precious stones of the Sakha Republic (Yakutia)”</strong>&lt;br&gt;General Director – Karl Innokentievich VASILIEV</td>
<td>Supply, stocktaking and build-up of the State Fund of precious metals and precious stones of the Sakha Republic (Yakutia)</td>
<td>677018, Sakha Republic (Yakutia), Yakutsk, 18 Kirova Str.&lt;br&gt;Tel.: (4112) 48-22-04, 34-31-64</td>
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<td><strong>OOO “Pokrovsk basalt material plant”</strong>&lt;br&gt;General Director – Yegor Petrovich ZHIRKOV</td>
<td>Production of construction materials</td>
<td>678000, Sakha Republic (Yakutia), Pokrovsk, 1 Zavodskaya Str.&lt;br&gt;Tel.: (411-44) 43-1-42&lt;br&gt;Office in Yakutsk:&lt;br&gt;677018, Sakha Republic (Yakutia), Yakutsk, 38 Ordzhonikidze Str.&lt;br&gt;Tel.: (4112) 39-02-72, 42-11-76</td>
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<tr>
<td><strong>OOO “Gold of Yakutia”</strong>&lt;br&gt;General Director – Alexander Afanasievich FYODOROV</td>
<td>Production and sale of jewelry</td>
<td>677007, Sakha Republic (Yakutia), Yakutsk, 2/1 Glukhoy Pereulok&lt;br&gt;Tel.: (4112) 42-06-10&lt;br&gt;Fax: (4112) 42-05-56</td>
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<tr>
<td><strong>OOO “Skif”</strong>&lt;br&gt;General Director – Andrey Lyubomirovich ZHENYKH</td>
<td>Production and sale of meat products and sausage</td>
<td>677000, Sakha Republic (Yakutia), Yakutsk, 42 Dzerzhinskogo Str.&lt;br&gt;Tel.: (4112) 35-08-72&lt;br&gt;Fax: (4112) 45-91-37</td>
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