



Ministry of the Russian Federation
for Development of the Far East and the Arctic



FAR EAST INVESTMENT
AND EXPORT AGENCY

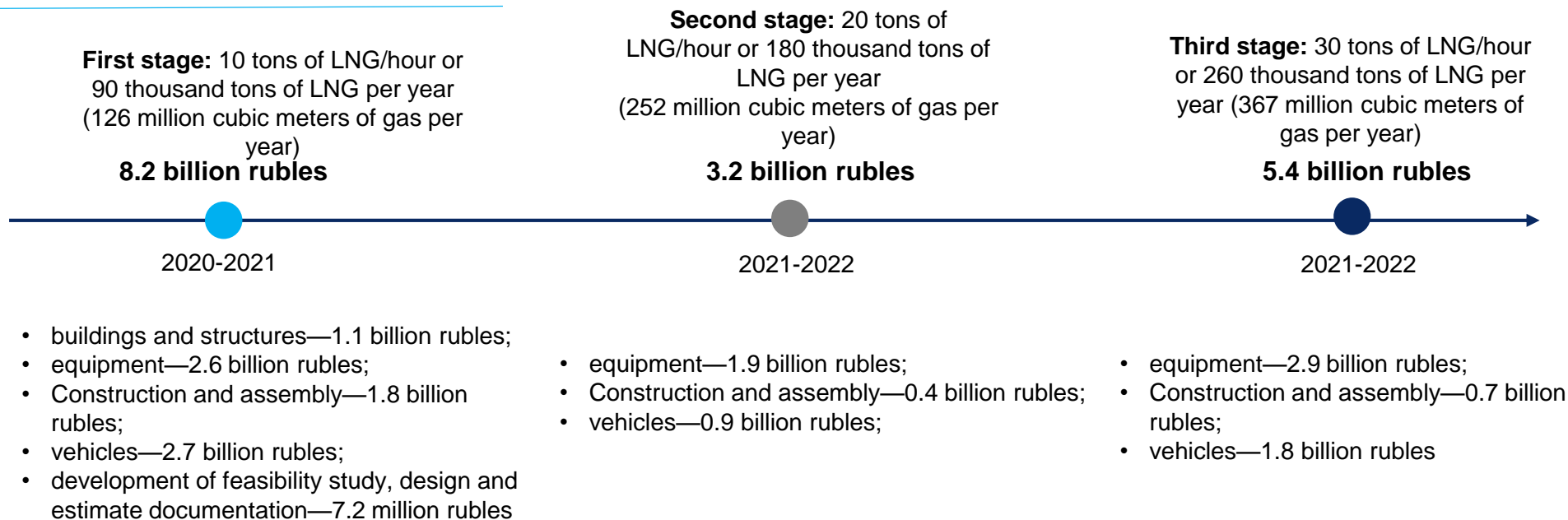
PROJECT FOR THE MEDIUM-TONNAGE LNG PLANT CONSTRUCTION IN THE MEGA- KANGALASSKY REGION OF THE REPUBLIC OF SAKHA (YAKUTIA)

Project description and the necessary funding

INVESTMENT PROJECT: CONSTRUCTION OF LNG PLANT WITH TOTAL CAPACITY OF 530 THOUSAND TONS OF LNG PER YEAR

- **Project objective:** construction of a liquefied natural gas plant with a total capacity of 530 thousand tons of LNG per year. The project involves three stages, with a capacity of 90, 180 and 260 thousand tons of LNG per year for each stage.
- **Form of investor participation:** creation of a joint venture, issue of an interest-free loan from a strategic investor for the project implementation.

Project implementation stages:



Investment performance data of the project:

Investments

16,9 billion rubles

NPV

10.4 billion rubles

IRR

51.5%

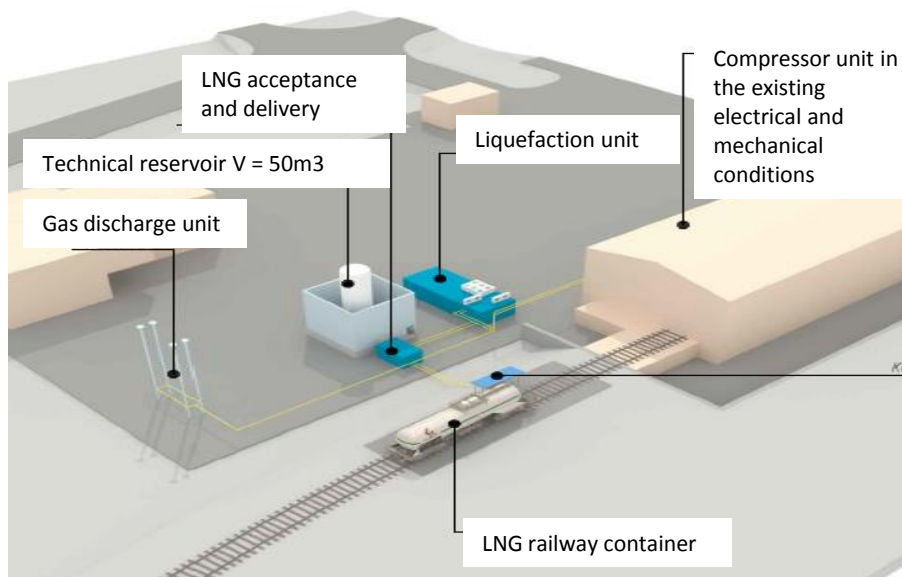
PI

1.9

DPP

5.1 years

THE PROJECT FOR THE CONSTRUCTION OF LOW-TONNAGE LNG PRODUCTION COMPLEX BY OOO LNG IS THE ONLY IMPLEMENTED IN THE FAR EASTERN FEDERAL DISTRICT



Export potential:

- OOO LNG started to supply gas to Inner Mongolia, and is assessing the export potential to China
- The first delivery to Inner Mongolia will be made in mid-October (volume—40 tons). OOO LNG is waiting for the platform to arrive from Mongolia within 7-12 days
- Sales in the domestic market will be not more than 2% of productivity

Company description:

- OOO Liquefied Natural Gas (hereinafter referred to as "OOO LNG") was founded in 2014 and has experience in implementing the only project in the Far Eastern Federal District on the construction of a small-scale LNG production complex **with a capacity of 7 thousand tons of LNG per year.**
- Currently, the plant is being modernized to bring the capacity to **15.0 thousand tons of LNG per year.** The launch is scheduled for Q4 2019.
- During the project implementation, the whole technology range from production to consumption has been simultaneously solved: autonomous power supply, LNG production and storage, loading into cryogenic tank containers and LNG delivery of to the consumption facility, unloading, storage and use of natural gas at the facilities.
- **OOO LNG has received:**
 - Specifications for gas in the amount of 0.75 billion m3 per year,
 - documentation for a land area of 20 ha has been completed.
 - An agency agreement was concluded with OOO Gazprom Export for LNG supplies abroad.
 - Facility documentation as the Kangalassky Industrial Park Advanced Economic Development Zone will provide significant investment preferences for the resident.

GAS RESOURCE BASE OF THE REPUBLIC OF SAKHA (YAKUTIA)

Current state of gas industry in the Central Yakutia:

Natural gas reserves of Central Yakutia are 535.5 billion cubic meters, including:

- OOO Yakutia Fuel and Energy Company has 305.4 billion cubic meters of reserves
- OOO Sakhatransneftegaz (reserve option)—2.9 billion cubic meters
- OOO Gazprom (reserve option)—227.2 billion cubic meters

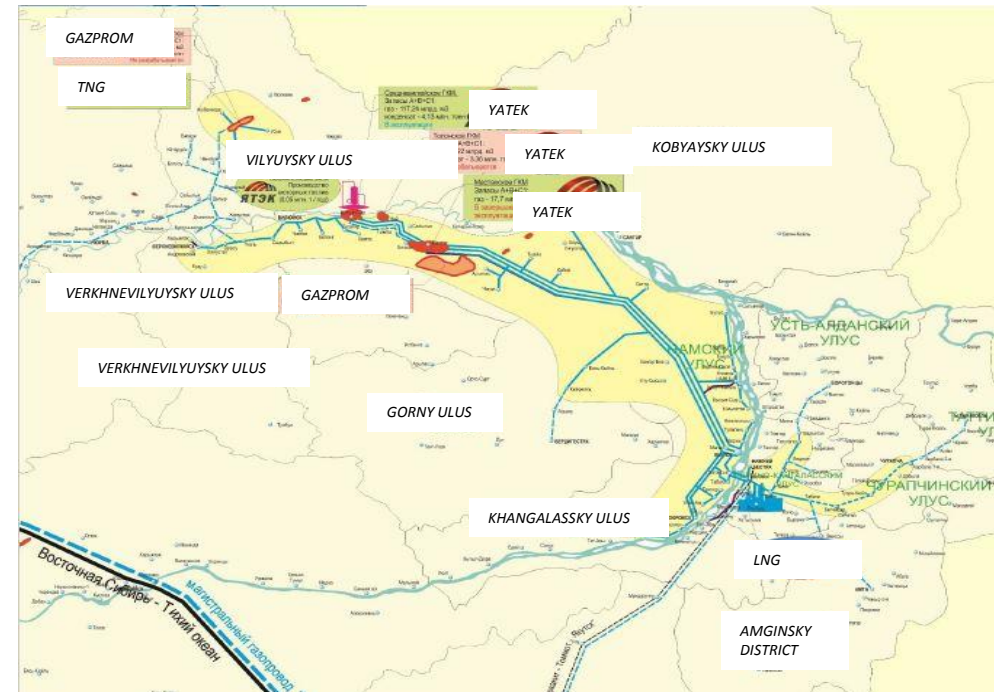
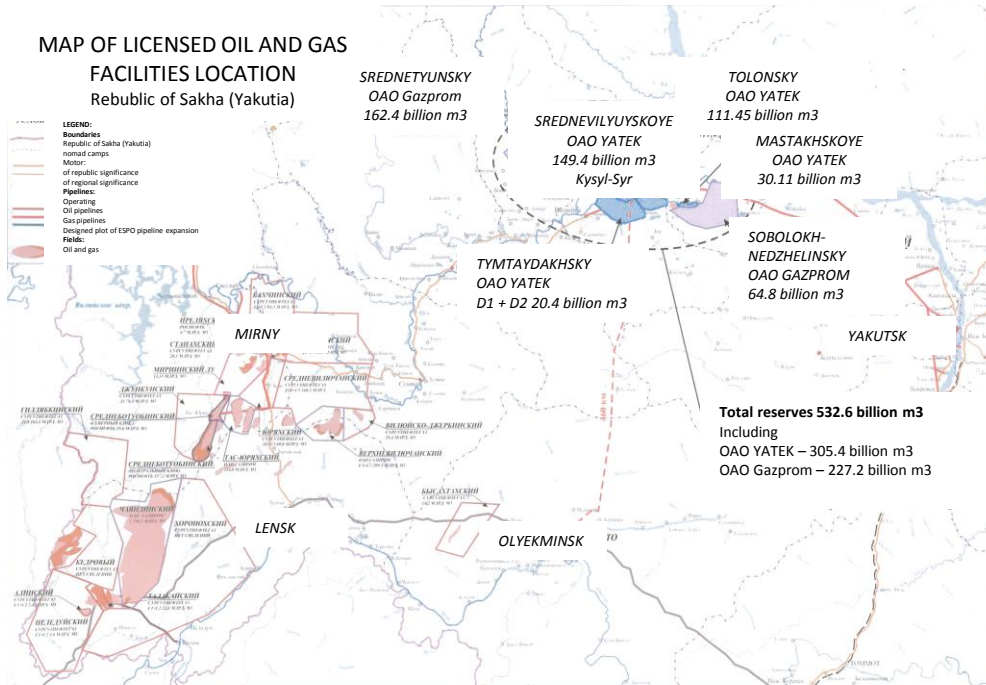
Main gas networks of epy Central Yakutia:

The pipeline capacity on the approach to the LNG plant - 1.6 million tons of gas per year (2.24 billion cubic meters of gas per year)

Reference:

Production and transportation of gas through the pipeline to Yakutsk allows to provide a capacity of 4.6 billion cubic meters per year, with the maximum consumption in Yakutia—1.7 billion cubic meters per year

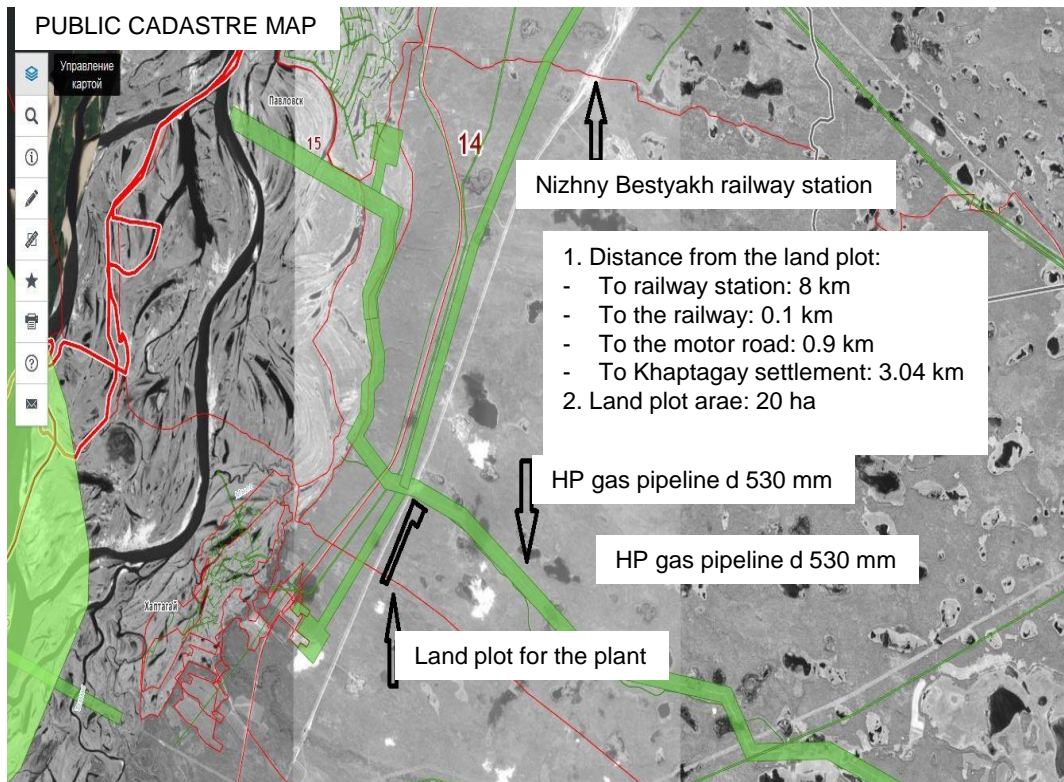
MAP OF LICENSED OIL AND GAS FACILITIES LOCATION Republic of Sakha (Yakutia)



SPECIFICATIONS FOR NATURAL GAS AND THE LAND PLOT

Technical characteristics of the land plot:

- The project is implemented in the territory of Megino-Kangalassky District, 8 km from the Nizhny Bestyakh railway station. The distance from the land plot boundaries to the railway is 0.1 km, to the road 0.9 km, to the village of Khaptagay—3.4 km.
- According to the project, natural gas of the Pavlovsk-Maya trunk network (AO Sakhatransneftegaz) is supposed to be used for LNG production.
- Land plot area—20 ha.
- To date, the land plot documentation is being completed.



Logo of SAKHATRANSNEFTEGAS

26 March 2018

_____ No. **1675GA**

to _____ No.

Republic of Sakha (Yakutia)

Joint-Stock Company

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Attention of the Director
of OOD Liquefied Natural Gas
A.S Izmestyev
tel. 42-57-49
e-mail: LNGykt@bk.ru

Dear Alexander Samuilovich!

In response to your letter No. 187 (Inc. 8648) we are sending you the Terms of Reference for the design of a Natural Gas Liquefaction Plant with its own electricity generation in the territory of Megino-Kangalassky District with a capacity of 500 thousand tons of liquefied gas per year:

1. Connection point—45 km of the existing Pavlovsk-Maya gas pipeline.
2. To provide an AGRS with a gas supply capacity of the plant—not less than 100 thousand m³/hour. Coordinate the AGRS selection questionnaire with AO Sakhalintransneftegas composed of:
 - 2.1 The operator's house with office and residential premises structurally selected by the General Designer.
 - 2.2 Garage for the car "Ural-shift."
3. The input pressure on the AGRS: estimated 25 kgf/cm², working—55 kgf/cm².
4. The output pressure is determined based on the characteristics of gas supply facilities.
5. The diameter of the gas pipeline connection is determined by calculation. The act of selecting the route and the installation location of disconnecting devices shall be agreed with AO Sakhalintransneftegas.

Yours sincerely
Chief Engineer

/signature/

A.V. Ggolev

Prepared:
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