

During project construction, more than 60% of the modules were delivered to the site through the Northern Sea Route, saving a considerable part of transportation costs. The new shipping route provides convenience, not only for Russia and China, but also for the logistics sector of Asia-Pacific and Europe.



Chinese investment and financing as well as the Chinese gas market are significant to the successful implementation of Yamal LNG project. Yamal LNG is the result of joint efforts made by multiple sides. The commissioning of the project may not only drive the development of Russia's energy sector and border areas, but also change the global LNG market supply pattern. In the future, LNG delivery from Yamal to China will be of great significance to China's efforts in accelerating the restructuring of its energy mix and safeguarding energy security.



Yamal LNG

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On December 8, 2017, Yamal LNG shipped the first cargo from Sabetta, marking the formal operation of Train 1 of this super project. Yamal LNG, the largest and most complex LNG project in the Arctic region, is a significant example of energy cooperation between China and Russia after the Belt and Road Initiative.

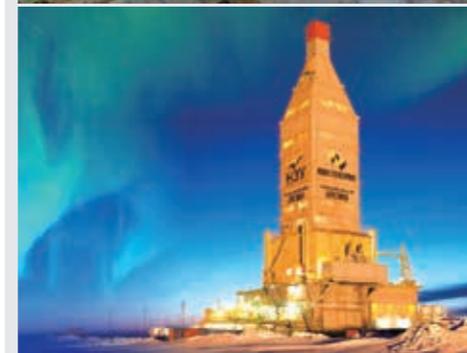
Yamal LNG is an integrated project that covers an entire chain of natural gas production, processing, LNG manufacturing, and sales and shipping, with the South Tambey condensate gas field as the source base which harbors proven reserves of natural gas up to 1.3 trillion cubic meters and gas condensate of 60.18 million tons. When at full capacity in 2019, the three trains each with a capacity of 5.5Mt/a will deliver 16.50 million tons of LNG and 1 million tons of gas condensate every year, mainly to Asian and European markets.



Total investment of Yamal LNG is around USD 30 billion, while financing from Chinese-funded banks is USD 12 billion. The project is a multilateral cooperation project and jointly owned by Novatek (50.1%), Total (20%), CNPC (20%), and Silk Road Fund (9.9%). Final investment decision of Yamal LNG was made at the end of 2013. In January 2014, CNPC smoothly acquired its share and officially joined the project.

Highly modularized construction scheme was introduced in the project to deal with difficulties in large-scale field construction in extremely cold weather, as well as to cut down costs and shorten construction period. A total of 153 modules and 370 prefabricated members with a gross weight of 600,000 tons are manufactured in different countries and shipped to and assembled at the construction site of Yamal.

Chinese enterprises have not only provided financial support, but also participated in the construction of the Yamal LNG project in many aspects, ranging from geological research, rig manufacturing, module fabrication, engineering supervision, marine logistics, equipment and materials supply to shipbuilding and LNG procurement. Chinese enterprises have



undertaken 85% of the comprehensive modules prefabrication, and the amount of export from China is over USD10 billion. China Huanqiu Contracting & Engineering CO., Ltd., CNPC Offshore Engineering Company Limited (CPOE), China Petroleum Technology & Development Corporation (CPTDC) and other CNPC subsidiaries participated in the project construction.

Yamal LNG has four storage tanks each with a capacity of 160,000m³, large enough to contain an Airbus A380, and three gas condensate storage tanks each with a capacity of 50,000m³.

Three nuclear-powered icebreakers, two ice-class module carriers, 15 ice-class LNG carriers, 11 conventional LNG carriers, two ice-class gas condensate carriers are equipped for the project. Among which, seven carriers are manufactured by Chinese companies and 14 LNG carriers will be operated by Chinese shipping companies.

In summer season, the LNG will be shipped to China in 16-21 days via the Northern Sea Route that crosses the Bering Strait and Northwest Pacific region.

In winter season, LNG oriented to the Asia-Pacific market will be firstly shipped to the Zeebrugge Port, Belgium via the westward route. Then, LNG will be transferred onto conventional carriers and shipped to China via the Mediterranean Sea, Suez Canal, Indian Ocean and the Strait of Malacca, in totally 39-44 days.

