

HYDROCARBON RESOURCE BASE OF THE ARCTIC REGIONS OF RUSSIA.  
MULTIFACTORIAL TECHNICAL AND ECONOMIC ASPECTS OF ITS STUDY AND  
DEVELOPMENT

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Arctic zone of the Russian Federation (Russian Arctic) covers about 9 million sq.km, including continental shelf about 6.2 million sq.km (70%). It includes the whole or part of the territory of 7 subjects of the Russian Federation and adjacent Arctic shelf.

Hydrocarbon resources in Russian Arctic are estimated at 249 billion TFOE (135 billion TFOE (54%) on land area; and 114 TFOE on the shelf). The Yamal-Nenets Autonomous District contains the main oil reserves (5.2 billion tons, 73%) and natural gas (40.2 TCM, 97%). The Arctic territories provide 82% of Russian gas production and more than 12% of liquid hydrocarbon production. Resources of Arctic offshore are poorly developed, only 35.4 BCM of gas were produced.

Industrial and economic activity in the Arctic regions is subject to extreme climatic conditions, including severe ice conditions in seas.

There is no material and technical infrastructure for offshore projects implementation. There are only 8 drilling rigs in Russia (including those intended for drilling in shallow water in Kara Sea bays). Seismic vessels do not meet modern requirements (have only 10-22 strings). Today there are 6 nuclear icebreakers in the Arctic; there will be 4 by 2017 and only 1 icebreaker by 2021 - "50 Years of Victory". In 2012 construction of a new powerful icebreaker consisting of three ships began at the Baltic Shipyard. They are expected to put in operation in 2017 and 2020.

Optimization of the Arctic development is not justified without long-term development programs of transportation and oil and gas sector of Russian Arctic under the strategy of one company. Such programs can be carried out using integrated geographic information systems, which enable to make decisions in accordance with the current challenges.