



GAS PRODUCTION IN WESTERN SIBERIA

IGU, Kota Kinabalu, September 2013

AGENDA

1. Main oil-bearing basins in Russia
2. West Siberia geography conditions
3. History of West Siberia development
4. Providing of the industrial development process
5. Constructing and developing of hydrocarbons fields
6. Gas gathering system
7. Application of new technologies and advanced experience
8. Environmental care
9. Conclusion

“Energy is the lifeblood of economies around the world. Global economic growth depends on adequate, reliable and affordable supplies of energy. Key foreign policy objectives, including support for democracy, trade, sustainable economic development, poverty reduction and environmental Protection rely on the provision of safe, reliable and affordable energy supplies”

**Matthew,
2008**

Main oil basins in Russia

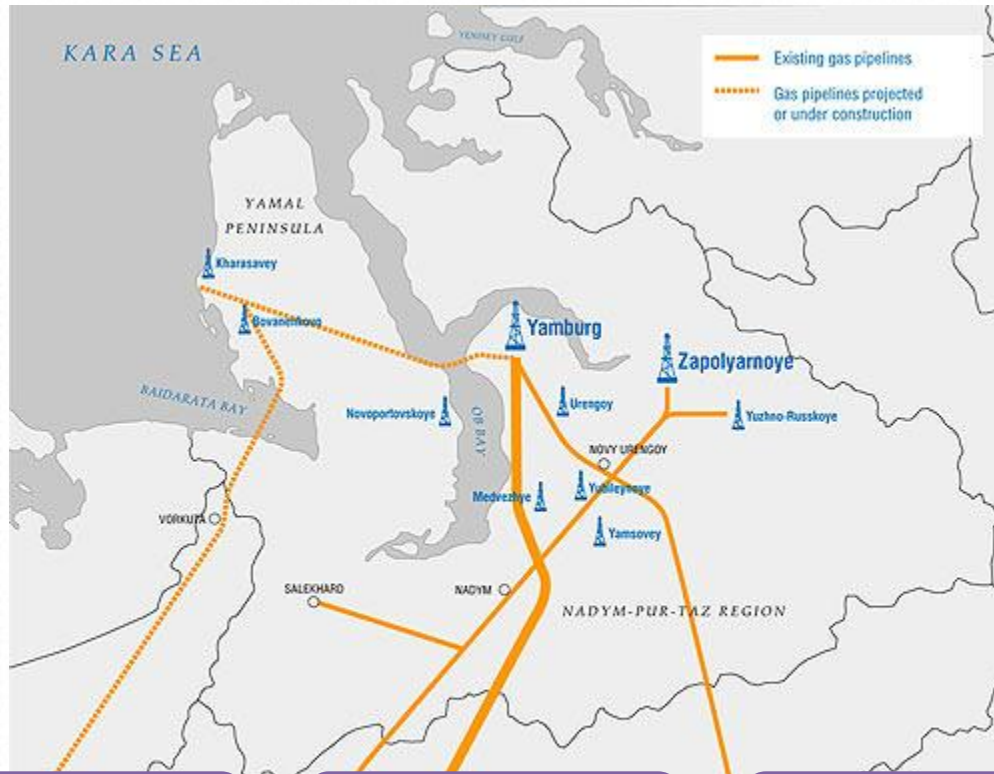
Timan-Pechora Basin

The Western Siberia Basin



The Volga-Ural Basin

Yamalo-Nenetsky autonomous district



The area is 750,3 th.km²



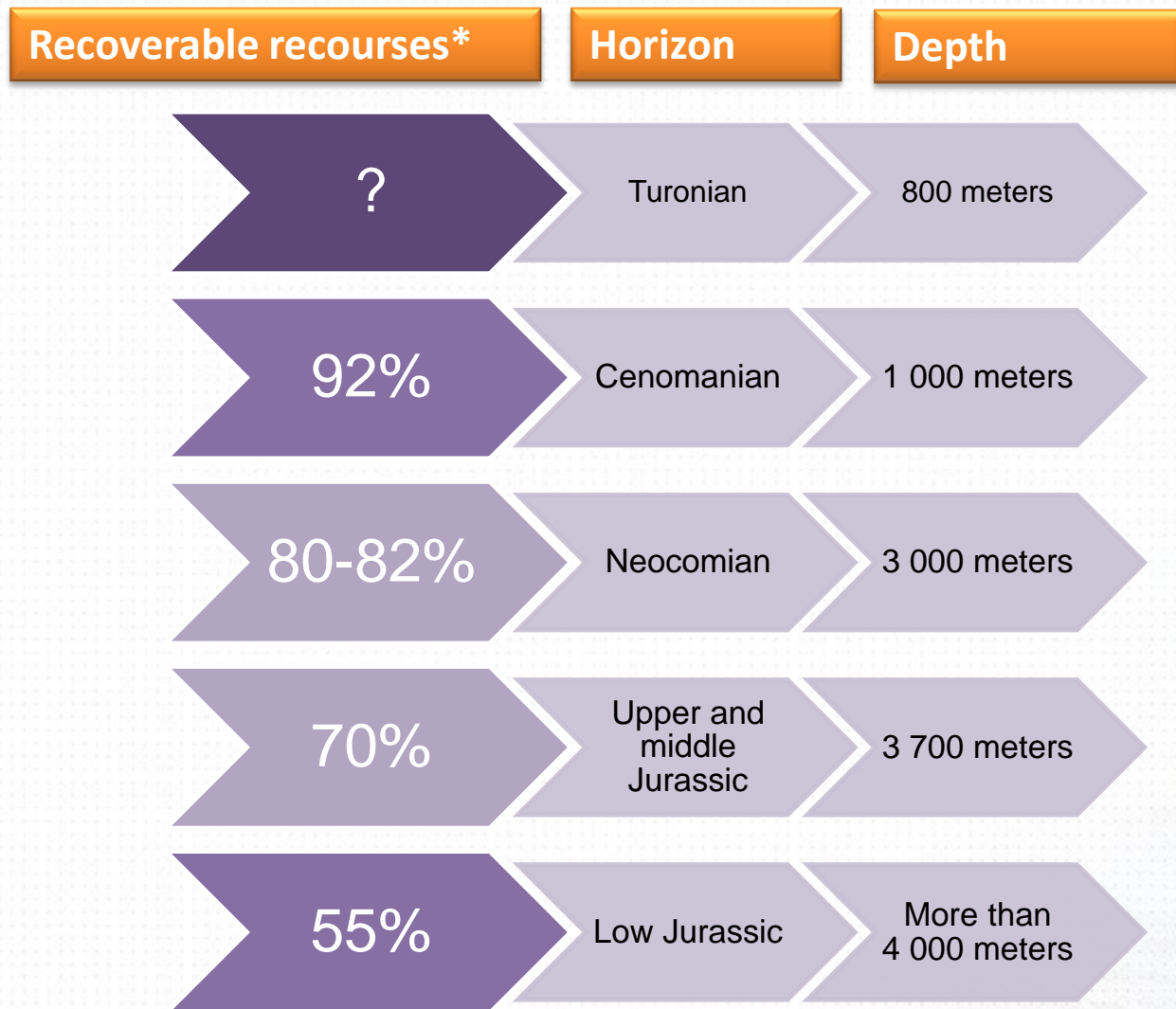
The population exceeds 515 th. inhabitants



The density of population is 0,7 persons per 1 square kilometer

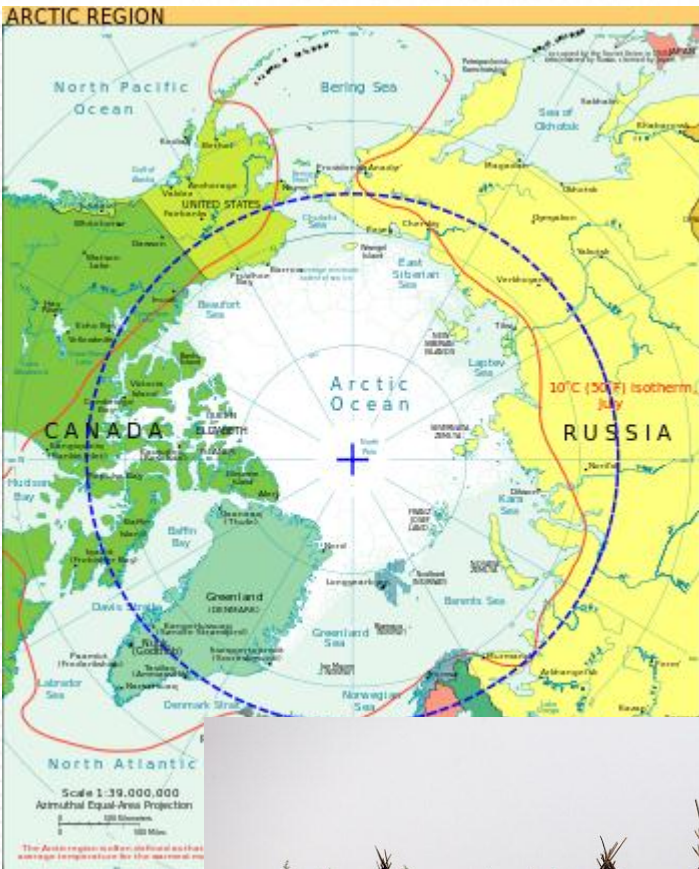


Structure of hydrocarbon reserves



* by data of the international audit of reserves

Geography conditions



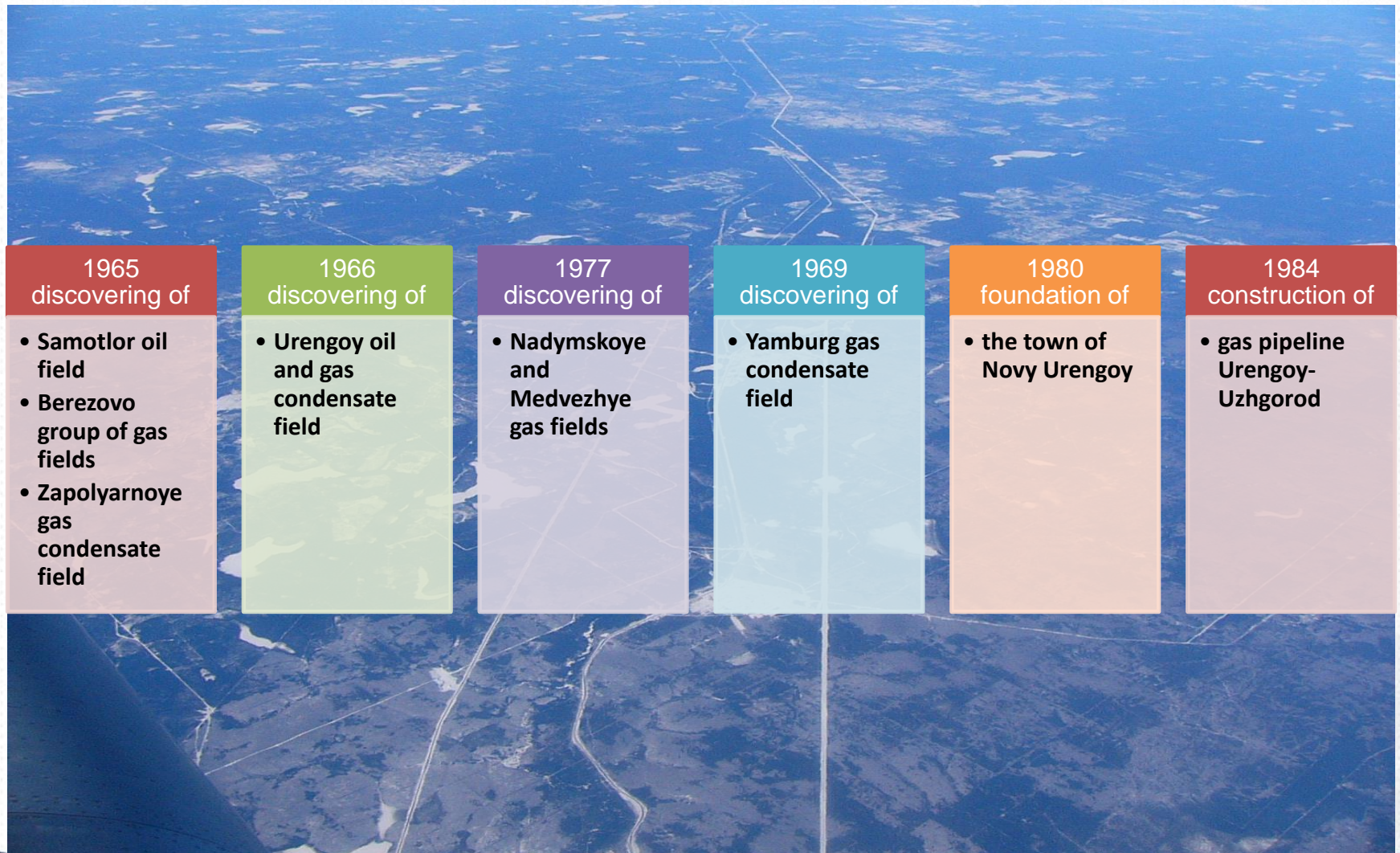
Traditional northern activities



History of development



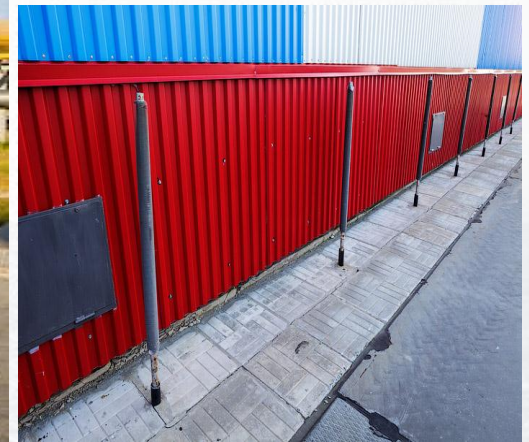
Milestones in the history of West Siberia



Organization of work on shift basis



Construction in permafrost conditions



Wells' design options

The use of extra heavy wall conductor within cryolite section

The use of heavy wall tubing within cryolite section and at packer zones for enhancing well reliability

The use of downhole equipment complex in tubing for trouble-free lifting as much gas as possible

In most cases producing wells do not expose gas-water contact, with a gap between bottom hole and lifting pipe 15 ÷ 20 m

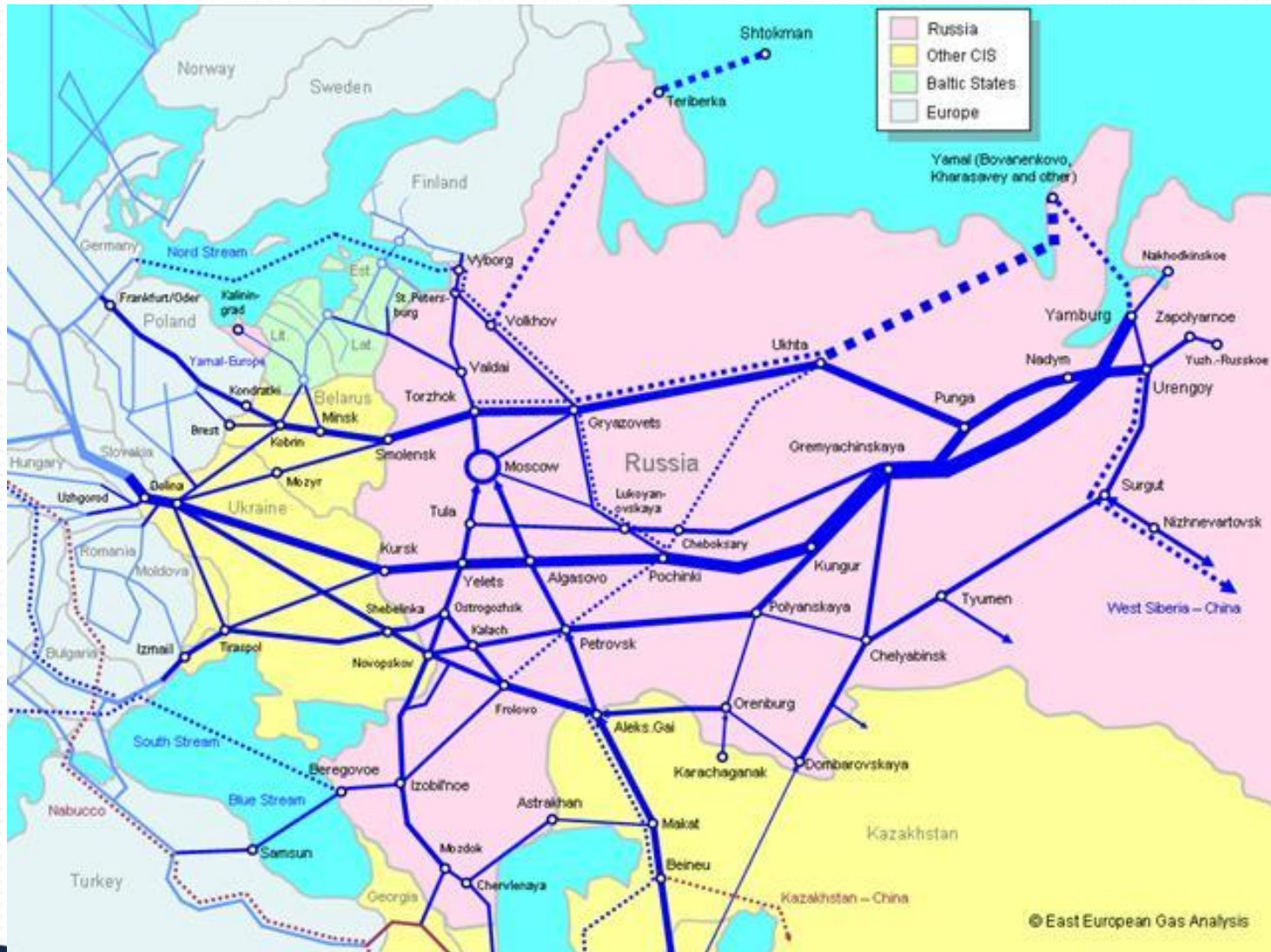
The use of special lightened well cement slurries with alumina-silicate microspheres in the process of cementing conductor and lifting column



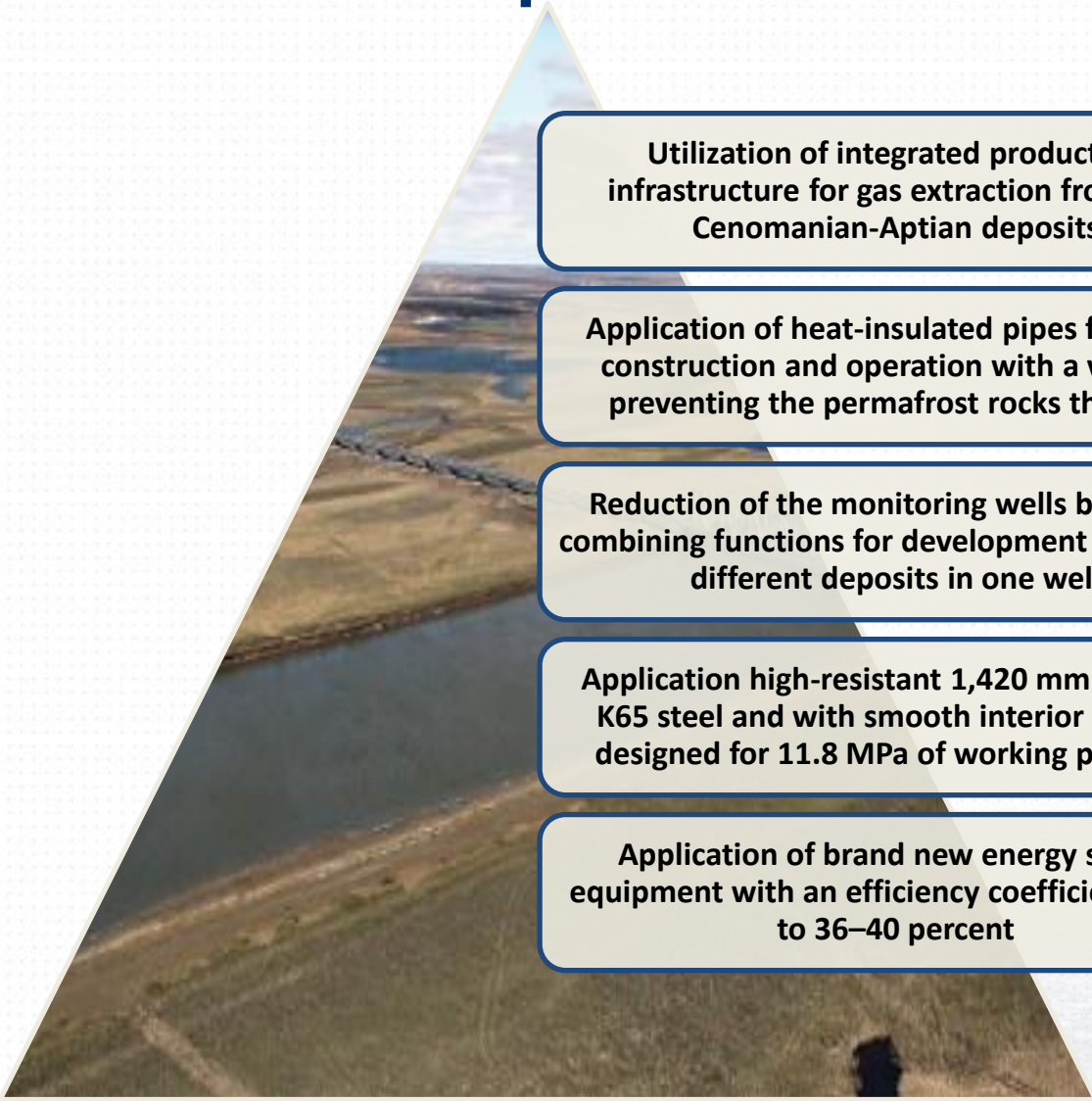
Gas gathering system



The Unified Gas Supply System of Russia



Application of New Technologies and Advanced Experience



Utilization of integrated production infrastructure for gas extraction from the Cenomanian-Aptian deposits

Application of heat-insulated pipes for wells construction and operation with a view to preventing the permafrost rocks thawing

Reduction of the monitoring wells by use of combining functions for development control of different deposits in one well

Application high-resistant 1,420 mm pipes of K65 steel and with smooth interior coating designed for 11.8 MPa of working pressure

Application of brand new energy saving equipment with an efficiency coefficient equal to 36–40 percent

Environmental Care



Sustained environmental monitoring during field pre-development and operation periods



Planning of technological and special-purpose activities mitigating negative impacts on the surface air



Utilization of water recycling systems that prevent from polluting surface reservoirs and soils



Application of special technologies reducing thermal and mechanical impacts on frozen ground



Elaboration of environmentally-friendly regimes of the area development



Technical and biological recultivation of used land



Prohibition of construction and installation activities during the bird nesting season in spring

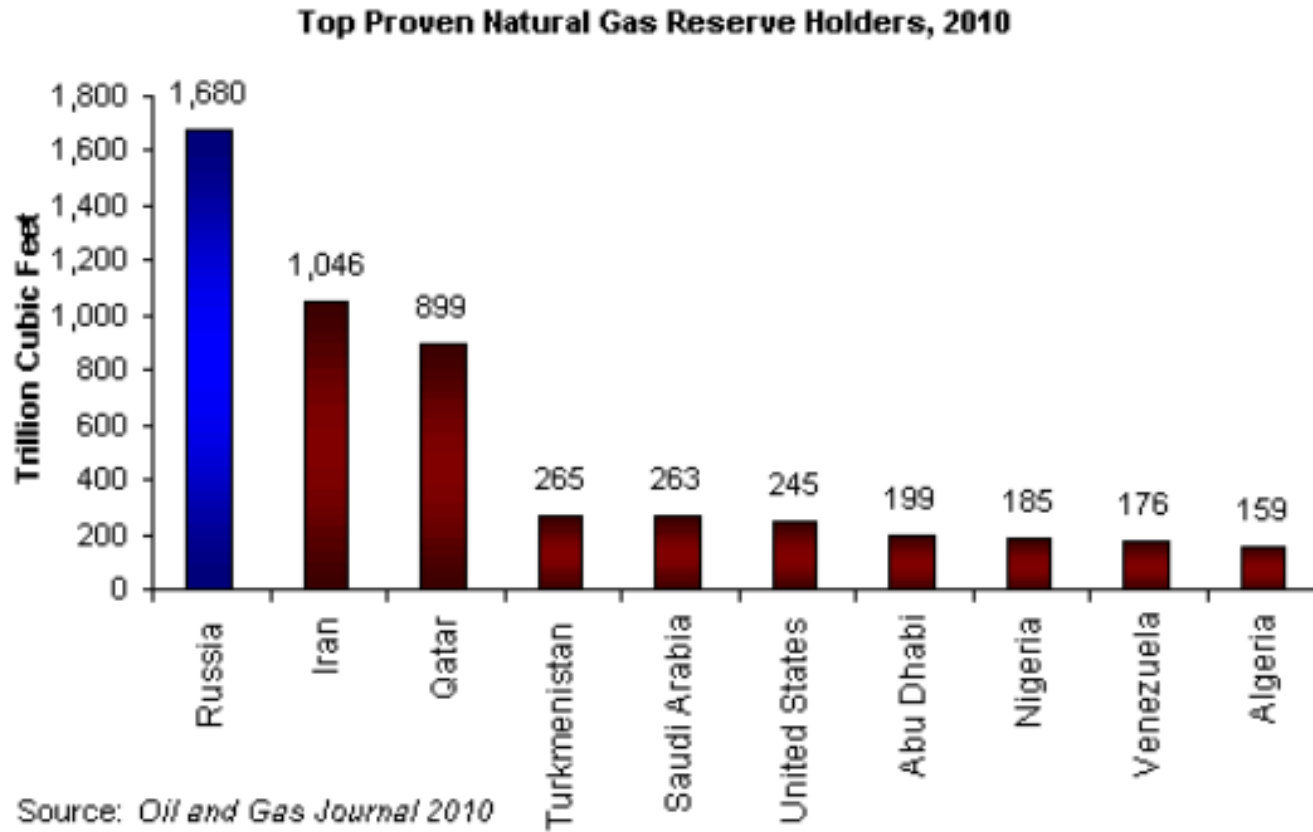


Water intake through fish protection systems;



Arrangement for an unobstructed migration of reindeer herds through communication lines

Conclusion



Thank you for attention!

