

PROSPECTS AND CONDITIONS FOR MUTUALLY BENEFICIAL COOPERATION RUSSIA AND NEA COUNTRIES IN THE GAS FIELD

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PLAN OF THE REPORT

- 1. Current status and main indices of Russia's fuel and energy complex**
- 2. The Eastern vector is a strategic direction in Russia's energy development in the first half of the 21st century**
- 3. Gas supply to NEA: Russian perspectives**
- 4. Necessary conditions and initiatives for successful mutually beneficial energy cooperation between Russia and East Asian countries**
- 5. Conclusion**

1. CURRENT STATUS AND MAIN INDICES OF RUSSIA'S FUEL AND ENERGY COMPLEX

ROLE OF FUEL AND ENERGY KOMPLEX IN THE ECONOMY OF RUSSIA

Indices	Energy sector share, %			
	Years			
	2000	2005	2009	2010
Industrial production volume	47.5	44.8	45.6	44.4
Gross domestic product	13.0	16.9	14.4	16.2
Tax proceeds to the federal budget	40.0	57.9	42.4	43.5
Export	52.6	63.9	65.7	67.3
Investment in fixed assets	25.7	28.4	30.3	26.5

RUSSIA'S ROLE IN ENSURING GLOBAL ENERGY SECURITY

- *Russia possesses 19% of the world proved coal reserves, 27% of the world proved natural gas reserves and 7% of the world proved oil reserves*

- **Russia produces (as of 2010):**

• Electricity	-	1037 billion kWh (4.9%)
- Coal	-	317 million t (4.4%)
- Oil	-	505 million t (12.9%)
- Natural gas	-	649 billion m³ (18.4%)

(%) – of the world production

- **Russia is the largest exporter of fuel and energy products**

Sources: Russia in Figures, 2011
BP Statistical Review of World Energy, June, 2011

EXPORT OF RUSSIAN ENERGY RESOURCES (2010)

Electricity	- 20 billion kWh (0.1 %)
Coal	- 116 million t ($\frac{12}{7}$ %)
Gas	- 200 billion m ³ (21 %)
Oil	- 247 million t (13 %)

- (%) – share in the world trade
- ($\frac{12}{7}$ %) : 12% – steaming coal share in the world trade
- $\frac{7}{7}$ % – coking coal share in the world trade

Source: Fuel and energy complex of Russia in 2000-2010. Reference and analytical survey. – M.: Energiya, 2011. – 422 p. (in Russian)

EXPORT OF FUEL AND ELECTRICITY FROM RUSSIA IN 2010

Fuel and electricity	Export, total	Including export to East Asian countries
Oil, mln. t	247.0	38.0 (15.4%)
Oil products, mln. t	132.0	11.8 (8.9%)
Gas, bln. m³	200.0	13.3 (6.7%)
Coal, mln. t	116.0	28.0 (24,1%)
Electricity, bln. kWh	20.0	1.1 (5.6%)

**2. THE EASTERN VECTOR
IS A STRATEGIC DIRECTION
IN RUSSIA'S ENERGY
DEVELOPMENT IN THE FIRST
HALF OF THE 21ST CENTURY**

EASTERN VECTOR OF RUSSIA'S ENERGY POLICY

- National interests of Russia require intensification of its mutually beneficial cooperation with Japan, China, Korea and other countries in Northeast Asia
- Creation of new energy centers in East Siberia and the Far East will increase energy security of Russia, restore and strengthen broken fuel and energy ties between the regions and solve many important federal, interregional and regional problems
- Fast and large-scale development of energy sectors in these regions and penetration to the energy markets in Japan, China, Korea and other countries of Northeast Asia should be considered as a primary means of timely ensuring the appropriate positions of Russia in this strategically important region of the world
- Creation in the East of Russia and in Northeast Asia of a developed energy infrastructure in the form of interstate gas-, oil pipelines and transmission lines will decrease the cost of energy carriers, enhance reliability of energy and fuel supply to consumers in different countries and make easier the solution of environmental problems

Russia completed the work on preparation of a large number of policy documents determining the strategic development of the economy and energy in the East of the country until 2030 in the context of energy cooperation between Russia and EAST Asia countries, such as "Energy Strategy of Russia until 2030", "Program for Creation in East Siberia and the Far East of a Unified System of Gas Production, Transport and Supply with Potential Gas Export to the Markets of China and other APR Countries" (Eastern Gas Program), "Strategy of Socioeconomic Development of the Far East and the Baikal region until 2025", "Strategy of Socioeconomic Development of Siberia until 2020", "Energy Development Strategy of East Siberia and the Far East until 2030", "Program for Development of Oil Refining Capacities in East Siberia and the Far East", etc.

These documents suggest a considerable increase in mutually beneficial supplies of Russian energy resources to the markets of China, Japan, Korea, and other East and Northeast Asian countries

POSSIBLE EXPORT OF ENERGY RESOURCES FROM RUSSIA

Indices	2010 fact.	Forecast		
		2015	2020	2030
Export, mln. tce., total	826	915-930	950-1030	970-995
including:				
<i>Oil, mln. t</i>	<i>247</i>	<i>230-240</i>	<i>240-250</i>	<i>220-240</i>
Eastern direction	38	40-45	55-60	70-80
<i>Gas, bln. m³</i>	<i>200</i>	<i>265-285</i>	<i>270-290</i>	<i>280-315</i>
Eastern direction	13	20-25	50-70	78-80
<i>Coal, mln. t</i>	<i>116</i>	<i>120-125</i>	<i>125-130</i>	<i>150-160</i>
Eastern direction	28	30-35	35-40	50-60
<i>Electricity, bln. kWh</i>	<i>20</i>	<i>20-25</i>	<i>30-85</i>	<i>48-110</i>
Eastern direction	1	4-8	50-60	75-80

Source: Substantiating materials to “The Energy Strategy of Russia until 2030”, Estimations of the author

3. GAS SUPPLY TO NEA: RUSSIAN PERSPECTIVES

PROSPECTIVE GAS PRODUCING CENTERS IN EAST SIBERIA AND THE FAR EAST

Total reserves C_1+C_2 –
9054 billion m^3

Krasnoyarsk
center reserves
 C_1+C_2 – 1380
billion m^3

Yakutia center
reserves C_1+C_2 –
2386 billion m^3

Sakhalin center
reserves C_1+C_2 –
1262 billion m^3

Irkutsk center
reserves C_1+C_2 –
4026 billion m^3

Source: Program of constructing a unified system of gas production, transportation and supply in East Siberia and the Far East taking into account potential gas export to the markets of China and other APR countries (main provisions) – JSC “Gazprom”, 2007. – 289 pp.

FACTOR 1

Russian gas and oil resources become *more and more attractive* in the markets of NEA countries as a result of increasing investment and other risks in the Middle East

FACTOR 2

Oil and natural gas markets for the Russian consumers in the East of Russia *will be relatively limited:*

- **Potentialities of oil and natural gas production are many times higher than domestic demands**
- **Reliability of oil and natural gas supplies from the eastern regions of Russia to NEA countries is very high**

FACTOR 3

Prices of natural gas become the priority in negotiations.

Natural gas will not be cheap in Russia, since the policy of leveling the prices of energy carriers and adjusting the price structure of some kinds of fuel to the world ratios comes into play

FACTOR 4

- Natural gas of the Siberian platform is unique in the content of helium and ethane, which essentially increases *its consumer value*
- Natural gas of the Siberian platform contains more than 0.3% of helium and 5-7% of ethane
- Helium reserves in the gas fields of the Siberian platform are estimated at 8.6 billion m³, or above 20% of the world helium reserves
- In the future Russia can be the world largest helium exporter

FACTOR 5

At present the necessity to deliver not only hydrocarbon resources, but products of their advanced processing **with higher value** added to the international markets is clearly recognized at all levels in Russia. For this purpose it is planned to increase in the eastern regions of Russia output of oil products and create **gas-chemical industry**, whose products are in rather high demand in Russia and in NEA countries

FACTOR 6

The Russian government, regional authorities and companies have started large-scale development of energy resources in the East of the country



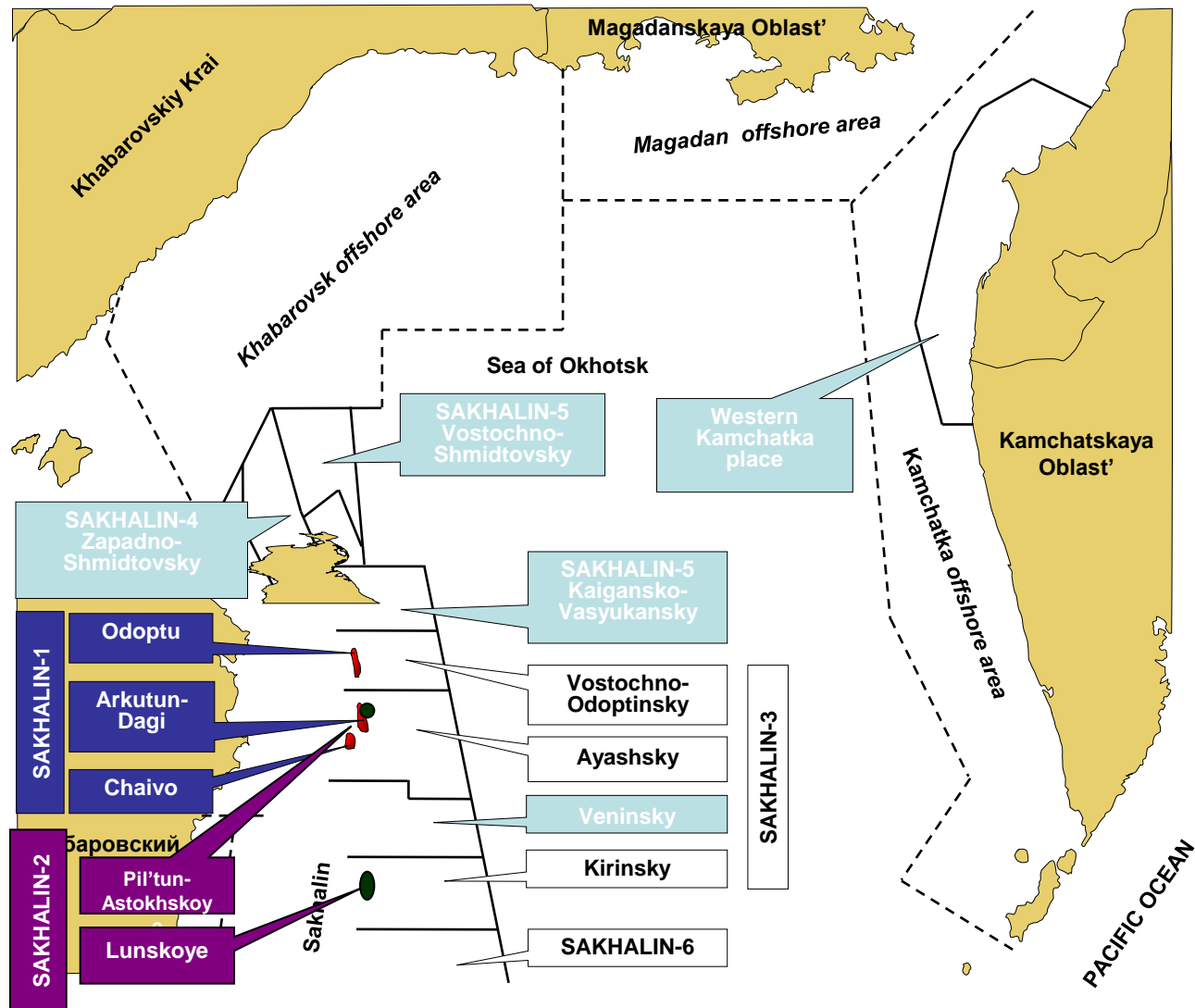
PROSPECTS FOR NATURAL GAS SUPPLIES TO THE MARKET OF APR COUNTRIES



Source: V.P. Timoshilov, FIEF-2011



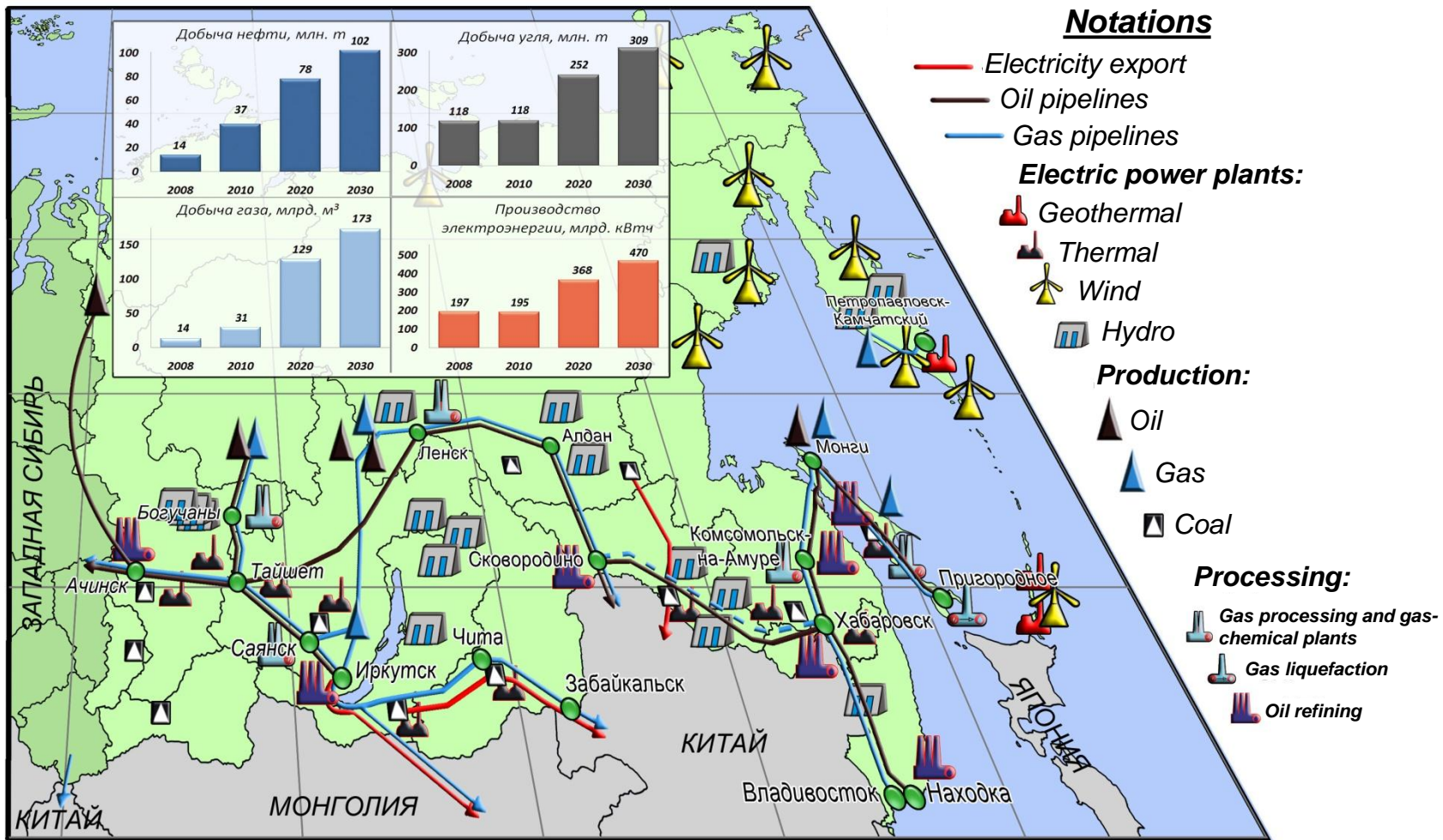
RFE'S OFFSHORE OIL & GAS PROJECTS



Probable reserves of the Okhotsk sea shelf are estimated at **1.6 bln. t** of oil and **5.0 trln.m³** of natural gas

5. CONCLUSIONS

ENERGY IN EAST SIBERIA AND THE FAR EAST: CURRENT STATE AND PROSPECTS (Strategic scenario of development)





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Perspective energy development in East Siberia and the Far East till 2030 requires huge investments. The estimated cost of such a strategy is \$200-250 billion, \$80-85 billion should be invested in development of oil and gas production and main oil and gas pipelines (only for new energy enterprises).

This strategy of energy development in East Siberia and the Far East will probably not be realized without attraction of foreign investments. This is the next specific feature of Russia as a player in the energy markets of NEA countries

FIVE REQUIREMENTS FOR MUTUALLY BENEFICIAL COOPERATION IN THE FIELD OF ENERGY

- 1. Political will and serious intentions of participants to implement a specific energy project mutually beneficial for each country.*
- 2. Coordination of economic and energy policy between the central, regional authorities and business of the countries in development of inter-country energy projects.*
- 3. Comprehensive and system estimation of consequences (effects) of implementation of large-scale interstate energy projects, particularly under high uncertainty of future development, economic risks and global challenges for the countries, regions and energy companies.*
- 4. Generation of mutually acceptable mechanisms for implementation of interstate energy projects (organizational, economic, legal and other mechanisms).*
- 5. Development and implementation of the interstate projects by the international team (at all the stages: from feasibility study and design works to their realization).*

III.

THE NECESSITY TO ELABORATE AN INTEGRATED SCIENTIFICALLY GROUNDED STRATEGY OF ENERGY DEVELOPMENT IN THE NORTHEAST ASIA COUNTRIES TAKING INTO ACCOUNT IMPORT OF RUSSIAN ENERGY RESOURCES HAS BECOME URGENT

- **Currently the main outlines of the energy cooperation in NEA are clear enough. The resource base of countries supplying energy resources and the energy markets of consuming countries have been properly studied. Intensive attention should be paid to the implementation mechanisms of coordinated actions of participants (countries, regions, companies) in terms of economic, legislative and other initiatives aiming to implement large-scale interstate energy projects.**

- **Energy companies and their research Institutions in Russia and in the NEA countries should stimulate the work in this direction in order to make an appropriate contribution to solution of the problem significant for all the countries of the regions.**

**Thank you very much for
your kind attention!**