

Asian Energy Cooperation: Risks and Barriers

Перспективы ТЭК России на евразийских энергетических рынках

Russian fuel and energy sector: development prospects in Eurasian energy markets

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**WORLD AND
RUSSIAN
ENERGY
OUTLOOK
UNTIL 2035**

**ПРОГНОЗ РАЗВИТИЯ
ЭНЕРГЕТИКИ МИРА
И РОССИИ
ДО 2035 ГОДА**



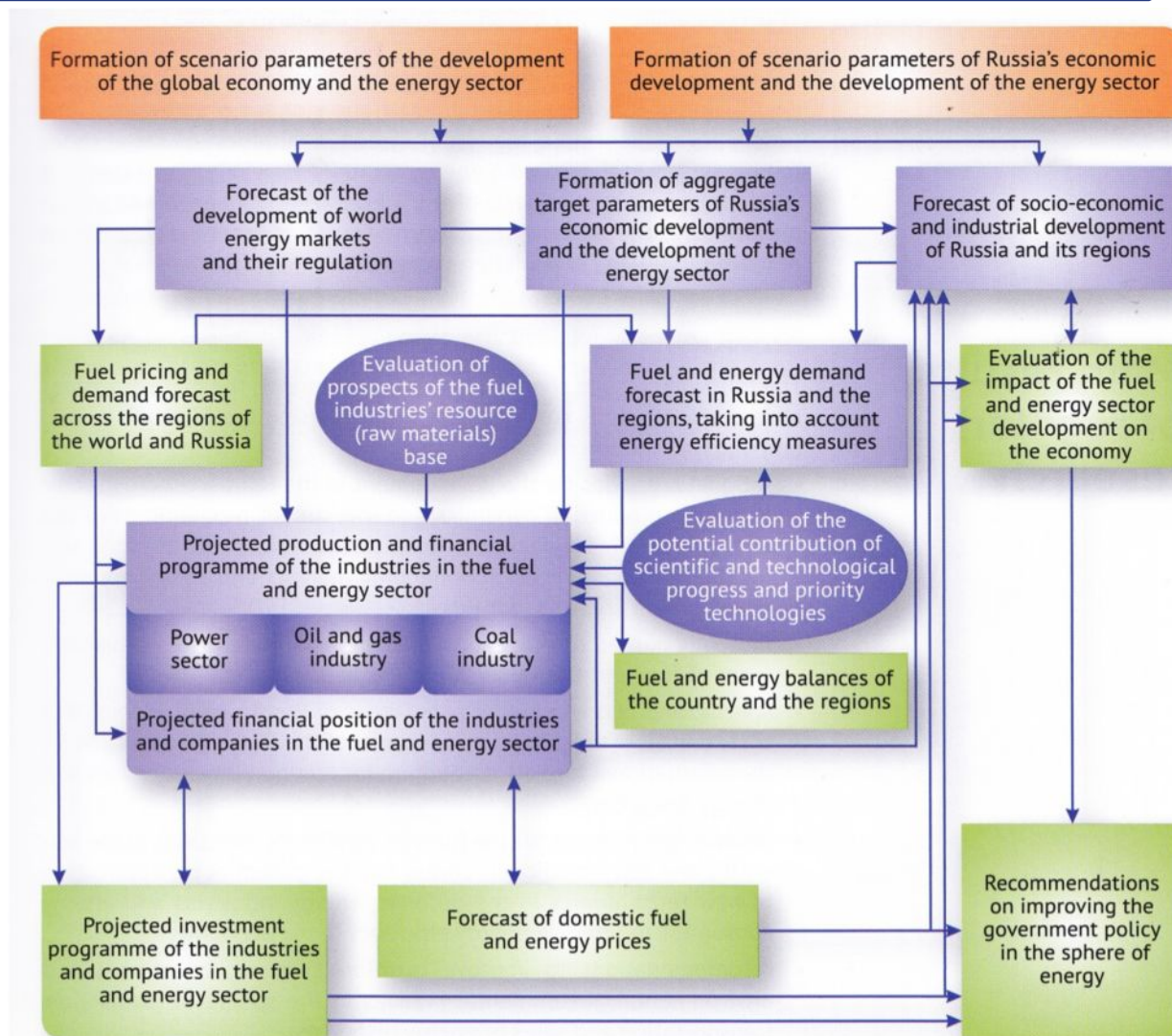
МОСКВА 2012



Российское
Энергетическое
Агентство

SCANNER

Super Complex for Active Navigation in Energy Research



Purpose - forecast of world energy markets

It required:

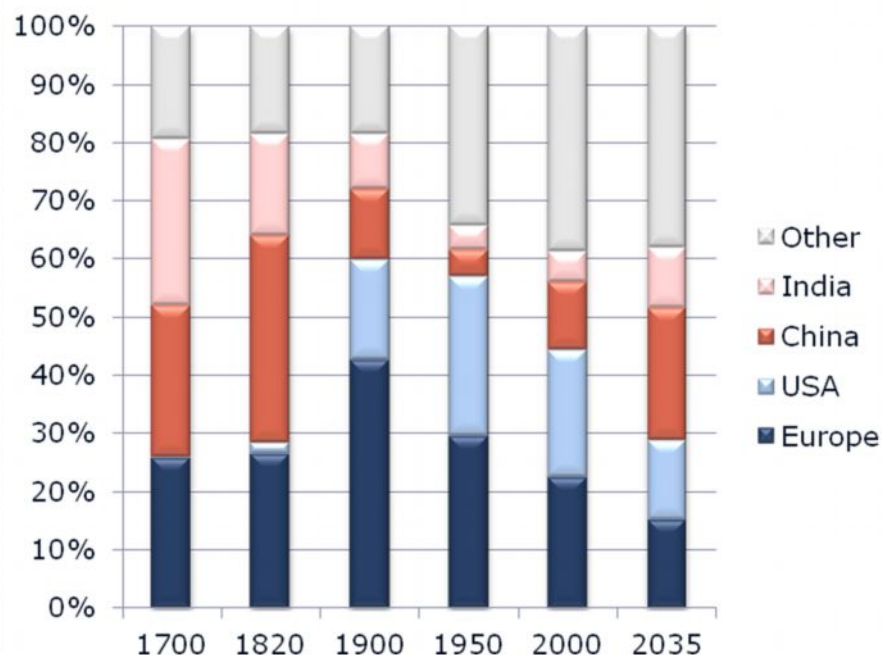
- ❖ large (varying by market) detailing the composition of consumers, producers and transport infrastructure (model consists of 62 to 189 units, including 12 CIS countries and 37 European countries);
- ❖ prediction of the main parameters in markets – structure and strength key players, the price of fuel and their influence on supply and demand, the financial performance of leading companies and budgets of the producing countries;
- ❖ simulation of the market in different regions (competitive, oligopoly consumers or producers), and threats to their monopoly.

Major changes in world energy

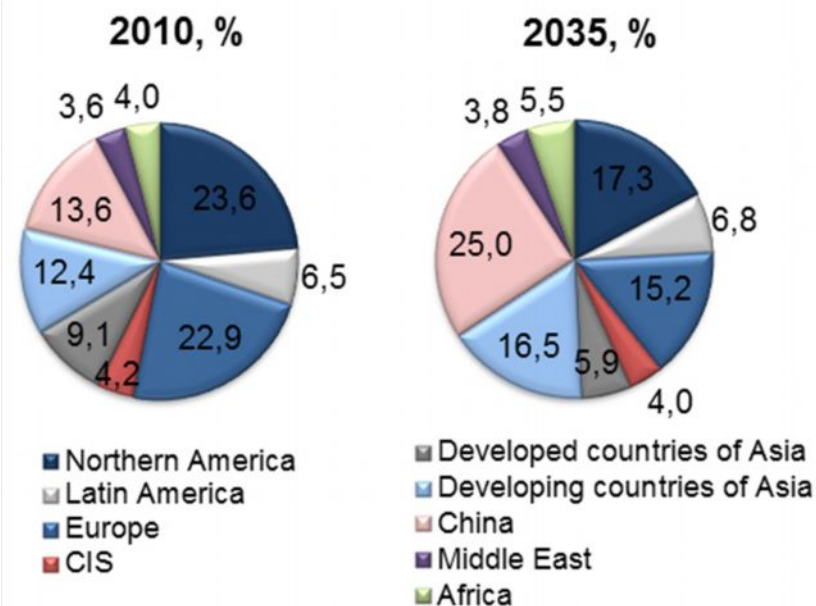
- ❖ 1. Developing countries, mainly in Asia will increase energy consumption
- ❖ 2. A breakthrough in the development of unconventional energy resources at reasonable prices:
 - Renewable
 - Gas
 - Oil

Evolution of the global economy

GDP share dynamics



Regional shares in the world economy

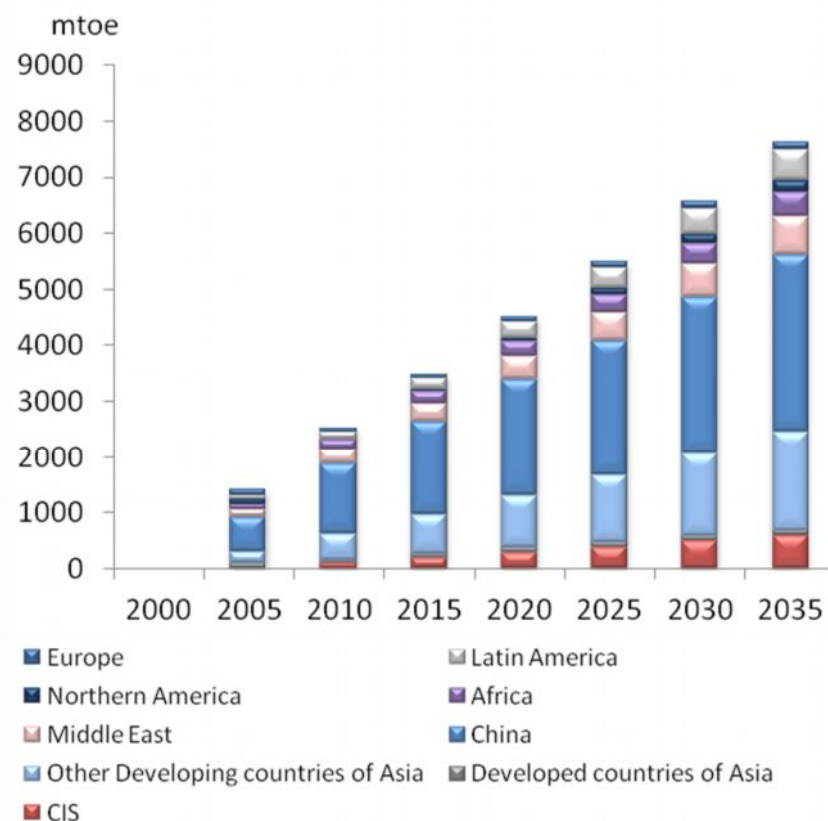


Source: *Global and Russian energy development forecast to 2035, ERI RAS/REA2012.*

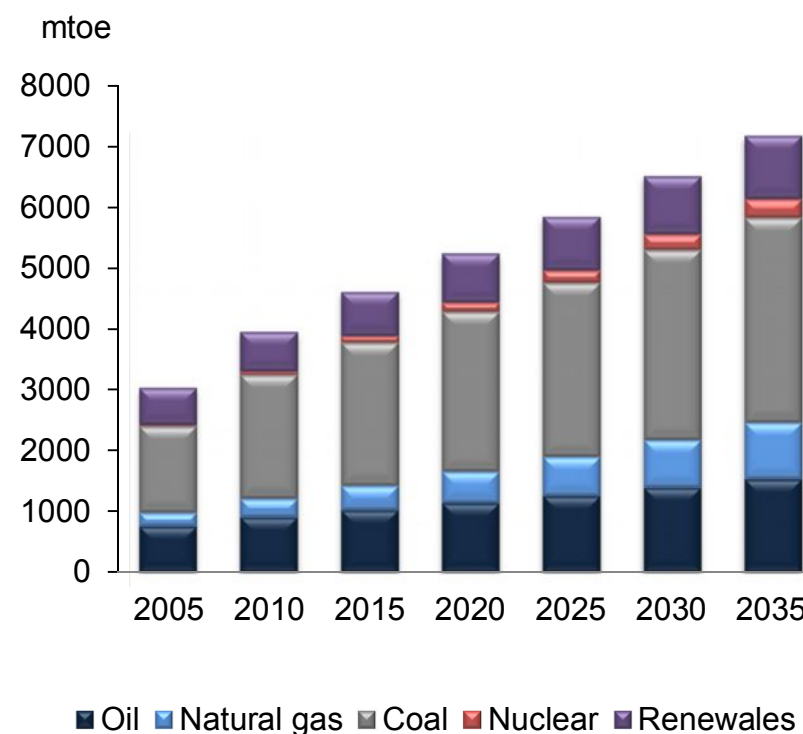
Asian countries are now reclaiming their role in the world economy, which they had over 300 years ago

Asia in the global energy

Primary energy consumption growth by world region



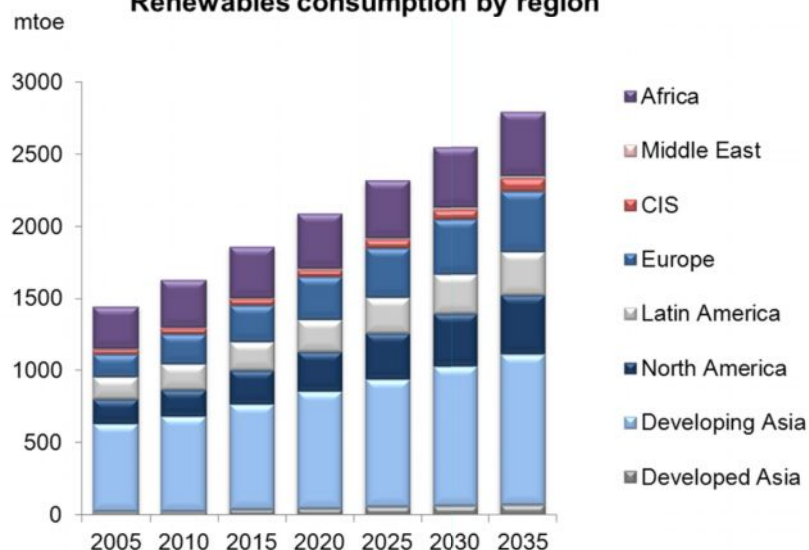
Projected primary energy consumption in developing Asia



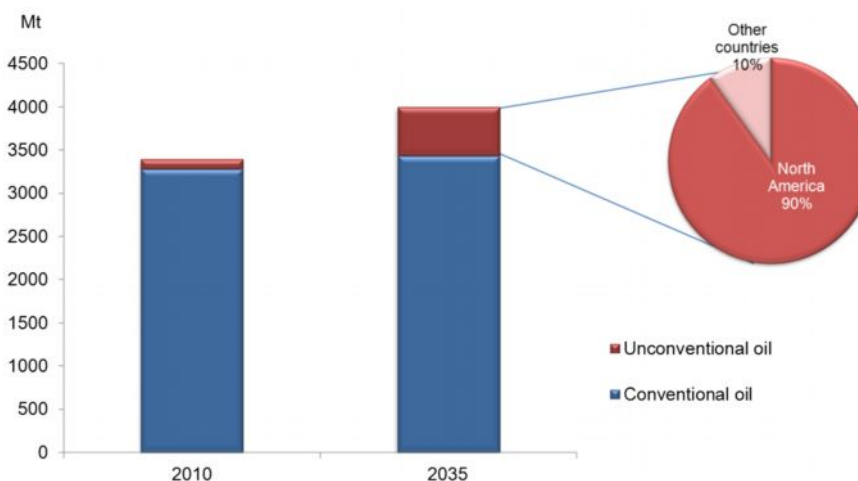
Source: Global and Russian energy development forecast to 2035, ERI RAS/REA2012.

Growth of unconventional energy resources

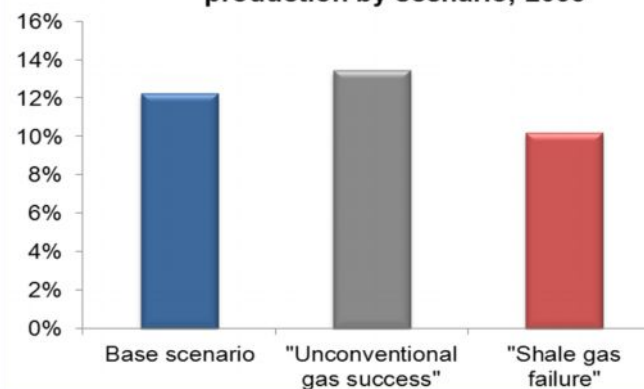
Renewables consumption by region



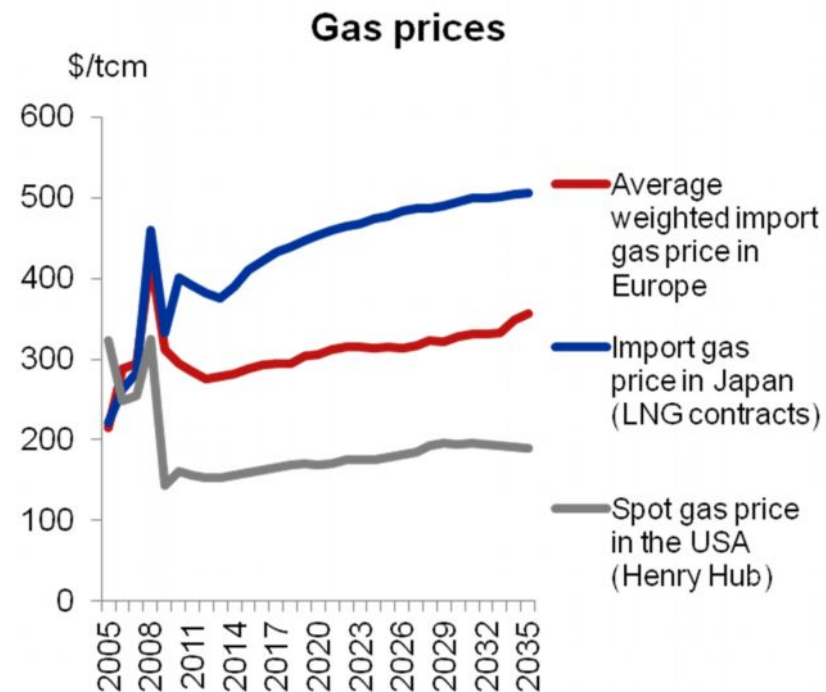
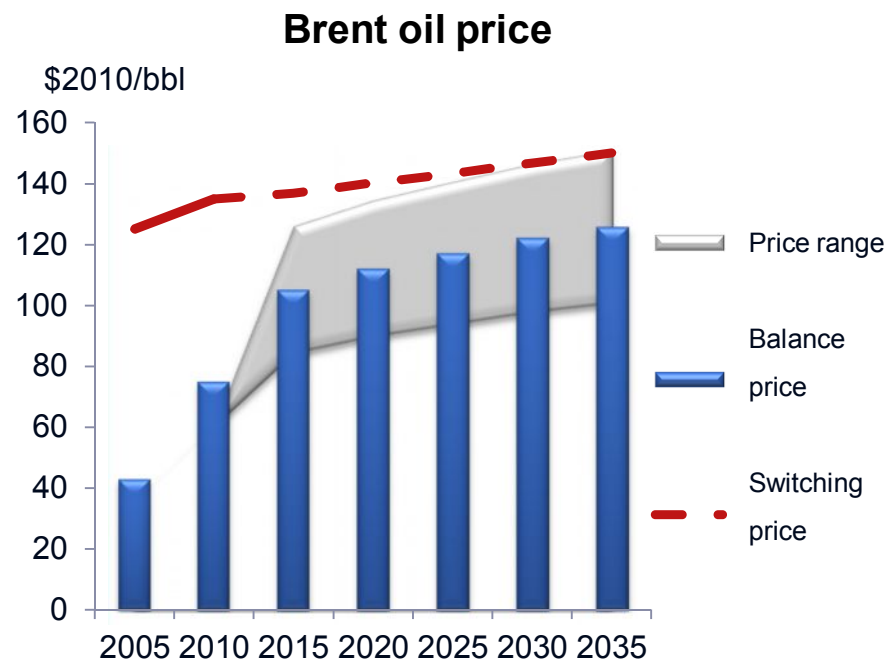
Unconventional oil in the world oil production



Unconventional gas share in world gas production by scenario, 2035



Energy prices



Source: Global and Russian energy development forecast to 2035, ERI RAS/REA2012.

Yesterday...today...tomorrow

Yesterday

Last 30 years Russia (the USSR prior to 1992) exported to the far abroad:

- Gas - nearly 3.5 trln cm
- Oil and petroleum products - 8 th. mln t
- Coal - over 1.6 th. mln t

The majority of this fuel was shipped to the West.

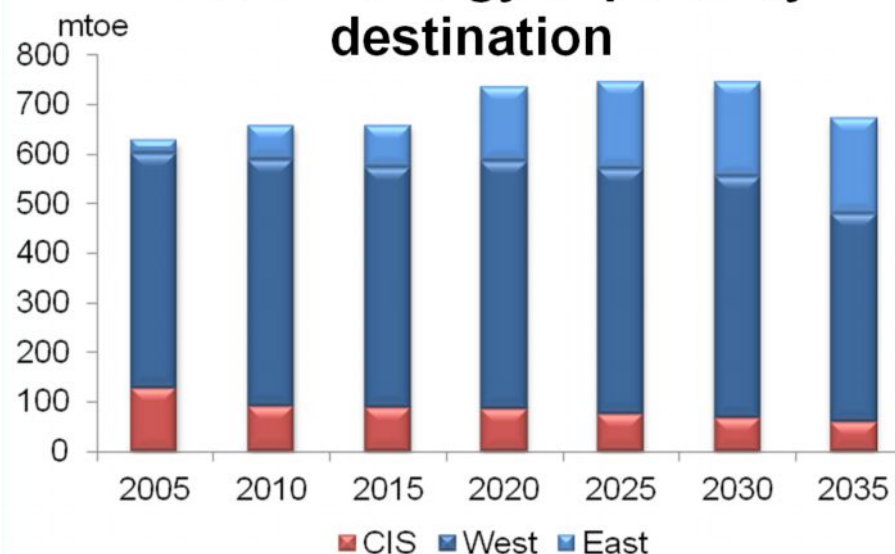
Today

Export:
West – 75%
East – 12%
CIS - 13%

Tomorrow

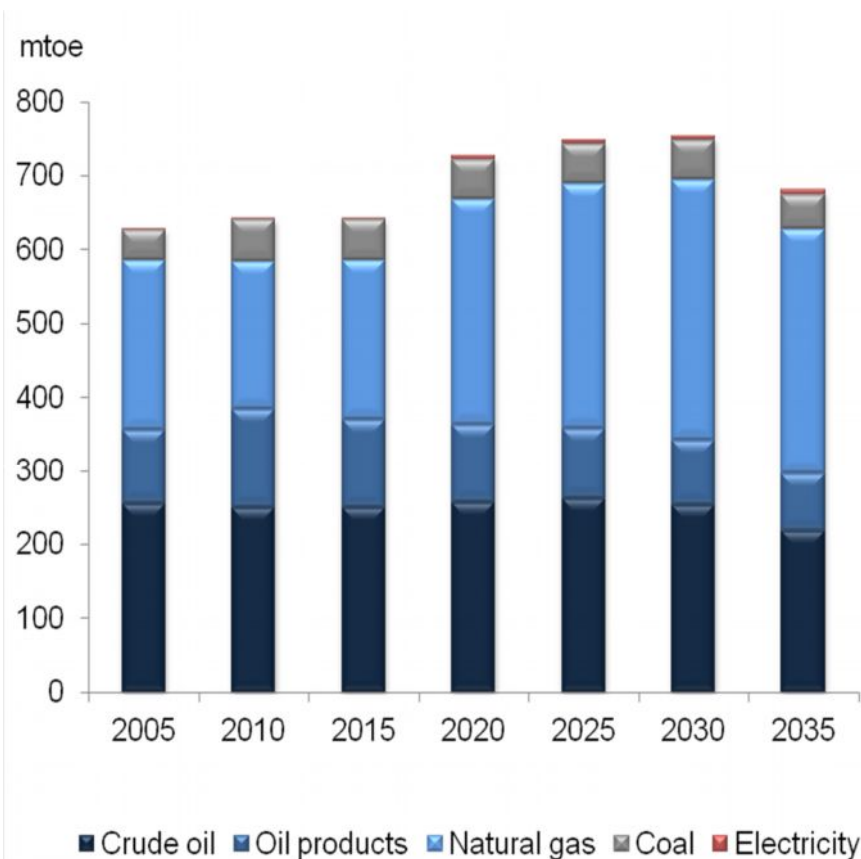
- Expand exports to Asia.
- Possible decline in exports to Europe and CIS.

Russian energy exports by destination

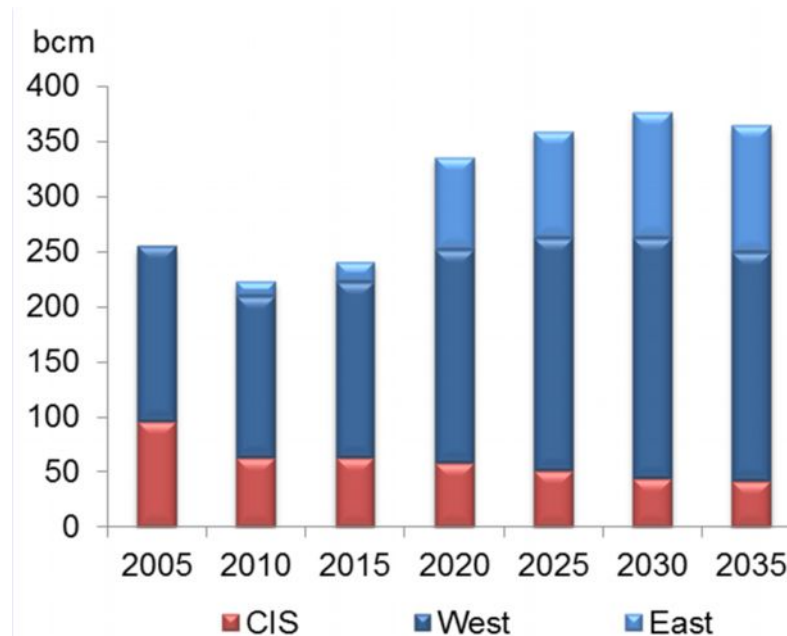


Russian energy exports

Russian energy exports by type



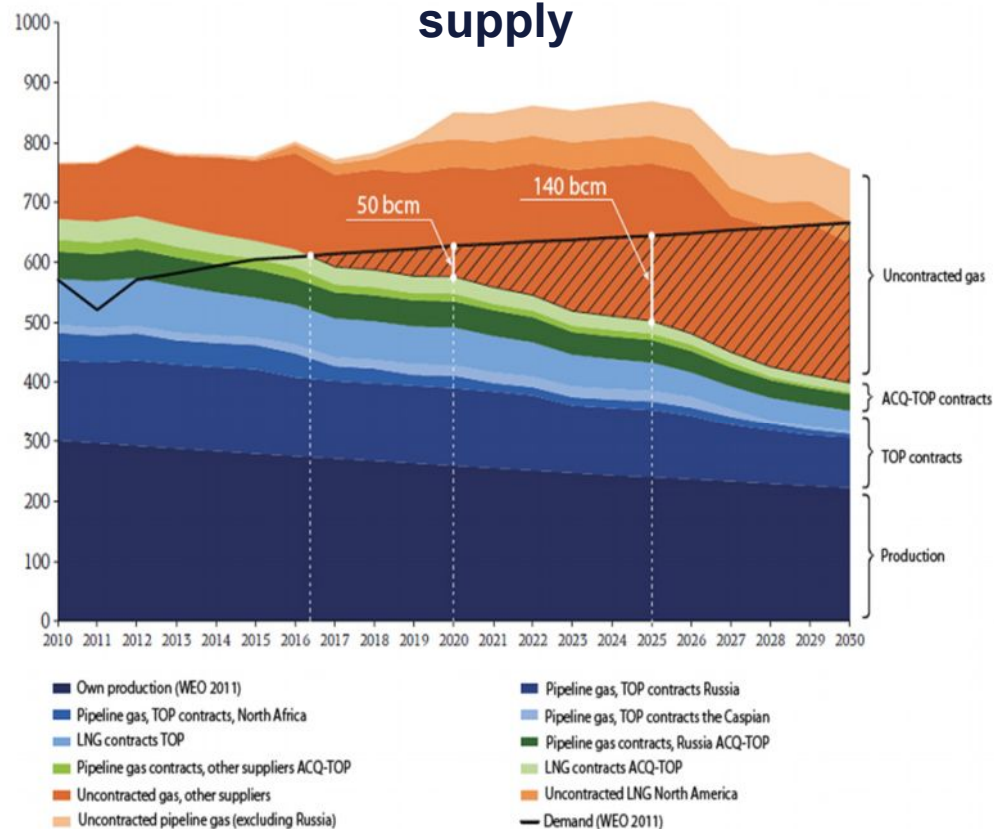
Russian gas export



Source: Global and Russian energy development forecast to 2035, ERI RAS/REA2012.

Gas consumption and imports in Europe

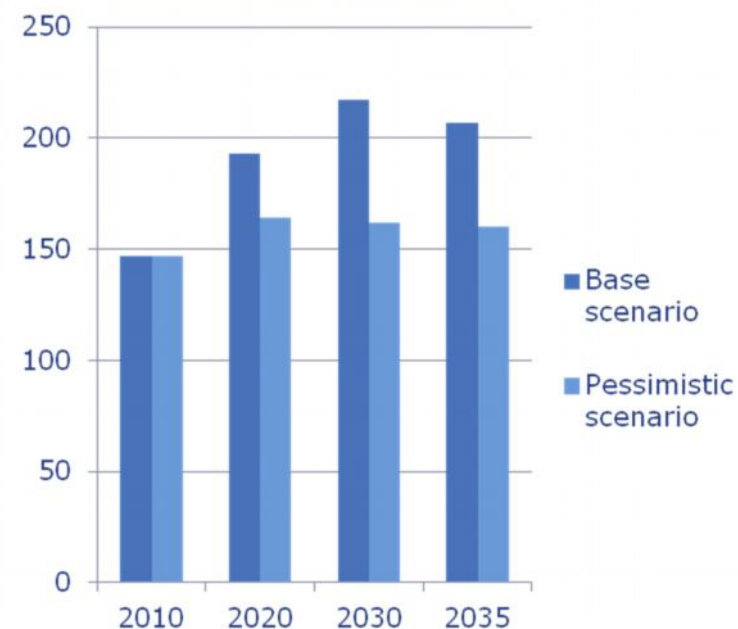
Gas demand in Europe and sources of supply



*delivery price below 9 US Dollars/mln BTE

Source: Energy Centre of the Skolkovo Moscow School of Management.

Gas exports from Russia to West

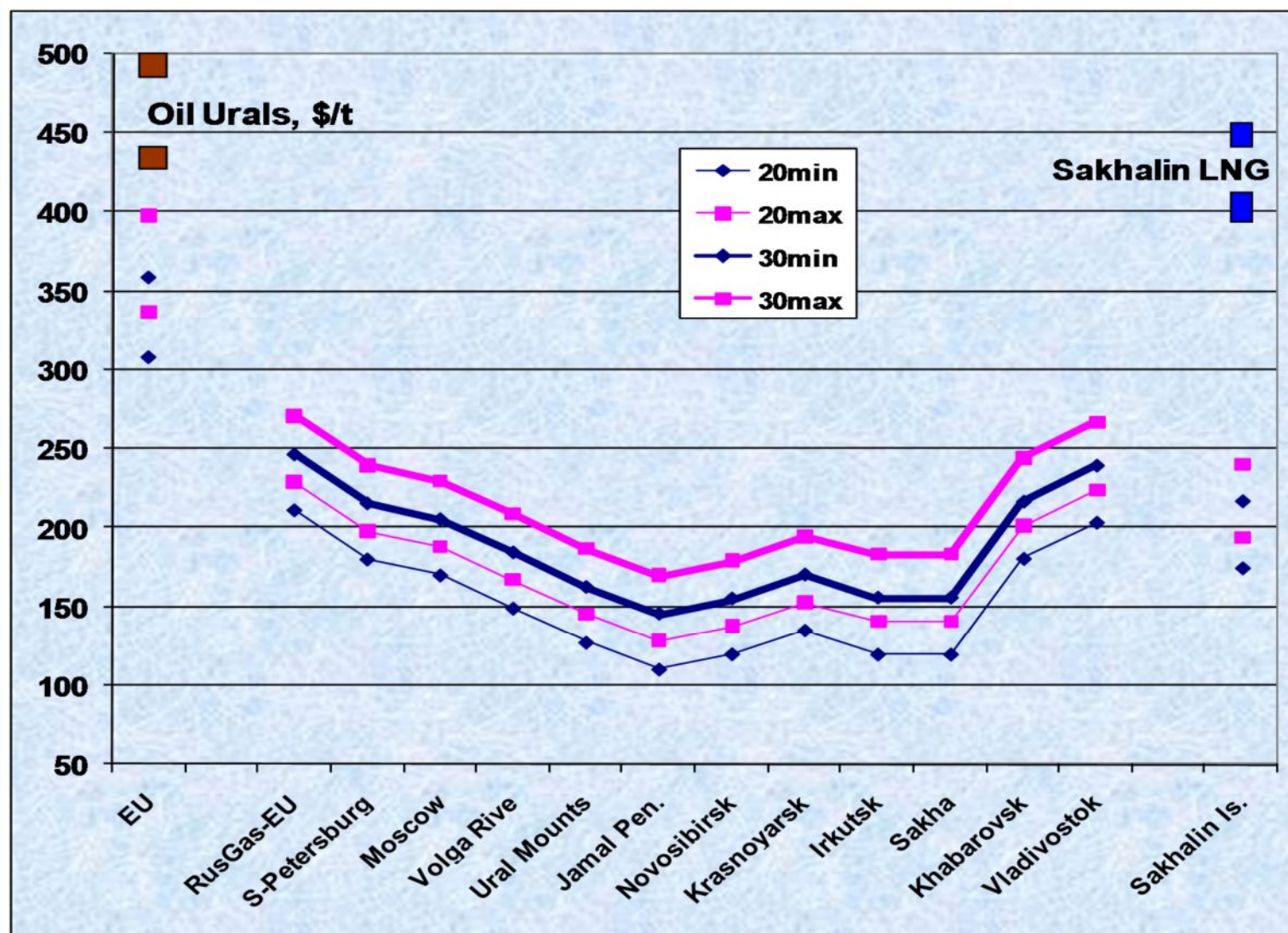


Pessimistic scenario:

- Low demand in Europe
- An excess of supply in Europe

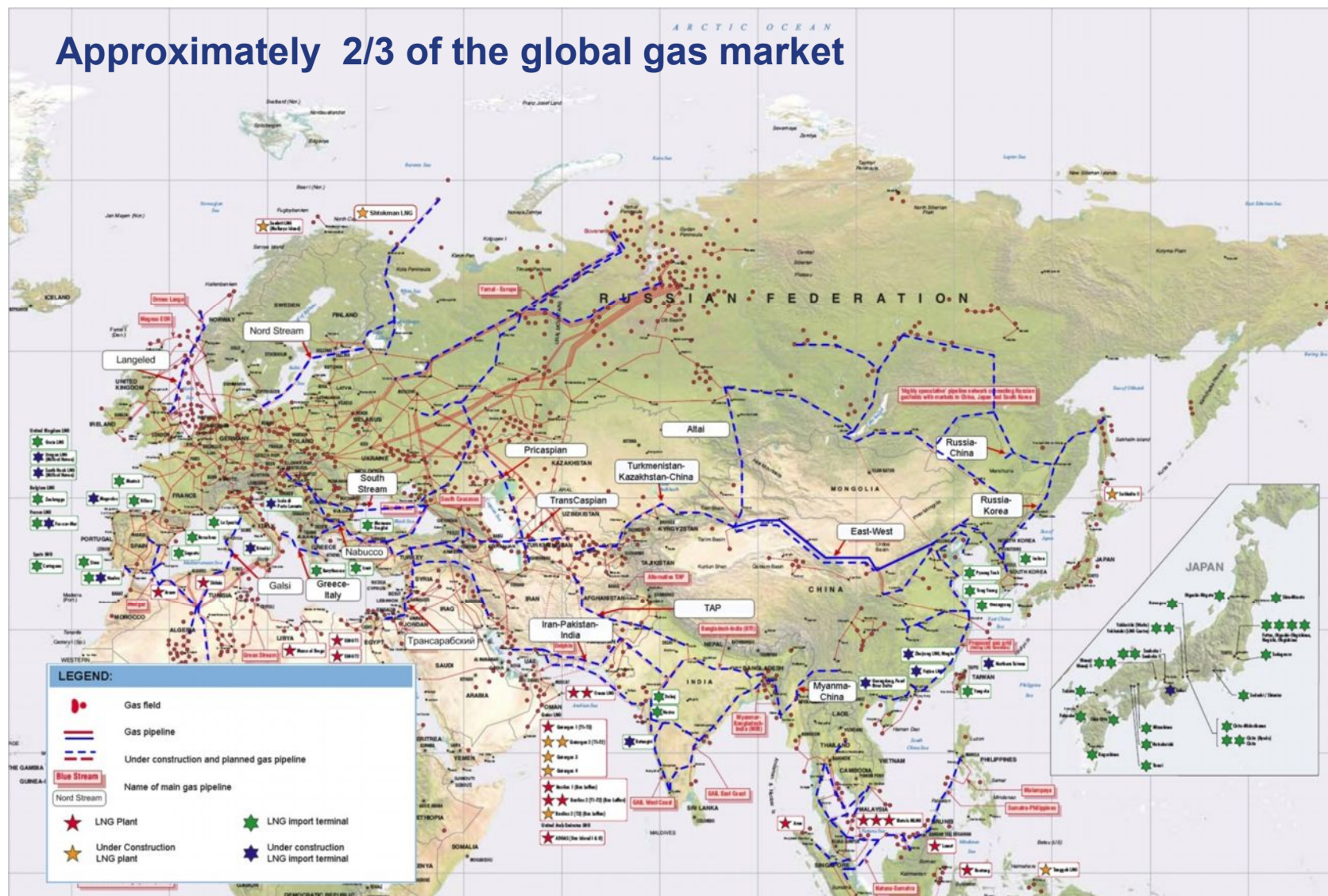
Source: ERI RAS.

Profile of Russian gas prices, \$/1000 cm



Global gas market is formed by development of LNG trade and of the Single Eurasian market of pipeline gas

Approximately 2/3 of the global gas market



Conclusions

After a nearly double increase by 2030 and strong diversification of Russian gas exports, there will be new risks of its reduction.

To maintain important role in the Eurasia gas market, Russia could be its integrator as a system operator and guarantees supplier with balancing demand/supply and price arbitrage.

Thank you for your attention

Energy Research Institute of the Russian Academy of Sciences

