

# GAS MARKET INTEGRATION: FOR A SUSTAINABLE GLOBAL GROWTH

By: Chairman of the Management  
Committee, Gazprom  
Alexey Miller



Patron



Host

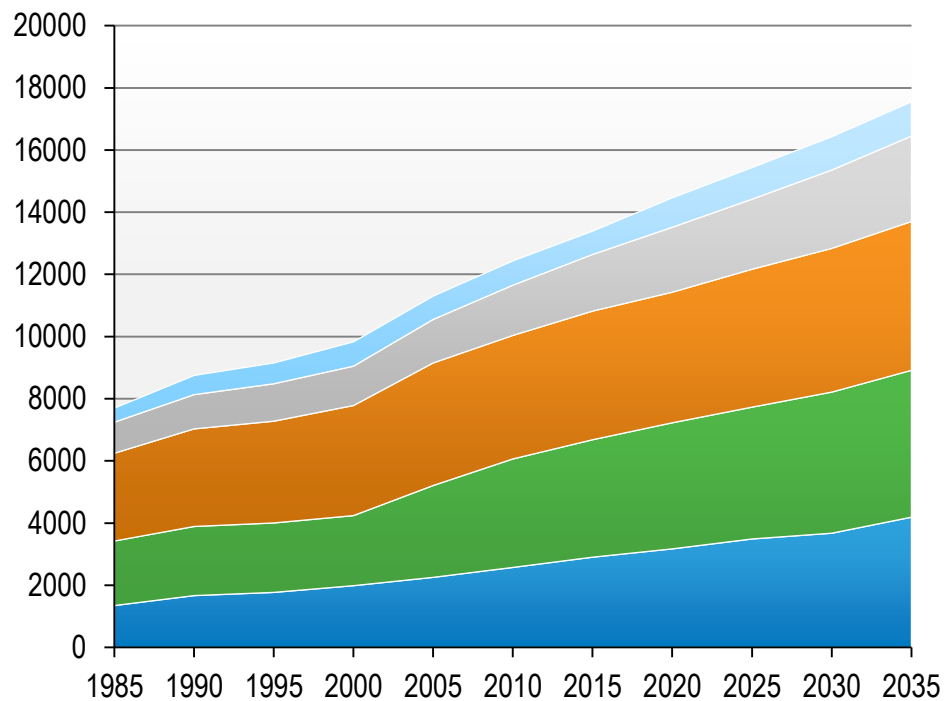


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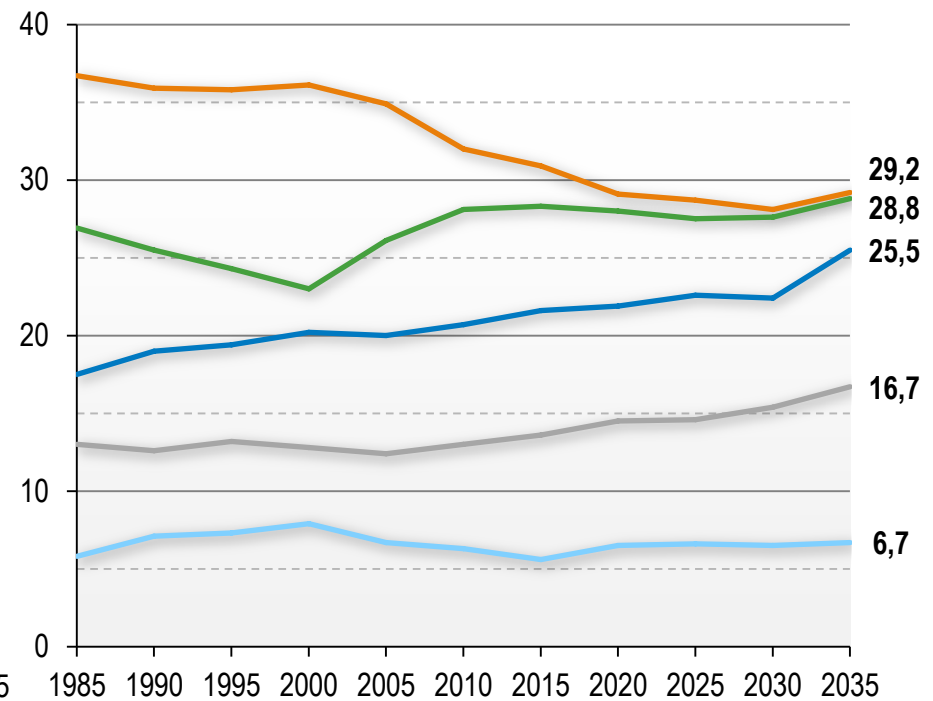


# Growth dynamics and structure of energy consumption

**Dynamics of world energy consumption, million TOE.**



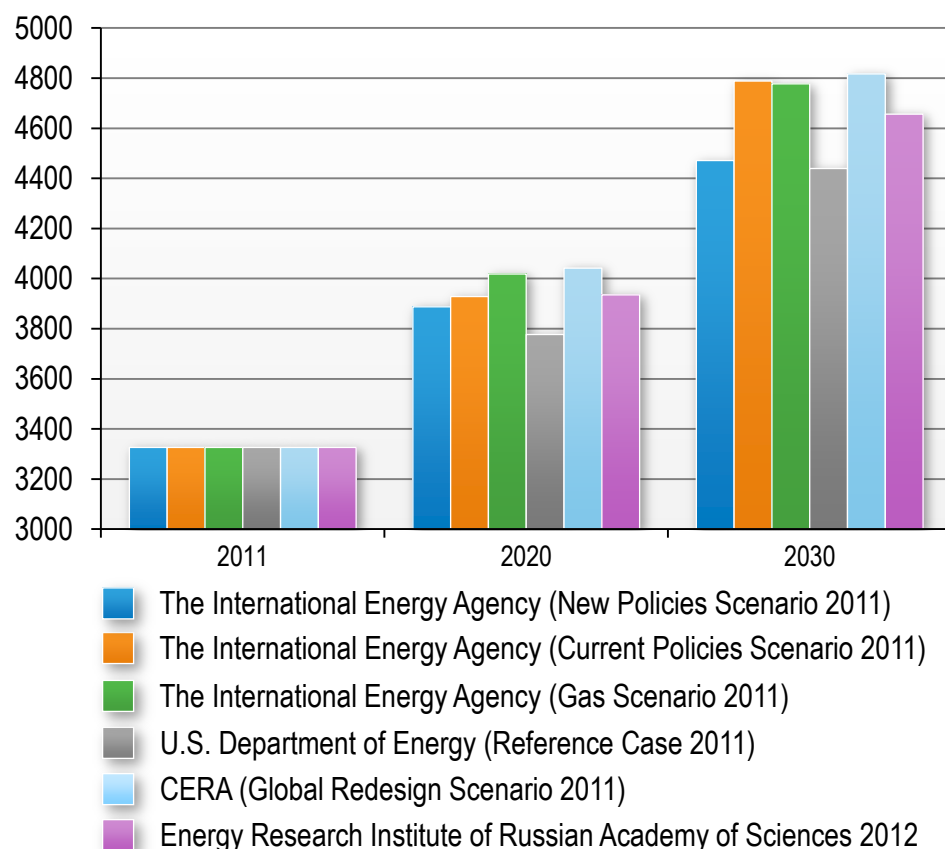
**Structure of world energy consumption, %**



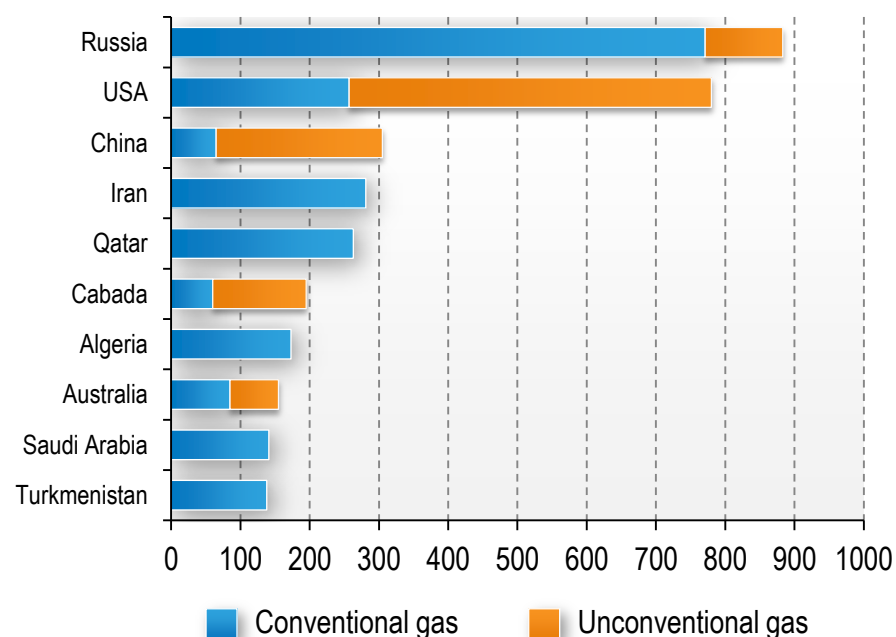
■ Natural gas ■ Coal ■ Oil ■ RES (wind, solar, tidal power, geothermal energy, biomass, hydro) ■ Atom

# The potential of hydrocarbon energy

## Forecasts of global gas demand, billion cubic meters

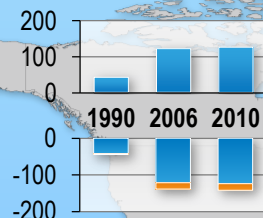


## Forecast of gas production by 2035, billion cubic meters

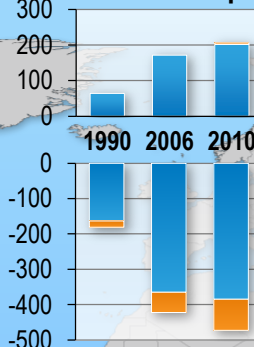


# The development of global trade in natural gas

OECD – North America

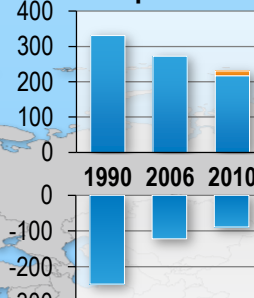


OECD – Europe

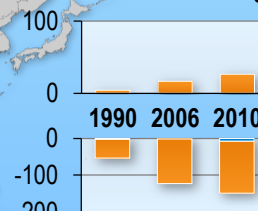


Countries outside the OECD –

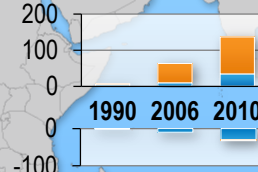
Europe/Eurasia



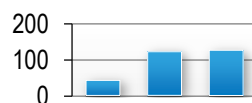
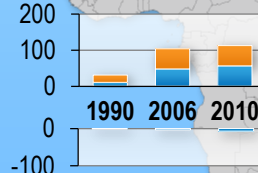
OECD – Pacific Region



Middle East

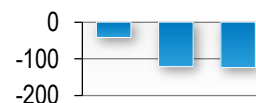


Africa



Export, billion cubic meters

Volume of international trade in gas by pipelines

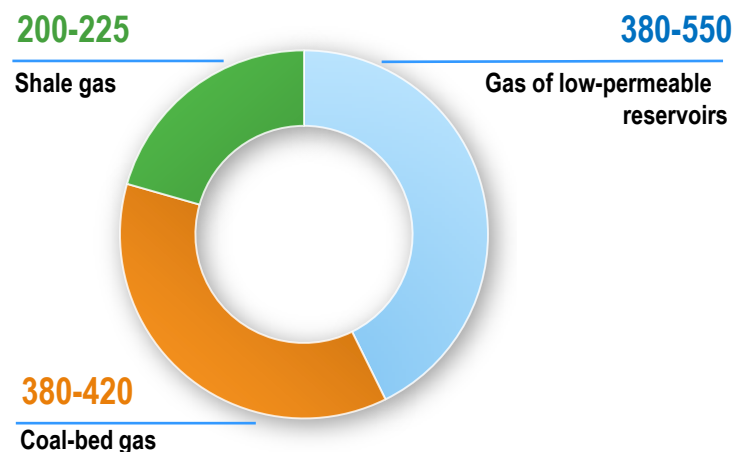


Import, billion cubic meters

Volume of international trade in LNG

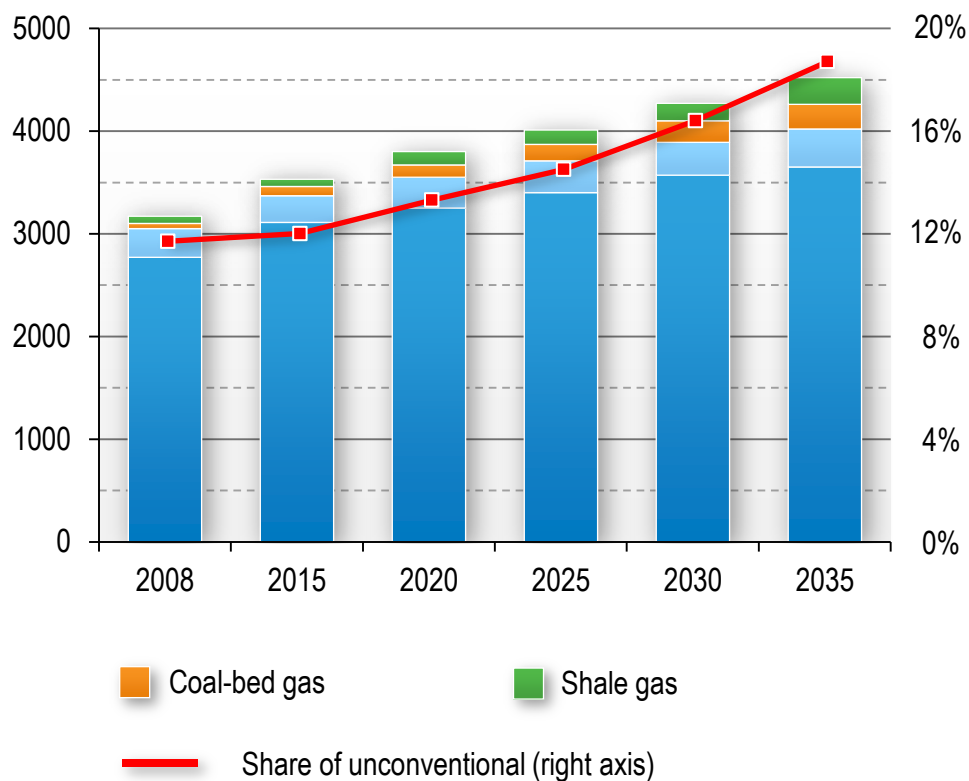
# Alternative sources of natural gas

## Global structure of unconventional gas resources, trillion cubic meters



■ Conventional gas    ■ Low-permeability gas reservoirs

## Global gas production by types, billion cubic meters

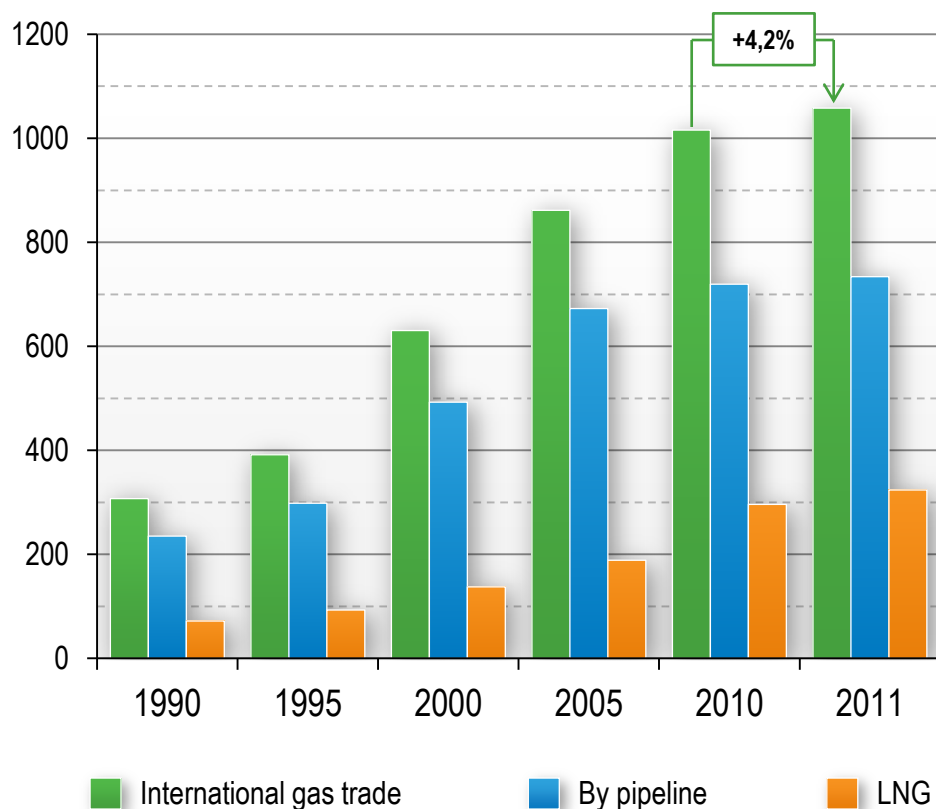


■ Coal-bed gas    ■ Shale gas

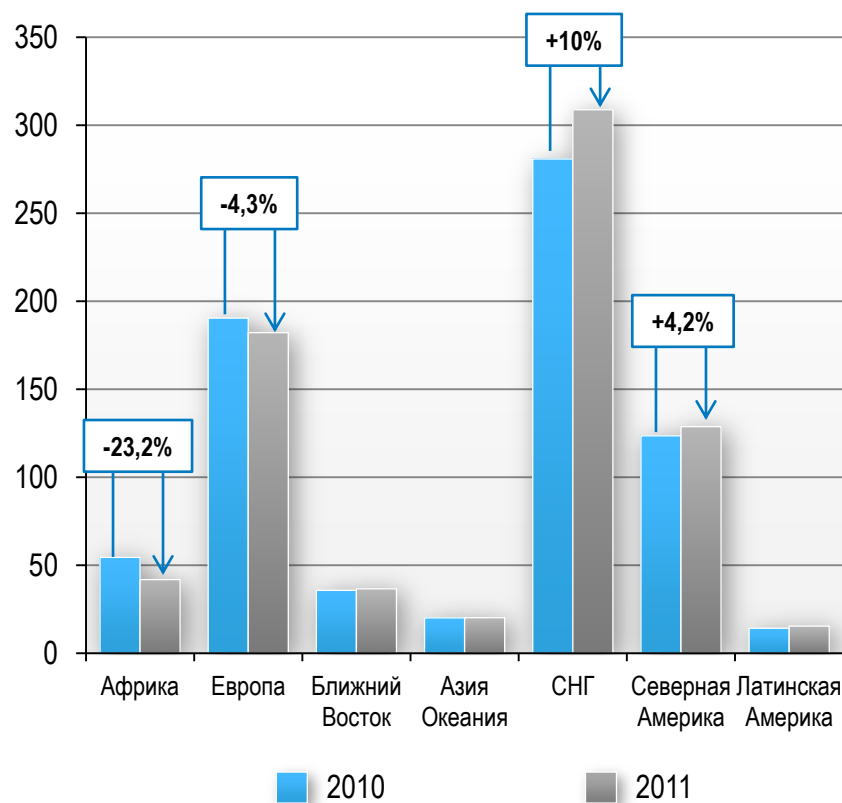
— Share of unconventional (right axis)

# International gas trade from 2010 to 2011

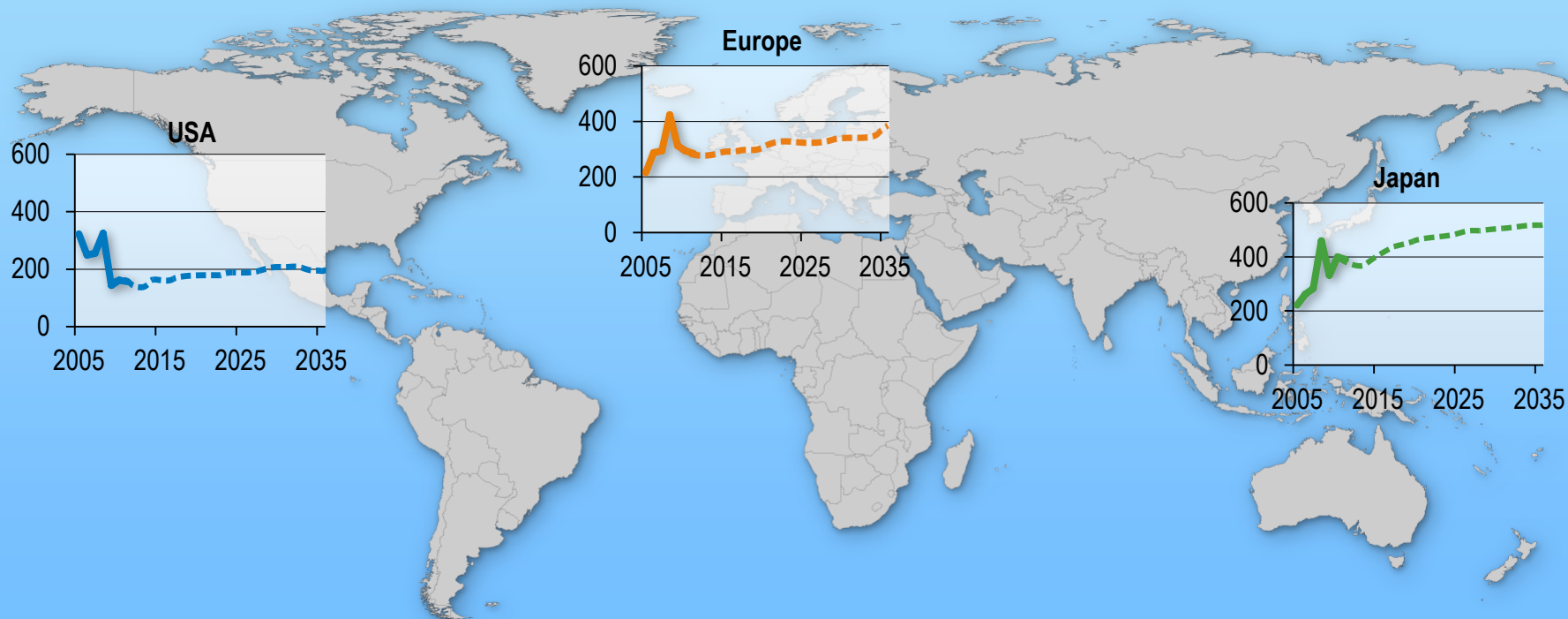
**Dynamics of international gas trade,  
billion cubic meters**



**World exports by regions of the world,  
billion cubic meters**



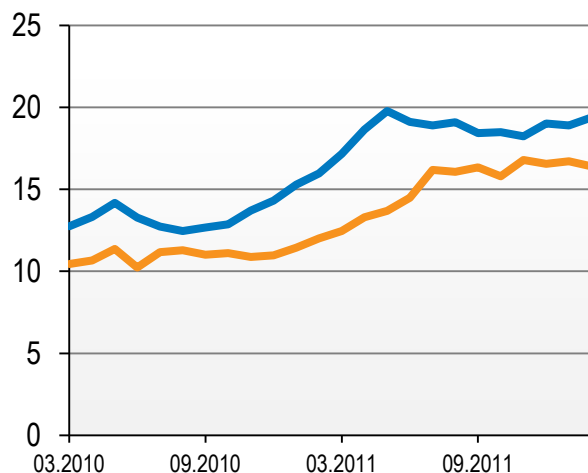
# Regional gas pricing



- Average import gas price in Europe, USD/thousand cubic meters
- Spot gas price in the U.S. (Henry Hub), USD/thousand cubic meters
- Import gas price in Japan, USD/thousand cubic meters
- - - Perspective projects

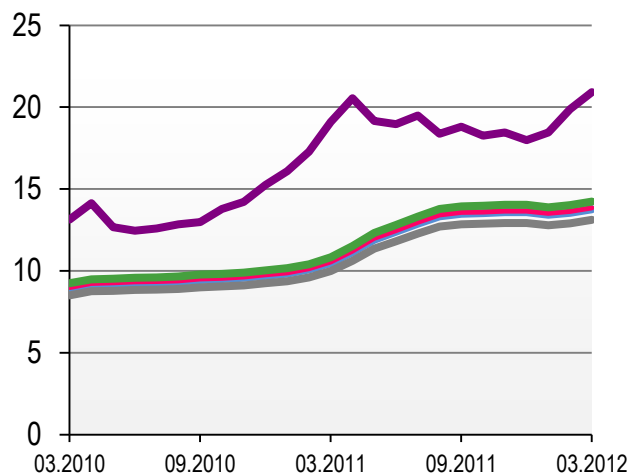
# Price formation in the gas market

**Dynamics of LNG prices in Japan,  
USD/million Btu**



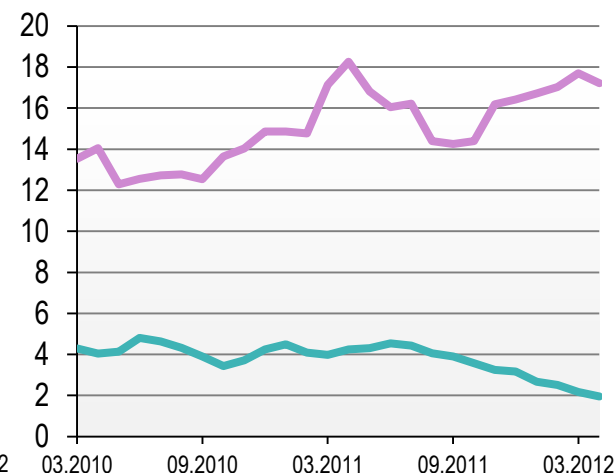
Japanese Crude Cocktail  
LNG (Japan)

**Dynamics of oil and gas prices  
in Europe, USD/million Btu**



Russian gas at the border of Germany  
Russian gas at the border of France  
Russian gas at the border of Hungary  
Russian gas at the border of Italy  
Brent

**Dynamics of oil and gas prices  
in the U.S., USD/million Btu**

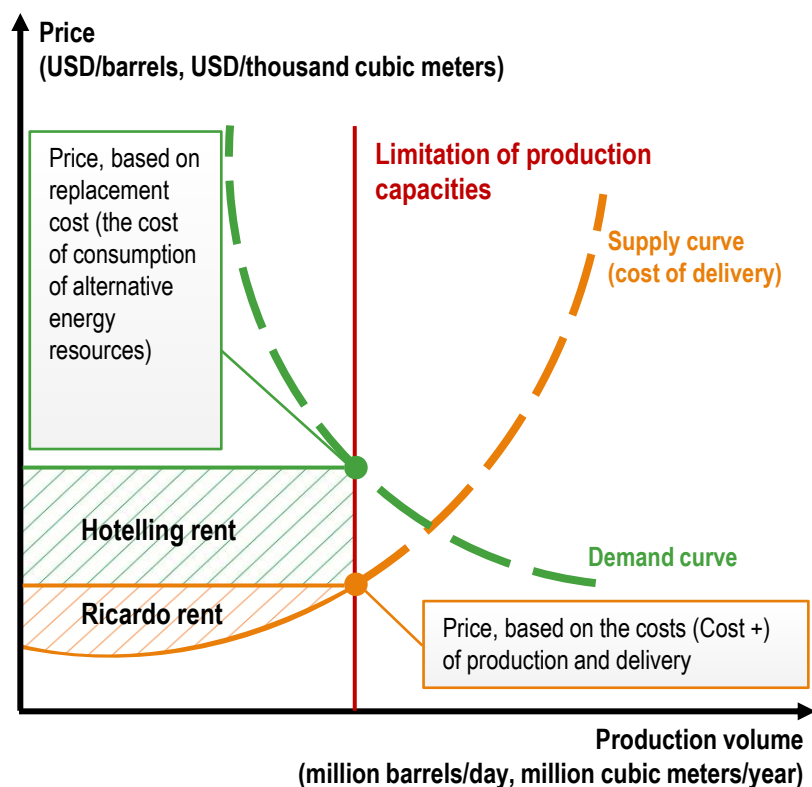


Henry Hub  
WTI

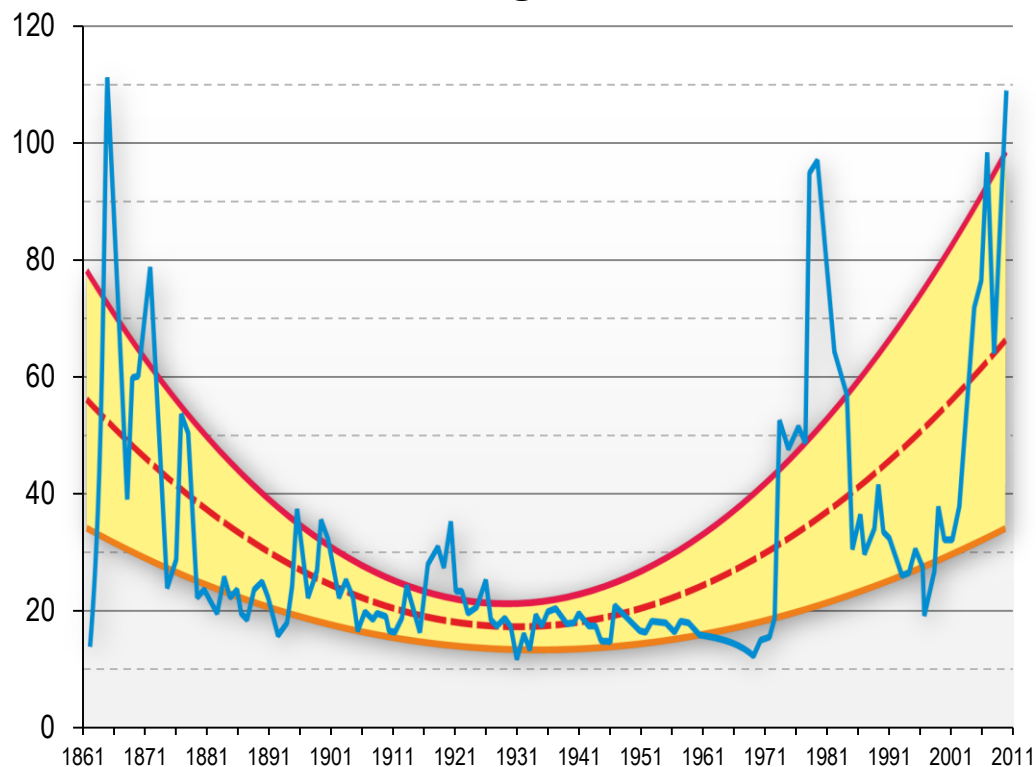


# Price formation in the gas market

## Hotelling rent

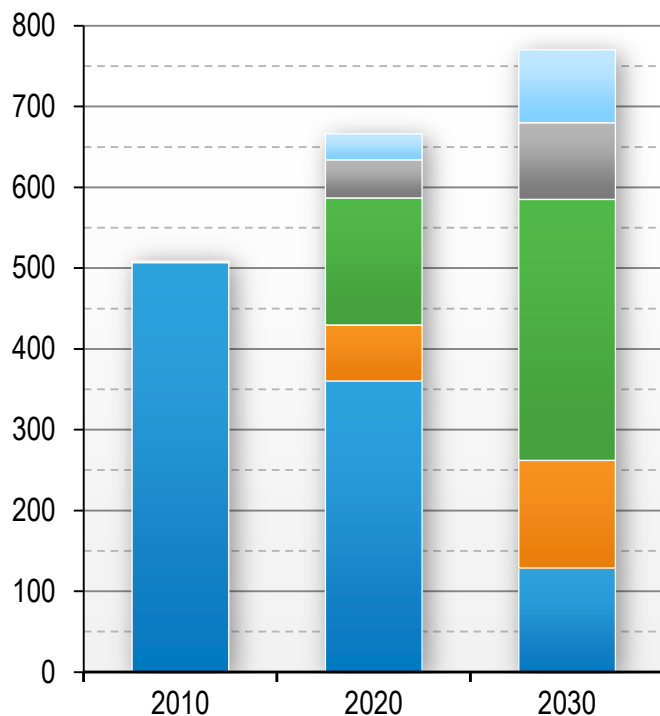


## Dynamics of price integration of the world gas market



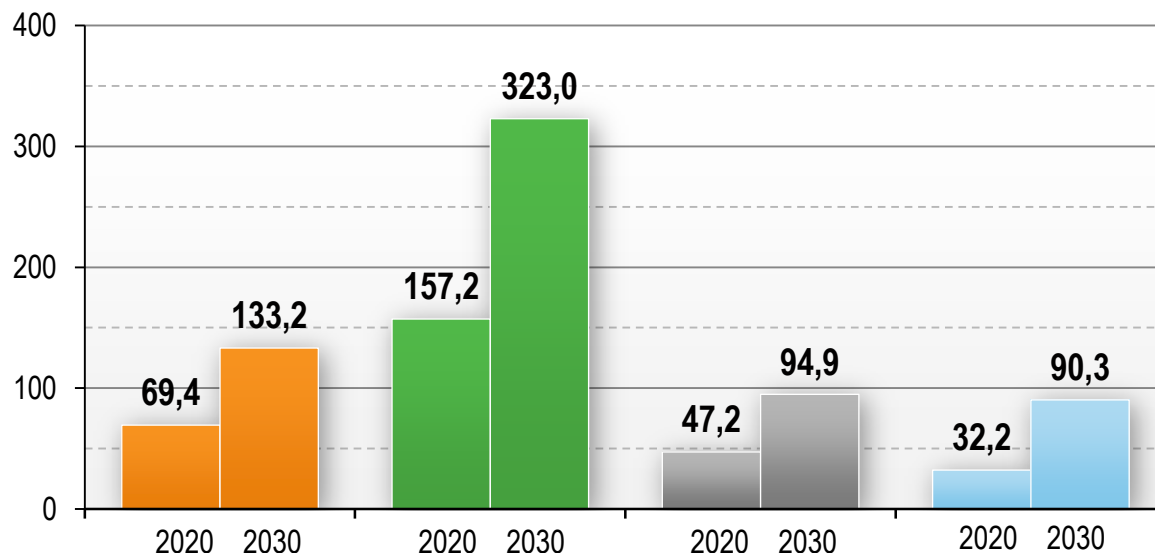
# Development of Gazprom's resource base

billion cubic meters



- Existing projects
- New fields
- Nadym Pur Taz District
- Yamal
- Stockman
- Eastern Siberia and the Far East

billion cubic meters

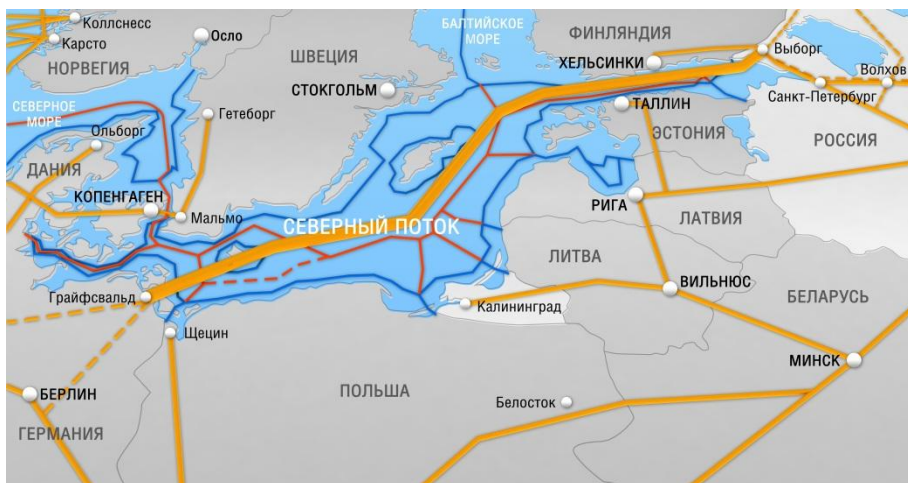


## Commissioning of the Yamal Peninsula fields and the shelf

Expected production, billion cubic meters/year	
2015	2030
116	310-360 (land+shelf)

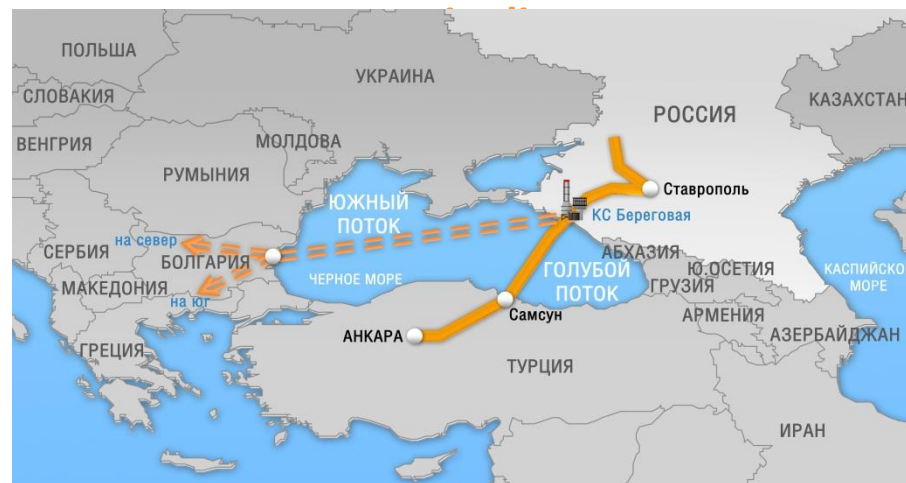
# Gazprom's transportation projects

## Nord Stream gas pipeline



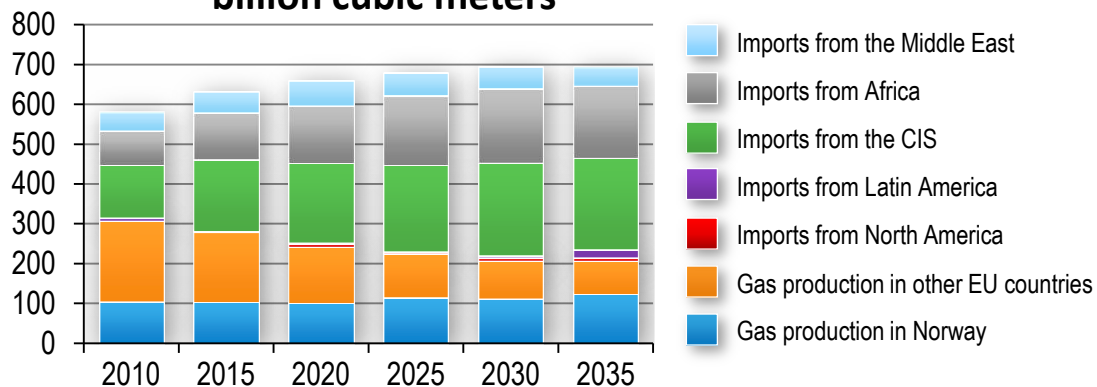
Capacity: 55 billion cubic meters/year

## South Stream and Blue Stream gas

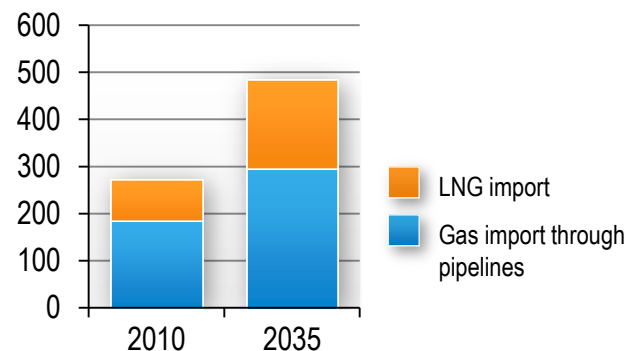


Capacity: 63 billion cubic meters/year  
(South Stream)

## Gas balance in Europe, billion cubic meters



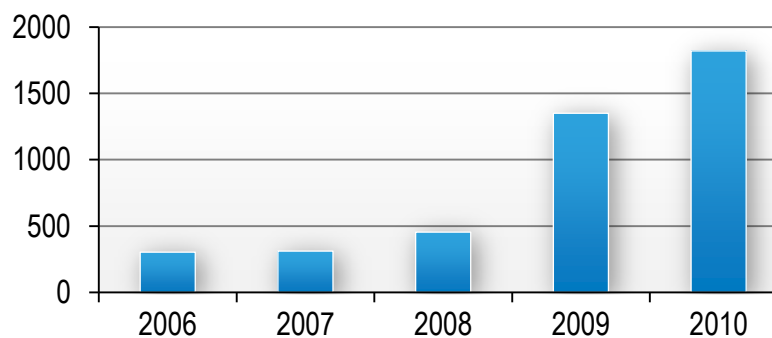
## Europe's inter-regional gas trade, billion cubic meters



# Gazprom in the LNG sector

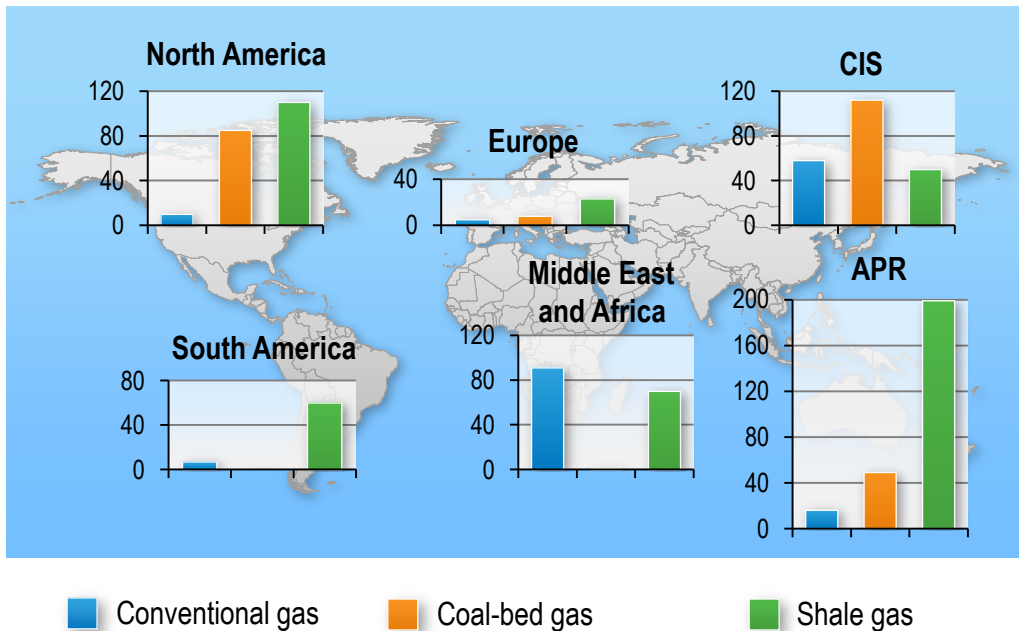


**Volumes of Gazprom Group's transactions with LNG, thousand tons**

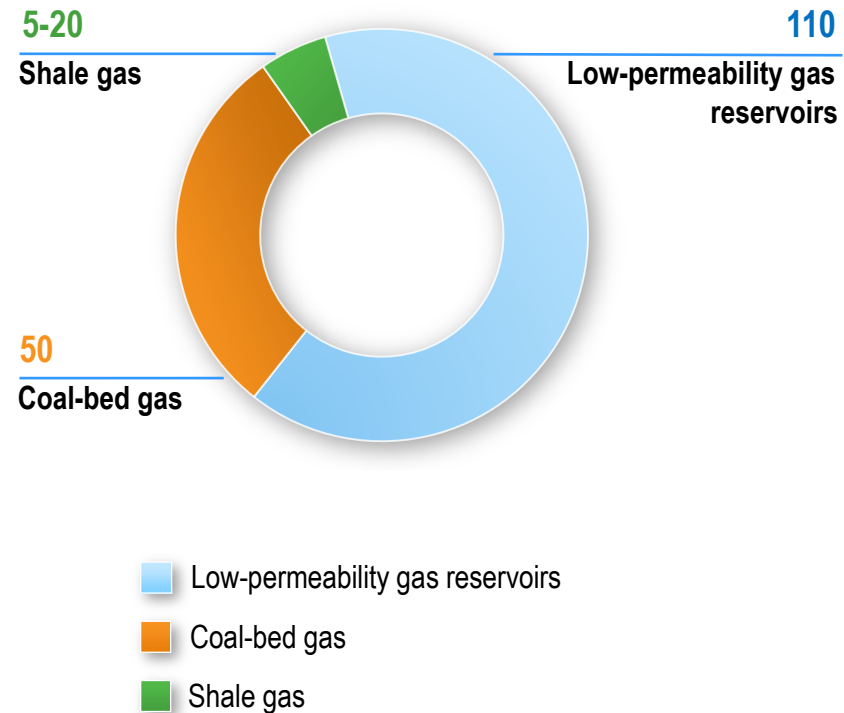


# The strategy of relying on conventional natural gas resources

## Distribution of conventional and unconventional gas by regions in the world, trillion cubic meters

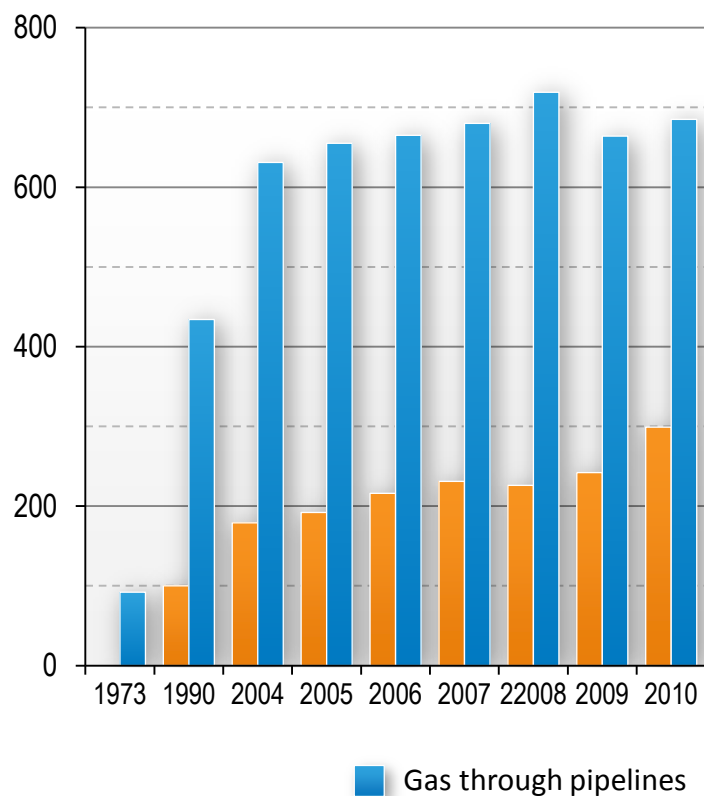


## The structure of Russia's unconventional gas resources, trillion cubic meters

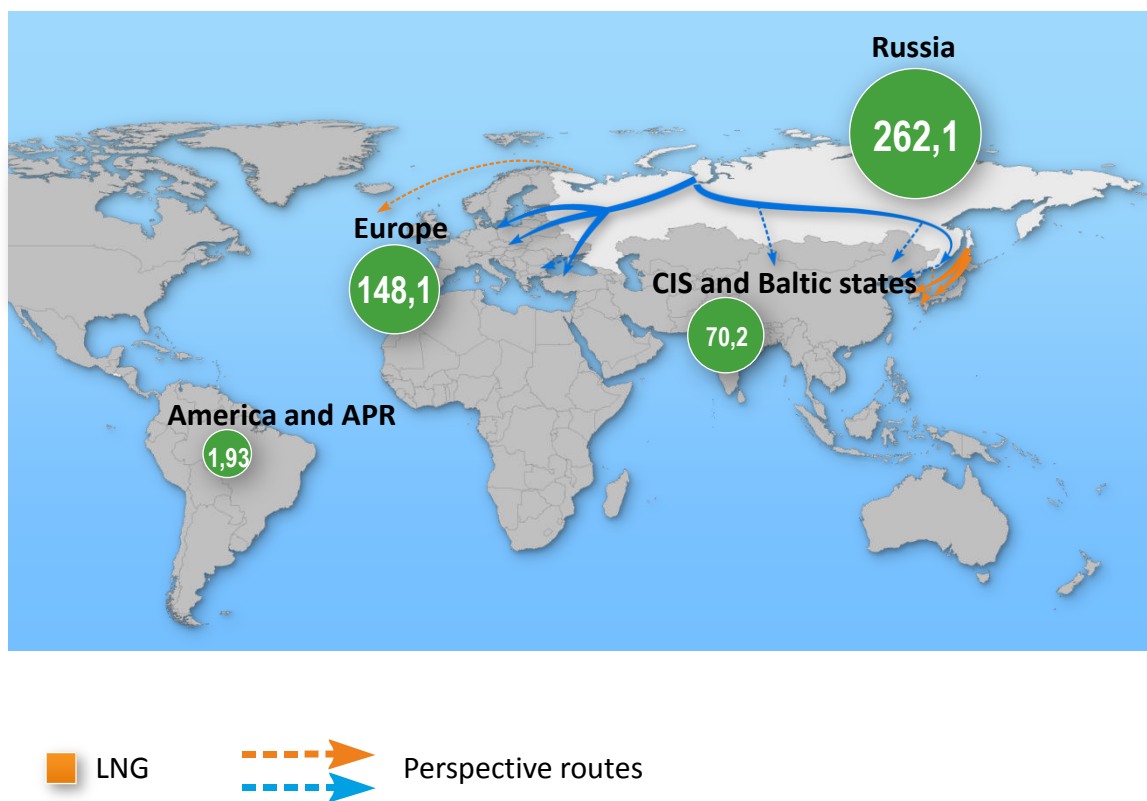


# Gazprom's global supplies of pipeline gas and LNG

Ratio of supply volumes of pipeline gas and LNG, billion cubic meters

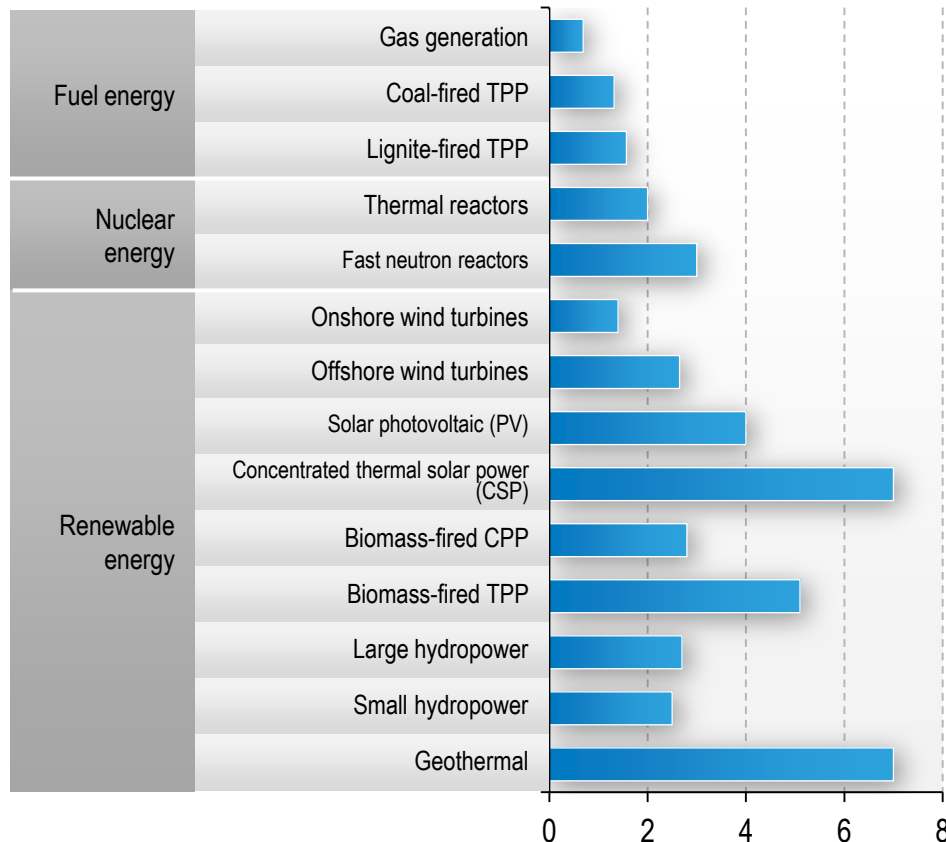


Global gas supplies, billion cubic meters

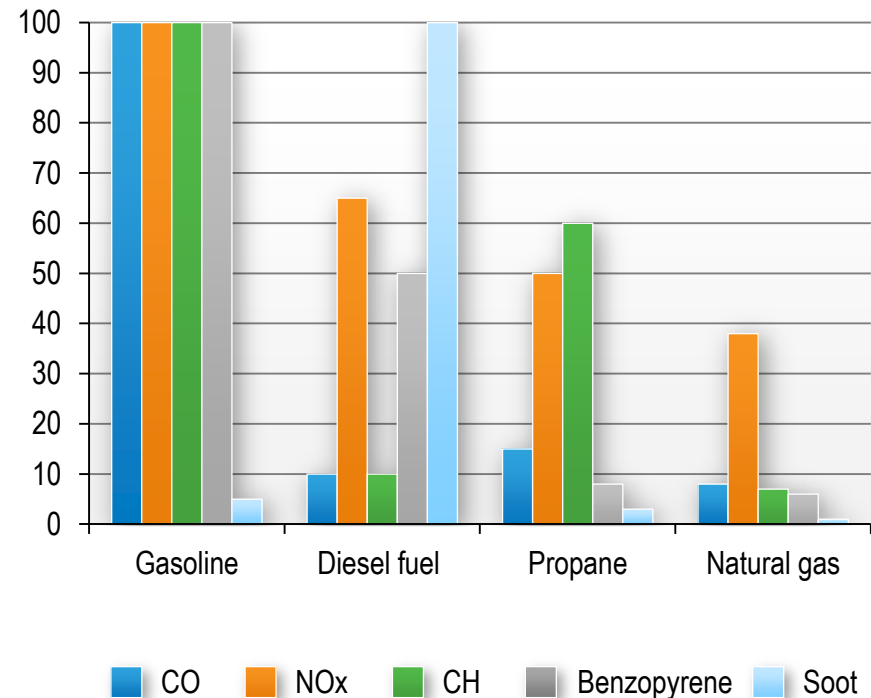


# Natural gas – an environmentally and technologically optimal solution

**Cost of building 1 kW of electric power of various types of power plants, thousand dollars.**



**Relative content of toxic components in exhaust gases of motor vehicles**





# Thank you for your attention!



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