

## THE PROSPECTS OF GAS RELATIONS BETWEEN RUSSIA AND THE EU IN STATE OF STAGNATION OF GAS DEMAND IN EUROPE

Alexey Belogoryev,  
Head of Department, Institute of Energy  
Strategy



Since the mid-2000s the gas market of Europe is in a state of a prolonged crisis, and in order to recover from it serious reconsideration of the role of gas in the European energy sector is needed. The prospects of dynamics of gas demand, development of pricing and investment policy in the production, transition and sales of natural gas in the EU-27 depend directly on the results of the crisis, as well as the prospects of Russian gas export and, consequently, gas relations between Russia and the EU.

Despite the prevailing view that the crisis of the European gas market has no direct connection with the global economic crisis, which started two years after the first signs of stagnation of gas demand in the EU. The nature of this crisis is stands in approaching the limits of growth of the EU gas market model, namely the model of economically developed countries with a critically high level of dependence on imports. In the history of the EU gas market there are two

waves of growth: from 1960s to 1970s, and from 1991 to 2005. Between these two periods there was that of drastic decline of growth rates in the 1980s as a consequence of the second oil shock. After the second wave, starting from 2006 and up to the present, for the first time the long-term stagnation of demand is seen (Fig. 1).

Rapid growth of consumption in 2010 (+7,4%) did not change the overall picture, as it was caused by the low base

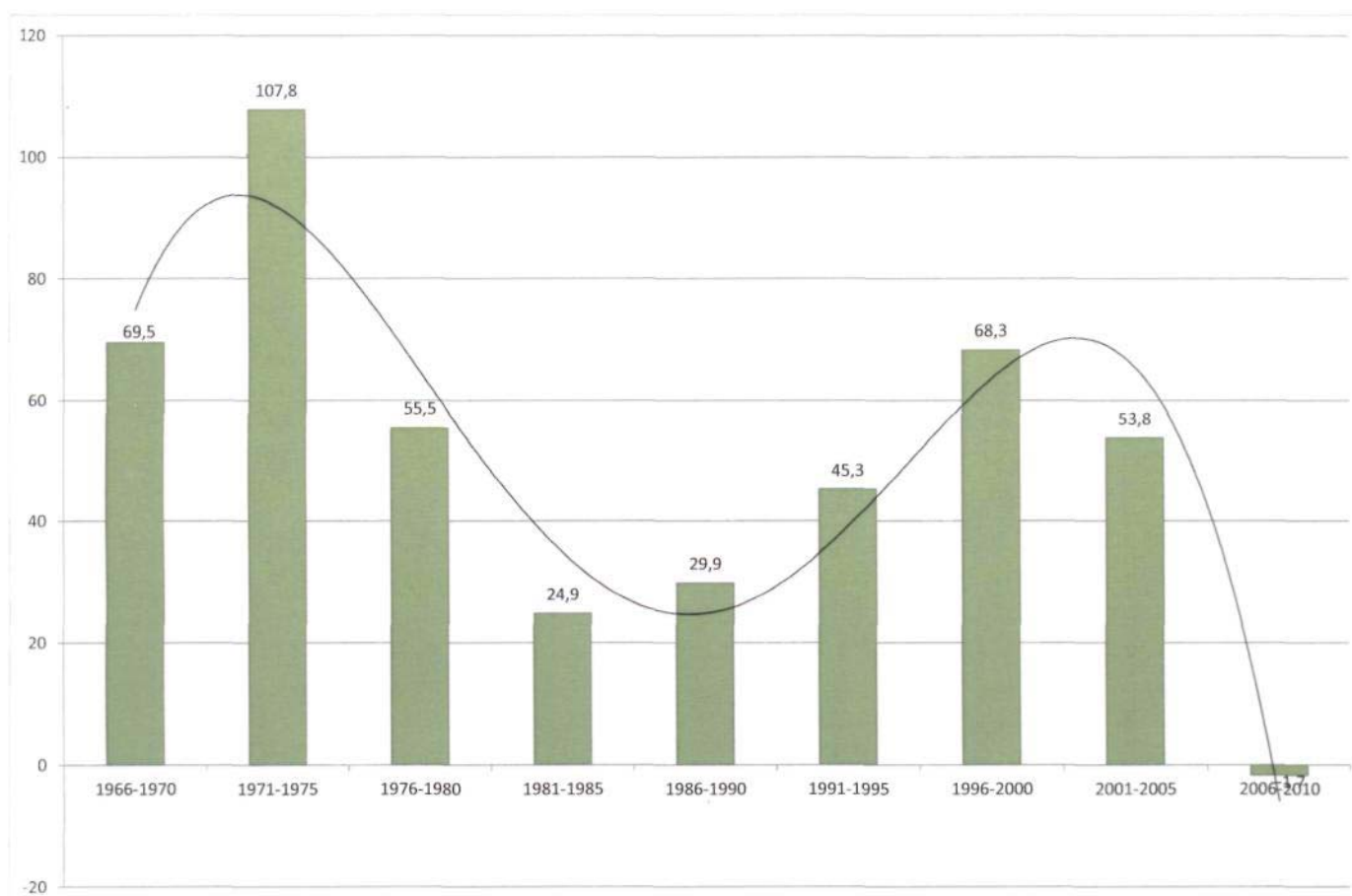


Figure 1 - Increase of natural gas consumption in the EU-27 in five-year periods  
Source: Institute of Energy Strategy given the BP statistics

effect (decrease by 6,4% in 2009) and a severe winter according to the European standards, coldest one in Northern and Western Europe since 1996. It is no wonder that in 2011 gas consumption dropped again by 9,9%. It is worth mentioning that as in 2006-2007 this decline was not in line with the economic situation. Thus, in spite of the depressed business sentiments in Europe and the deepening debt crisis, in 2011, according to Eurostat data, in most EU member-states there was a positive growth of GDP (except Greece, Portugal and Slovenia), and the total GDP of the EU-27 rose to 1,5 % compared to that of 2010. In this context, the most indicative example is a drastic decline in gas consumption in Germany (-12,9%), the healthiest and strongest economy of the European Union which increased its GDP by 3% in 2011 (in 2010 - by 3,7%).

Within the EU there are deep disproportions in the country structure of gas consumption increase. Only five countries - Spain, Italy, Poland, Greece and Portugal account for 87,7% of the total consumption growth over the last ten years (from 2001 to 2011). In all other countries of the EU both absolute and relative growth values were either minimal, as in Austria and Ireland, or negative, as in the UK and Germany (Fig. 2).

It reflects high differentiation of the EU gas market at the

achieved level of per capita consumption (with an average rate of 0,88 thousand cu m per person a year, the values vary from 0,15 to 2,5 thousand cu m). The main increase of gas demand in the EU until 2006-2007 was provided by the countries with per capita consumption of less than 0,8 thousand cu m per person a year, among which the major markets are Spain, France and Poland (figure 3). The majority of these countries, many of which were previously the members of the Council for Mutual Economic Assistance, have already had a long history of gas market, and their low per capita consumption is not a guarantee of future growth. On the contrary, such countries as Czech Republic and Romania have been actively reducing already low per capita consumption.

Source: Institute of Energy Strategy given the Eurostat statistics of 2010

The fact that gas capacity of the EU GDP is already high enough for the market strongly depending on gas import adds more pessimism. Thus, the highest gas capacity is seen in the countries with lowest per capita gas consumption (Fig.3). On the one hand, it sounds paradoxically, but on the other hand, it explains the stabilization of gas demand in these countries.

In order to increase gas consumption it is more and more important for a country to arrange its own production. Rus-

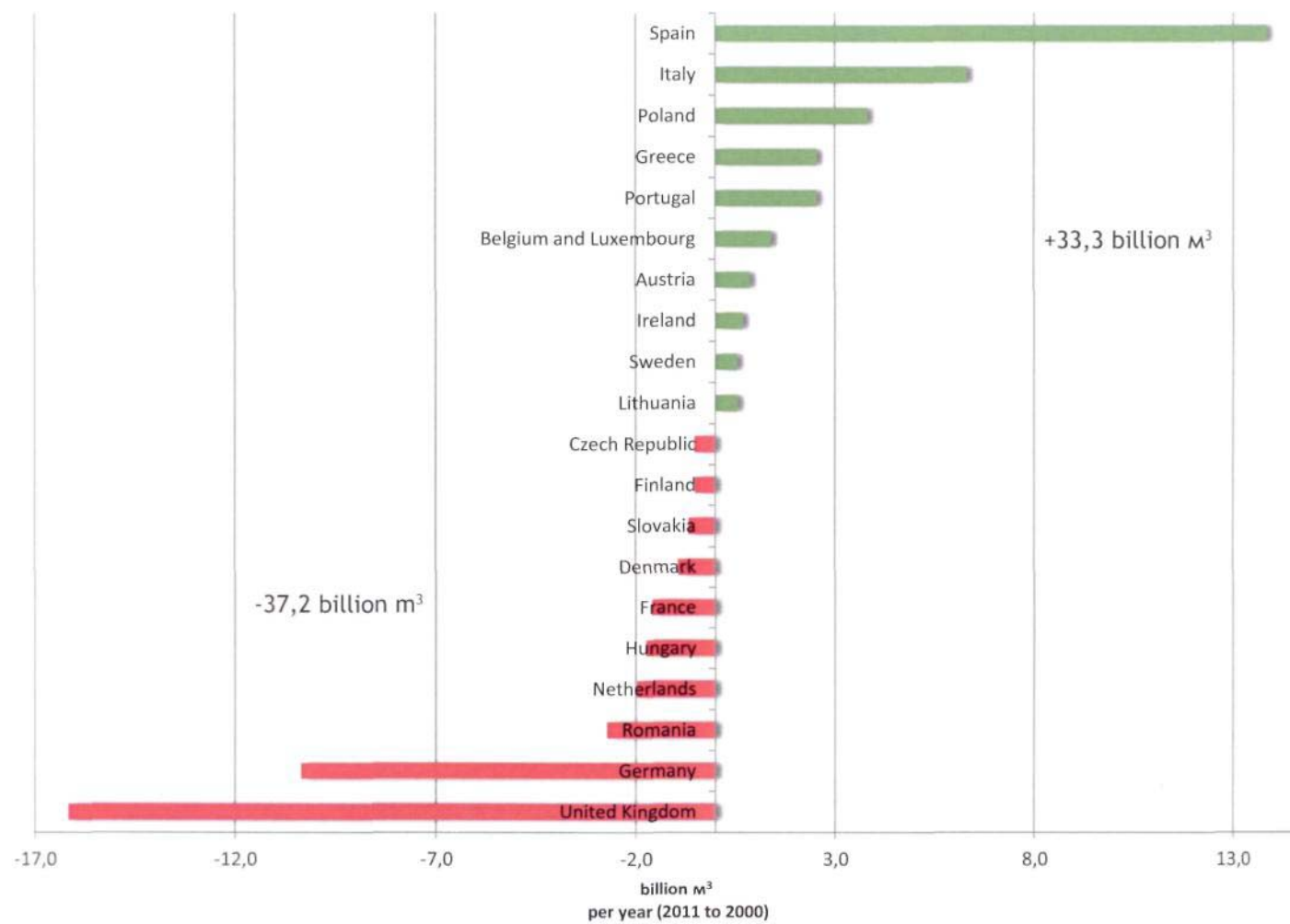


Figure 2 - Absolute values of gas consumption growth in 2001-2011 within the EU (with gas consumption over 1 billion cu m a year)  
 Source: Institute of Energy Strategy given the BP statistics

sia and Canada are the typical examples of surplus energy countries. The USA is also one of the largest gas-producing countries, where the share of import in domestic consumption haven't exceeded 18% even during the peak periods of demand, and in the period of fast growth it stood at 9-13%. In the EU-27 the same rate today is already more than 65% (including Norway - 43%), and taking into account decreasing domestic production it will continue to grow regardless the stagnation of gas consumption, and, according to different scenarios of the IEA, by 2020 will reach from 74,5% to 83,5% (with the expected decrease of domestic production from 33% to 40% to the level of 2010). Today natural gas ranks second after oil concerning the extent of the EU dependence on external supply, which is perceived more sensitively in the European countries, especially given the permanent growth of this dependence. Hence comes one of the key objectives of the EU's gas policy - stabilization or, at least, drastic decline of growth rates of dependence on gas imports. Achieving this goal is possible both by an artificial decrease of gas demand and by developing the practice of natural gas production from alternative resources.

In the 2010s the EU should make a choice whether it would, as regards the program «20-20-20» and the EU 2020 Energy Strategy, artificially stabilize gas consumption, despite its obvious advantages as environment-friendly and fuel efficient, important also for reducing greenhouse gas emissions. In case this decision is made, then, with the help of political will, it is achievable. Technological base for stagnation and even decline in demand for gas is caused by increasing energy efficiency of gas consuming equipment, especially in residential and municipal consumption, in which the share of gas demand accounts for 39%. The growth of the efficient gas usage is able to cover a significant share of the new gas demand: given the increase of gas efficiency consumption by 1%, from 3 to 5 billion cu m a year will be released.

Rapid development of power generation on the basis of renewable resources of energy is also of great importance (+18,9% in 2011). It is significant that the share of renewable energy resources in new power generation capacity of the EU is growing exponentially, reaching already 37-38% in 2009-2010. In 2011 with the total decrease of power generation in the EU by 2, 5 %, the renewable energy resources turned out

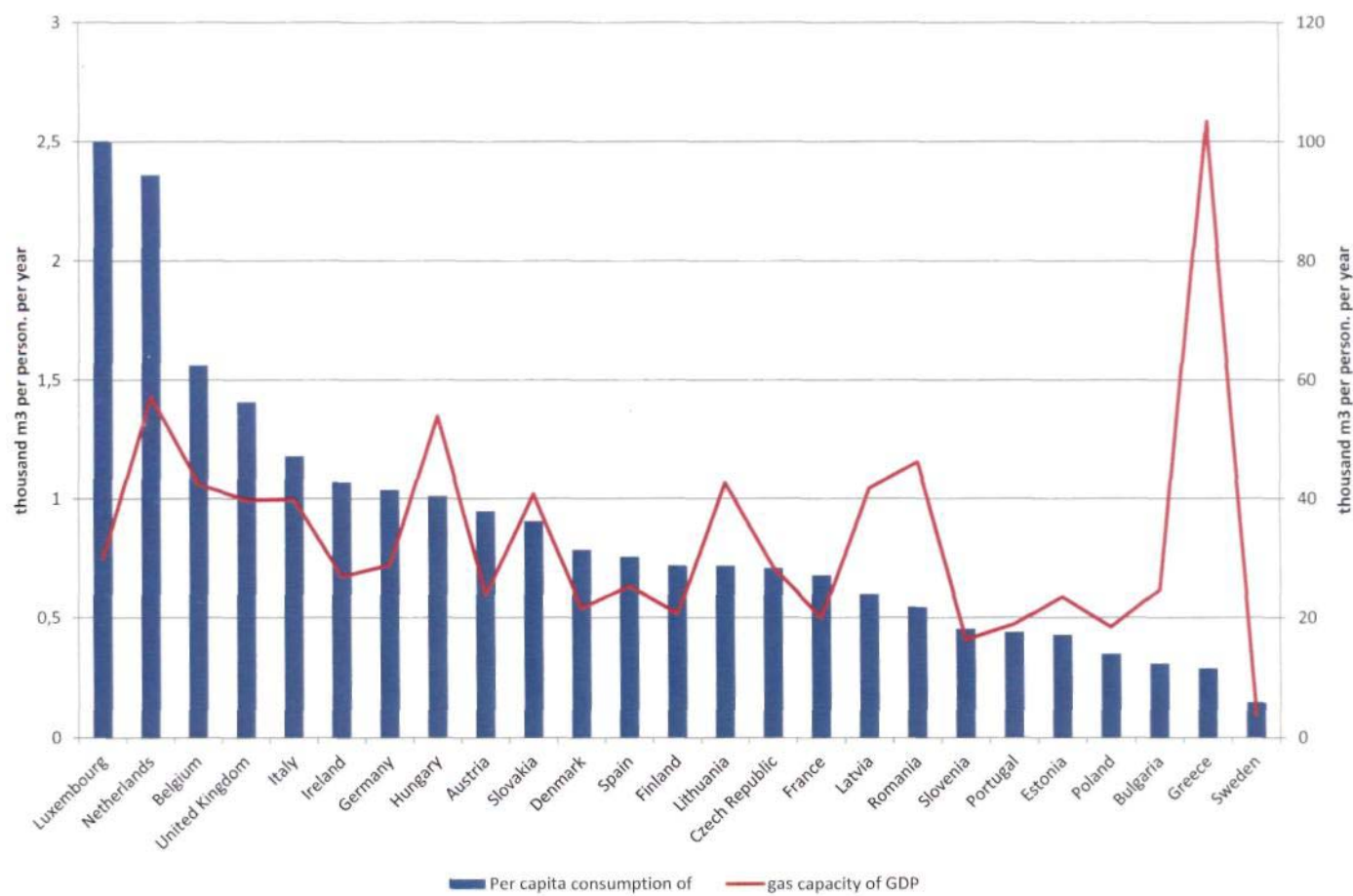


Figure 3 - Per capita consumption of natural gas and gas capacity of the GDP in the countries of the EU

to be the only segment showing the production growth (heat and hydro generation growth dropped most of all). As a result, the share of thermal power plants (including all types of fuel in the structure of the aggregate power generation in the period of 2008-2011 decreased from 57, 0% to 51,7% , its lowest level in history (Fig. 4). The main problem for further growth of the share of renewable energy resources remains the risk of declining stability of power generation and, consequently, decreasing electricity supply to consumers.

Today the main struggle for gas takes place in the power generation field. The share of power generation in gas consumption in the EU is relatively small (27% compared to 31% in the USA and 40 % in Russia). At the same time, the share of gas in centralized power generation in the EU is already higher than in the USA: 27% and 24 % relatively (in Russia - 43 %). All hopes for the growth of gas share are laid on gradual reduction of the coal generation (its share today is 19%, in some countries, for example, in Poland has recently been over 90%) and the closure of nuclear power plants. As regards the second factor, Germany is still the only country which declared about such plans, and, obviously, is not going

to substitute gas for nuclear energy. Anyway, all the official rhetoric suggests that the main emphasis should be put on renewable energy resources. Besides, there is a chance of putting off the withdrawal from nuclear power plants till 2030s. However, these measures will lead at best to the growth of demand by not more than 5-10 billion cu m a year.

Indeed, the elimination of coal-fired capacities is inevitable both due to its fast runout, ecological restrictions and to the limiting of its own production in the EU (- 24, 5% for 10 years). Today the share of imports in coal consumption in the EU surpassed 42%. Thus, the European countries have to make a choice between the two imported goods. In this case, the two factors would be of crucial importance: pricing policy and geopolitics.

Natural gas lost its reputation as a cheap resource compared to the prices of 2000s. Obviously, the rapid growth of prices, especially in the period of 2006-2008 influenced considerably the dynamics of gas demand, pushing away many of potential consumers (current consumption prices remain inelastic). The development of stock pricing hasn't

## ANALYTICS

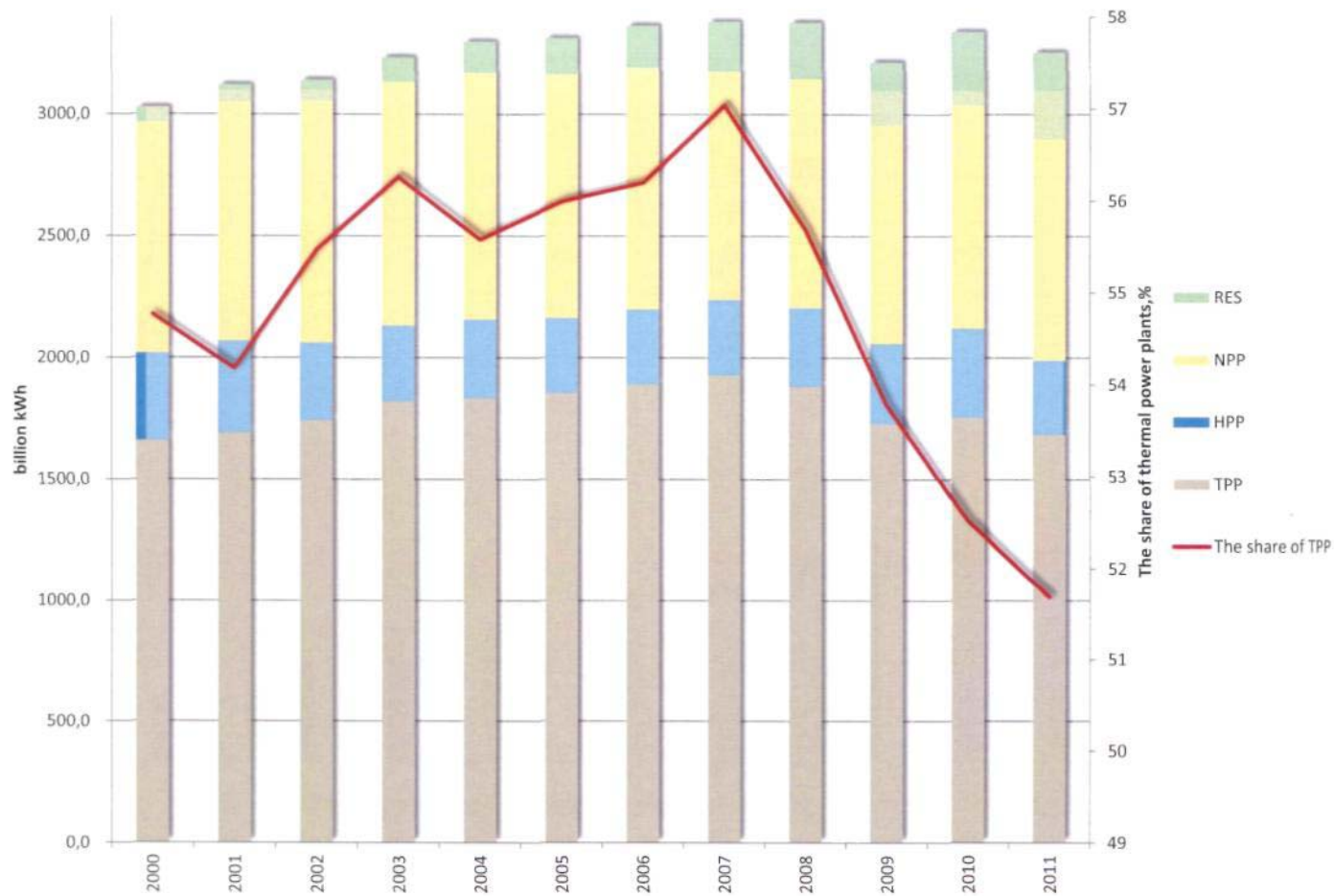


Figure 4 - Structure of power generation in the EU-27 in 1990-2010 by types of generation

yet improved the situation: prices have gained more volatility, but remained at a high level that exceeds three and five-fold those on the U.S. market in 2008-2012. In addition, despite the rapid growth in the recent years of stock-exchange trade, the share of gas sales on stock-exchanges of continental Europe still accounts for 32% of total consumption. Thus, more than two thirds of sales still fall on the long-term contracts with the reference to high prices on oil product which whittle the margin of the companies-importers from the stock-exchange trade.

The problem of pricing policy remains crucial also for Russian gas exports to the EU: gas price rate of OJSC «Gazprom» on border with Germany in 2011-2012 was, on average, by 80-100 \$ for 1 thousand cu m higher than spot prices in continental Europe, including in Germany itself. The sustainability of this trend, interrupted in 2008, only once had a negative impact on the competitiveness of Russian gas in November 2010-June, 2011. However, it haven't yet influenced the share of exports mainly due to the infrastructure difficulties concerning re-direction to other suppliers, which is typical for Central, South-Eastern and especially Eastern Europe.

Thus, other gas suppliers are not ready either to the pres-

ent damping on the EU market, which took place, for example, in 2009-2010 in Qatar and other exporters of LNG. Fast growing public spending in the period of economic crisis together with the level of break-even budget for the price of oil and natural gas, reduces price flexibility of exporters, including Russia, forcing it to stake not on the stimulation of long-term demand, but on the total amount of current revenue. Moreover, suppliers of LNG have an opportunity of redirecting to the Asian-Pacific market, first of all, to China, selling gas even at higher prices than in Europe. The quick growth of operating costs and especially high capital intensity of new production projects, as well as growing geopolitical risks associated with the «Arab spring», Iran, increasing tension in Nigeria and etc. have a strong impact on pricing policy.

Geopolitical goals of the EU in gas sphere which require implementation in 2010s take origin from 2000s. The growth of diversification of energy supplies, takes place, first of all, at the expense of construction of new pipeline routes from the Caspian region (competing pipeline projects TAP, Nabucco or TANAP), Nigeria, perhaps Iran and Iraqi Kurdistan, and, of course, because of the construction of new regasification

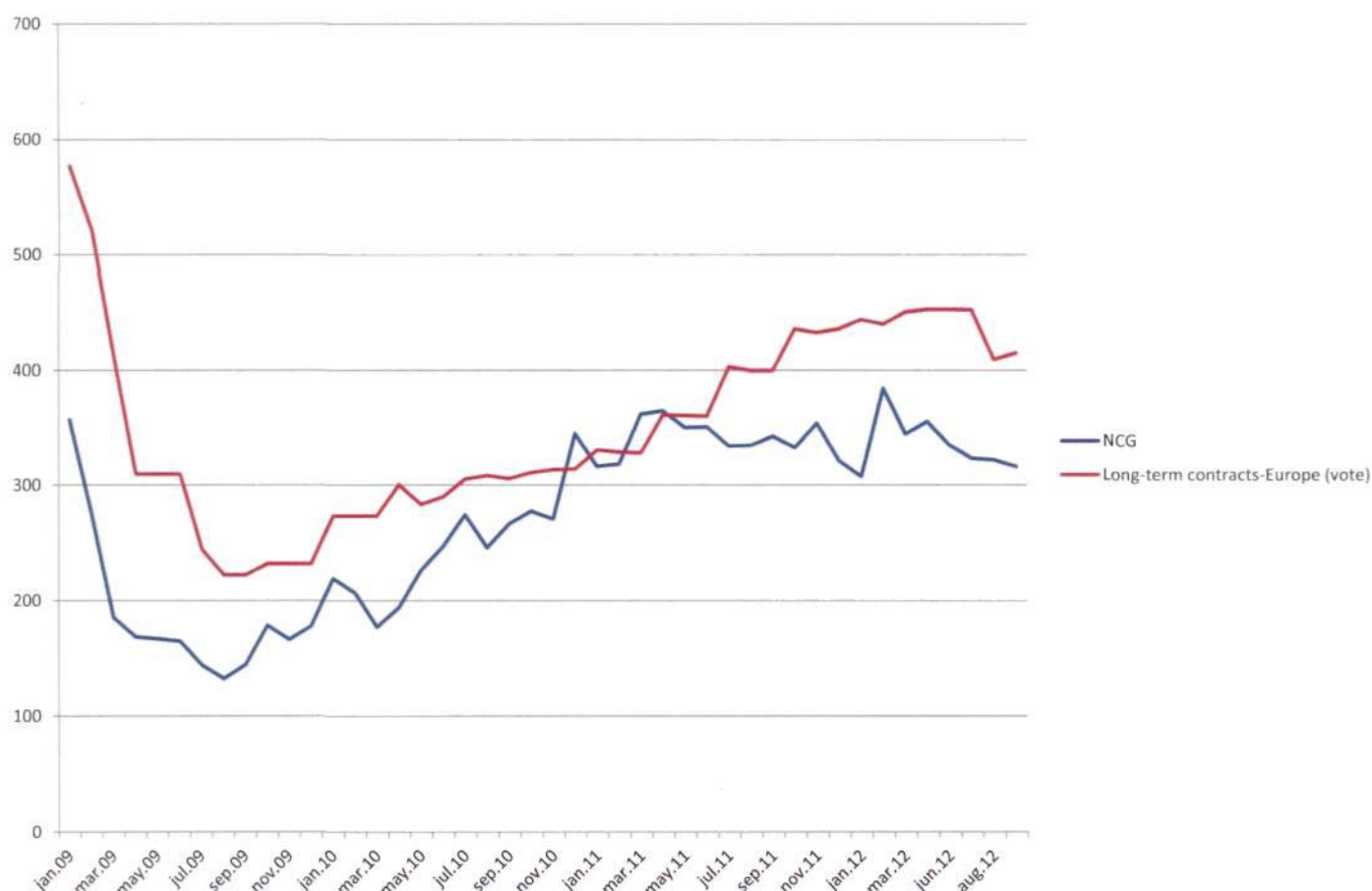


Figure 5 - Ratio of stock prices on the German gas hub NCG and gas prices of OJSC «Gazprom» given the long-term contracts on German border in 2009-2012.

terminals, including those in the Baltic region.

The dynamics of structural changes of the EU-27 imports for the last years is characterized by the permanent decline of Russia's share, which fell from almost 40 % to 31% within a five-year period. It is remarkable that this decline was due to the rapid growth of LNG supplies, especially from Qatar, and not at the expense of other pipeline supplies. In this respect, it should be mentioned that the countries of South Europe, which launched most rapid construction of regasification terminals, account for almost all the increase of demand in the EU-27 in 2000s.

Taking into account the stagnation of gas demand on the European market, the agenda of gas dialogue between Russia and the EU changes significantly. Up to 2009-2010 key issues of the dialogue were Third Energy Package, risks of the transition of Russian gas through Ukraine, Gazprom's entering the market of end gas consumers in the European countries, and mostly important, long-term guarantees of Russia's production capacities to supply the growing market of the EU, which, to a large extent, determined the investment strategy of gas industry in Russia. In 2008-2012 besides previous, but still urgent topics of discussion, new ones appeared

on the agenda: European companies required reconsideration of long-term contracts with Gazprom in order to make them more flexible concerning the minimal level of supply share and changing the formula of pricing policy by means of implementation of the spot market indicators.

But the main change regards the question of long-term prospects of Russian gas supply. The objective processes of stagnation of gas demand in the EU in time of temporary excess supply of LNG on the world market, and also the declining role of gas in the current energy strategy of the EU, create critical risks for realization of production and gas-transition projects of Gazprom oriented to the European market. Worsening forecasts on Russian gas exports to the EU (up to freezing its share at the current level) begin to influence the investment program of OJSC «Gazprom». In particular, it became one of the reasons of freezing the project the Shtokman GCF, which faced the closure of all the potential sales markets let alone the high cost price of its production (North America and Europe).