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WORLD MARKETS
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Gas exporters compete in LNG plants' construction.

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Liquefied natural gas is usually called future of world gas market. The market pull for it makes producers to construct more and more liquification plants in order to capture new markets. However LNG share in the world energy balance is not large due to high capital investments on capacities and regasification plants.

Recently growth of market pull on natural gas is observed, that can be explained by limited oil, concentration of main reserves in politically and economically unstable regions and also by aspirations of consumers to diversify energy products along with energy feedstock importers. Liquification technology made natural gas more perspective on the world market. Firstly, LNG can be transferred to the same consumers whose geographical location makes construction of gas pipeline economically unviable. In this case producer doesn't depend on the "pipe" and has an opportunity to enter more perspective markets. Secondly, importer can choose the suppliers depending not on their geographical nearness and availability product pipeline but entirely in reliance upon economic efficiency. In fact Liquification technology turned world gas market into real market, presented freedom of choice to its members.

Team composition

Despite first export LNG deliveries bear a date of 1969 year, brisk growth of world LNG market started about 10 years ago. Today LNG world market is presented by 8 large consumers-importers and 13 producers-exporters.

Exporting countries are located in different regions, predetermining market-sharing arrangement. In whole importing and exporting relations structure is the following: leading LNG producers (Indonesia and Malaysia) meet the demand of Japan and South Korea. Algeria is the main supplier of LNG to Europe and the second most important – to the USA. Trinidad and Tobago is the biggest supplier to the USA.

The rest producers are Qatar, the United Arab Emirates, Oman, Australia, Brunei, Nigeria, Livia and again the USA. This year Egypt finished the gas liquification plant construction in town Damietta, located on the the Mediterranean beach, and obtained the status of exporter. The capacity of the new plant is 4,8-5,5 million ton of LNG per year. The aggregate capacity of the world LNG plants exceeds

147 million ton. Another new market player is India, for the first time imported this year LNG from Australia to the regasification terminal Hazira (stockholder: 74% - Shell, 26% Total), with capacity of 2,5 million ton per year. The biggest importers are concentrated in the South-East Asia. Japan keeps the palm of victory for a long time, which is connected with its location on islands. In 2003 its world import share was 47,8%. The second most important importer South Korea made much less impact (15%). The

major consumers in Europe are France, Spain, Turkey and Italy. Their participation in the world import is estimated as 21,3% (the USA just 8,5%) However the Americans increase import at extremely fast pace – for 1993-2004 it was quintupled. Moreover only in 2004 13,47 million LNG was imported to the country against 10,4 million in 2003 year. Their tendency to diversify the energy products and reduce dependency on the oil market allows considering the USA as the most likely candidate for the special LNG customer.

Yet another one big importer of liquid gas can appear in Asia. This refers to China which increases the consumption of LNG by 6,8% to 21 mln t. It is true that 14,72 mln t the Chinese produced themselves. However, the high rates of economic growth and yet industrial way of development which is characterized by high consumption of raw materials, allow speaking about the future leadership of the Celestial Empire among the importers of LNG. According to Energy Information Administration (USA) forecast the consumption of gas in PRC will increase by 2025 against 1993 more than 8 times and will exceed the same index in Japan.

Outfit and inventory

Although liquefaction technology releases from the necessity to run pipelines it obliges to construct LNG plants for exporters and terminals for importers. This is really expensive, that’s why oil and gas transnational corporations carry out the construction of LNG capacities. After that they get into shareholder's structure of the object. There are no prizes for guessing that topping regasifying powers are located in Japan. 23 terminals can accept up to 188 mln t of LNG per year which is equal to 258 billion m^3. of natural gas. European countries have at their disposal only 9 terminals with total capacity of 40,2 mln t per year (55,6 billion m^3); particularly Belgium, Italy, Greece and Turkey - each has only one terminal, France- 2, Spain – 3. Meanwhile, 4 terminals with total capacity of up to 26,1 mln t (36 billion m^3) were built in the USA . Such essential breakaway of Japan by the volume of regasification capacities will be slowly reducing due to the grand plans of construction of plants in the USA and Europe. But if American companies intending to construct new terminals meanwhile concern about receiving a special remission from the government, in Europe the work is on fast-

forward. Thus, Spain plans to construct 2 new terminals by 2007 and also to improve the capacity of the existing ones. And just in two years they will be able to regasify 10,8 mln t of LNG per year on Iberian Peninsula. This year in Great Britain the terminal for 3 mln t starts operating. One more – for 3, 3 mln t – in Turkey, but the end date of its construction is not defined yet. Consequently, Europe will be able to accept 65,9 mln t of LNG or 91 billion m³ of traditional gas by the end of 2007.

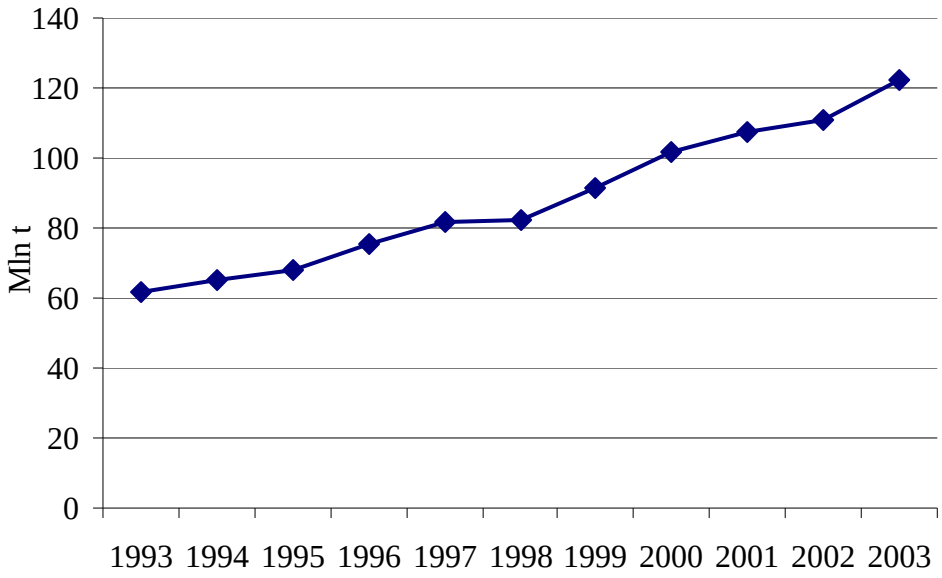
By that moment 6 additional terminals with total capacity of 17,6 mln t (24,2 billion m³) will be constructed in South-East Asia and India; by two – in China and India and by one – in South Korea and Taiwan. Japan is not going to build new terminals; however, it doesn't exclude enlarging of the existing capacities.

Table 1. Rates of growth of LNG trade and natural gas.

Rates of growth (%) towards 1998 year					
	1999	2000	2001	2002	2003
Natural gas	9,3	19	24,2	31,38	40,21
LNG	10,6	23,5	30,1	34,5	48
Rates of growth (%) towards previous year					
Natural gas	9,3	9	4,3	5,8	6,7
LNG	10,6	11,7	5,3	3,4	10,1

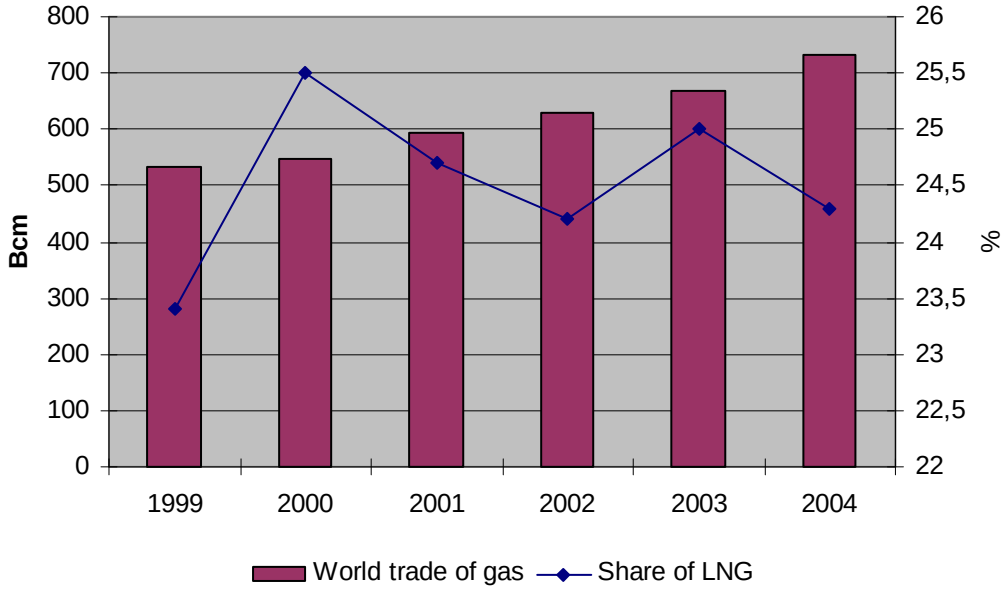
Author's calculations based on EIA and POEC data

Figure 1. World trade of LNG 1933-2003 years



Source: EIA

Figure 2. Share of LNG in the world trade



Source: Author's own calculations from OPEC data

So, till the end of 2007, 12 regasification terminals of total capacity of 37,7 mln t will be constructed throughout the world.

Enlargement of LNG terminals indicates the increasing demand, which predetermines the exporters' desire to expand production and the intention of gas producing countries to start LNG-production.

For example, Nigeria promised to double LNG production volume till 2005 – from 9 to 18 mln t. By the year of 2007 the country plans to reach the index of 21 mln t, and yet three years after – 40 mln t.

Norway, which is now building the first Europe liquefying plant, is going to enter LNG market over the next two years. Shelf field Snohvit (Snow White) located in the Norway part of Barents Sea will serve as a feedstock base for it. The estimated plant capacity is 4 mln t.

In the framework of "Sakhalin-2" project LNG plant is being constructed on the territory of Russia. The plant will include two production lines of total capacity of 9,6 mln t a year. However, the project operator is the English-Holland consortium Royal Dutch/Shell, and it means that our country is still outside the prospective LNG market. The first lot of liquefied gas from the shelf of Sakhalin island will be delivered in 2007.

Beside the construction of liquefying plants exporters have to bear charges for buying transport capacities – tankers analogous to oil tankers. At the present time the following two types of gas transporting tankers are popular: spheric (52% of the world demand) and membranous (43%). In the end of the last year the world fleet of LNG-tankers numbered 170 units, and its total capacity was

about 23,8 mln m^3. But till the end of 2008, according to the data from Clarkson Shipping Intelligence company, the number of tankers will go up to minimum 272, and the capacity – to 38 mln m^3.

Whose benefit

Growth rates of liquefying, transporting and regasification capacities indicate serious prospects of the liquefied natural gas market. Today the success of the new technology is evident: LNG sales volume almost doubled in 2003 compared to 1998, while the trade of pipeline gas was not so active for the same period – only 40% growth.

However, we still can't speak of fast substitution of traditional gas by the liquefied. Impressive rates of LNG market expansion are stipulated by the low base effect. Its share in the overall structure of gas trade increased to 26,8% in 2003, and it is only by 1,2% compared with 1999. Moreover, it's hard to say that LNG sales growth is consistent every year: in 2001 and 2002 sharp growth decrease was stated. We should note that the same period was characterized by the fall in pipeline sector, too.

And still the increase of the world demand for energy products, fast development of industrial countries as well as environmental friendliness of gas, its considerable reserves and universality of liquefaction technology will provide constant growth of LNG share in the world energy balance. Experts of Gaz de France forecast annual average growth of the world LNG production on the level of 6,2% till 2030, whereas the analogous index of traditional gas won't exceed 2%. In their opinion, the world LNG production volume will be 190 mln t in 2010. According to the forecast of North West Shelf Australia LNG this index will reach the level of 240 mln t. Thus, countries with good raw-materials base should pay much attention to their place on the market today (if not yesterday).

Russia: participation is the main thing

In the framework of the "Sakhalin-2" project Russia has signed no less than five contracts on export delivery of LNG, and the first tanker may be loaded in 2007-2008. However, as we've already stated above, there is nothing Russian in the project except for the feedstock and agreements on the construction of the infrastructure. The stock capital of the operator - Sakhalin Energy company - is distributed among foreign companies: Shell Sakhalin Holdings B.V. owns 55% share (the founder company – Royal Dutch/Shell), Mitsui Sakhalin Holdings B.V. – 25% (the founder is Mitsui & Co., Ltd.) and Diamond Gas Sakhalin B.V. – 20% (the founder – Mitsubishi corporation).

Gazprom has been trying to enter the project for a long time. The first idea was to buy the Shell share, but it turned out to be inacceptable for Gazprom. In the end of 2004 a new variant was found - exchange of assets. At the last meeting that was held in April of 2005 Aleksey Miller, chairman of the board of Gazprom, and Yerun Van Der Vir, chief executive director of Royal Dutch/Shell concern, yet again discussed parameters of exchange, which suggests participation of the Russian corporation in "Sakhalin-2"project and participation of the English-Holland concern in the development of Neocomian fields of Zapolyarnoye. Shell has shown interest in those fields since 1997. The share in the "Sakhalin-2" project would open a new prospective sales market to Gazprom – China, Korea, Japan, - and allow gaining a unique experience of running LNG plant.

Gaz monopoly planned to build such a plant independently on the basis of Shtokmanovskoe gas condensate field. But this is a very distant prospect. Even if all the problems connected with feedstock production are solved, the construction of processing facilities will require intensive efforts. In Russia liquefaction technology hasn't been practiced in industrial scale yet, so Gazprom will have to invite foreign partners to take part in the construction of LNG-plant.

But the business is very promising. Pipeline delivery limits the development of traditional gas market, and there is a risk of reduction of the existing sales rates because of the importer's desire to diversify energy products and suppliers.

Russian exporters should duly respond to the changes in the world market conditions, or they are likely to face the reduction of currency returns, loss of sales markets and stagnation of the Russian gas industry.