

Time rules the move from monopoly to competition

Dr Andrei Konoplyanik charts the progress required for Russia to join a global gas market

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The formation of a global energy market with common rules of the game, based on the principles of fair competition, non-discrimination, complementarity and mutual benefit, is the ultimate goal of energy markets' development. Even though they vary in the pace and scale of development, it is guided by the same fundamental logic.

In particular, at a certain stage, the monopoly form of market organisation loses the potential for further effective development, giving way to a competitive market.

Understanding the objective logic of the process means moving from 'catching-up' to 'pre-emptive' development of market relations in the country, and outside its borders, maximising benefits and minimising risks and potential costs.

Naturally, Russia with its mineral wealth (first and foremost gas) is a key element of this future 'common energy market'. Without its active participation, the market's formation will slow down substantially. But it will not be stopped.

The world's economic development is accompanied by growth in energy consumption which, despite the growing efficiency in energy resources' utilisation, constantly requires new energy volumes to be employed. This process, given that main producers and consumers of those resources are located in different regions, has resulted in the growth of international trade in energy resources, the formation of international and regional markets and, for oil, a world market.

Still, before the global oil market emerged, the world economy and its energy sector had to live through a chain of shocks related to the restructuring of the institutional (mostly monopoly) structure of energy markets, established in the second half of the 20th century. New effective regulatory mechanisms had to be introduced, which corresponded to the mature stage of its development as well as mechanisms for reducing the risks of investment activities in conditions of growing capital intensiveness of new projects.

In the monopoly structure framework, long-term contracts used to be the prevailing form of deals in the oil market, as they ensured minimisation of supply risks by pegging particular suppliers and consumers to each other. Such contracts corresponded to the interests of buyers and sellers in conditions of relatively stable, in current terms, oil prices before the early 1970s, steady growth in demand for liquid fuel and developing market infrastructure.

But in conditions of intensive price fluctuations and oversupply of products, the sellers' market turned into the buyers' market — under long-term contracts, buyers had to assume additional price risks. The risks were reduced as the market moved from long-term to short-term contracts.

Supply risks were reduced by the creation of a ramified market infrastructure (networks of terminals, pipelines and commercial stocks of liquid fuel around the globe) while the hydrocarbons production geography broadened, which guaranteed both producers and consumers a choice of partners, i.e. the realisation of the principle of multiplicity of buyers and suppliers.

Along with long-term and mid-term contracts, a market of short-term contracts began

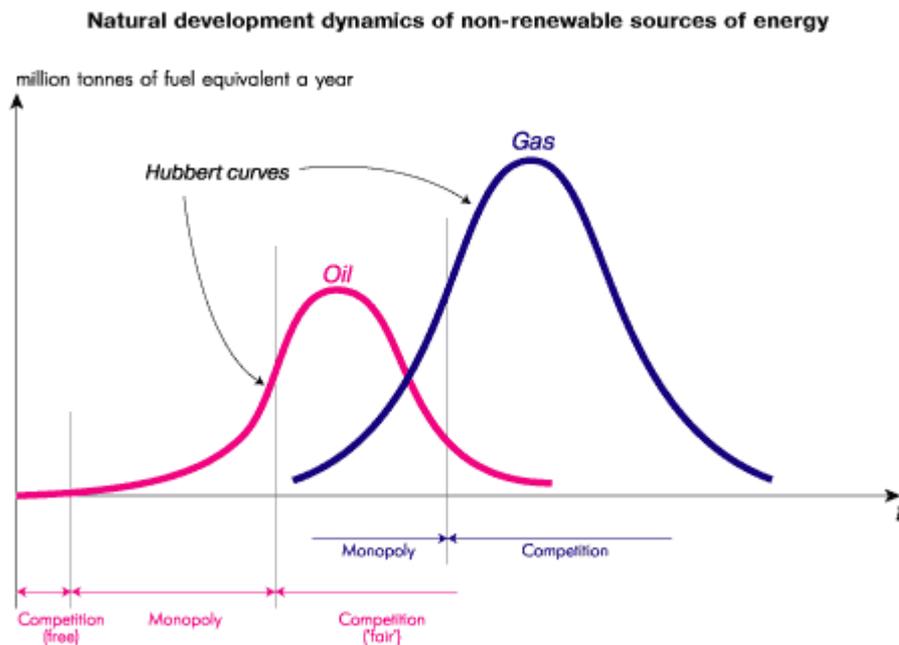
developing rapidly, including the spot and forward markets.

As a result, in the second half of the 1980s there emerged preconditions for the creation of a futures market, a market of oil contracts with all the attributes of the securities market and the possibility of speculative trading and using hedging mechanisms to insure against price risks.

That new, competitive, structure of the oil market has given sellers and buyers the ability to balance their interests by way of minimising supply risks (ensured by developed infrastructure) and price risks (ensured by the futures market of oil contracts).

The world oil market has almost completely restructured from a monopoly to competitive system.

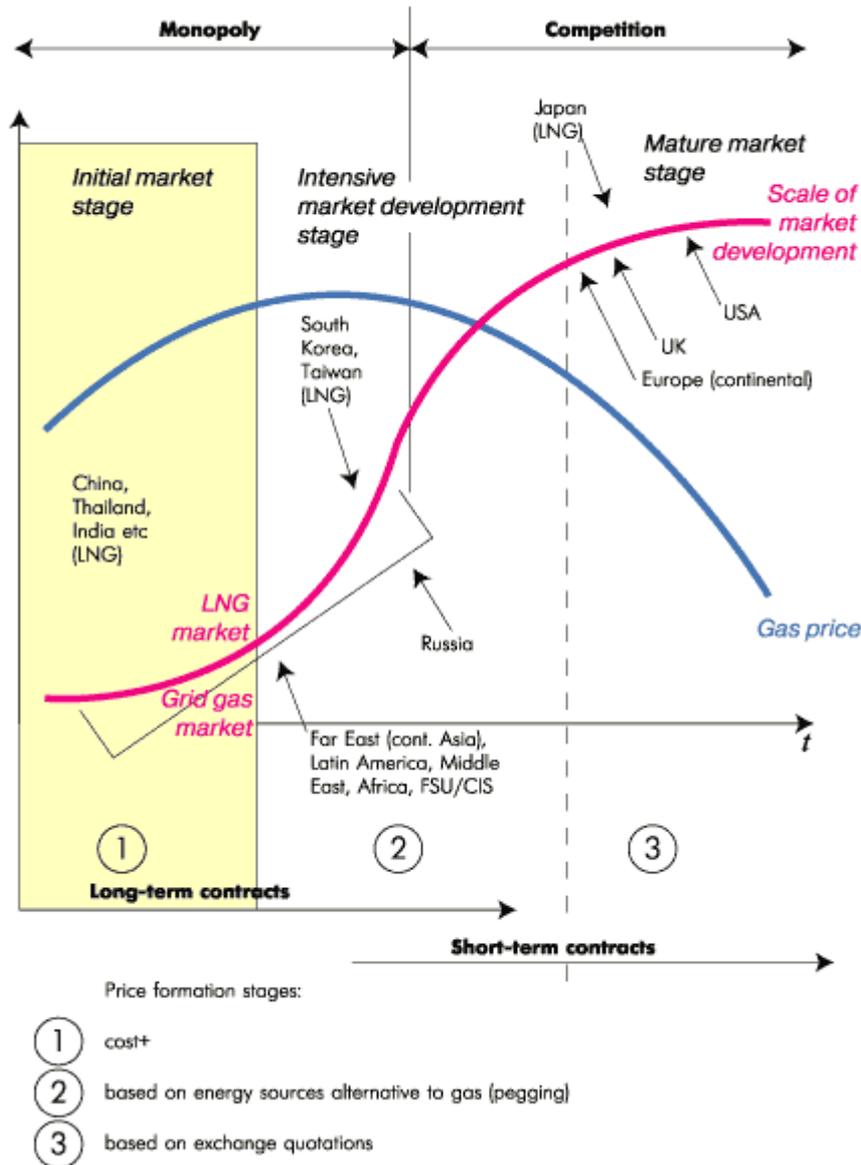
The markets of other energy resources also objectively develop along similar scenarios (described by the so-called 'Hubbert curve') (see **Natural development dynamics of non-renewable sources of energy**). First of all, this concerns regional gas markets — with a lag behind the oil market's stages of development.



The formation of an LNG market has not reached the level where it is possible to link regional gas supply systems developing primarily (except south-east Asian nations) on the basis of grid gas, into a unified global gas supply system. True, there have been reports about orders placed for the construction of methane carriers intended for work in a spot market, rather than serve particular LNG projects in the framework of long-term contracts between producers and consumers. This manifests the beginning of the formation of a global gas supply system.

The United States' gas market was the first to have moved to a competitive form. A similar market then emerged in Britain. Such a market is now in the making in continental Europe — its formation is been promoted by the EU Gas Directive (see **Phases in the development of gas markets**).

Phases in the development of gas markets



The availability of a ramified gas infrastructure, giving multiple choices to suppliers and consumers, serves as an objective precondition for moving to a competitive gas market structure.

The ratio of the length of gas distribution networks to that of trunk gas pipelines may serve as a characteristic feature of the stage of the market's development. According to analysts, the ratio is 12:1 in the United States, 10:1 in Western Europe and 2:1 in Russia, which indicates that Russia is at an earlier stage of the gas market's development — hence all the consequences. At the earliest stage of a (national or regional) market's development, new gas fields are developed in the absence of an established gas supply system. Therefore, gas contracts initially link particular producers and consumers one-to-one. Specifics of the gas business predetermine that at this stage the bulk of capital investment goes for laying gas pipelines, than for gas production. The development of gas fields should then call for a lengthy period of maximum production to ensure optimal utilisation of pipelines and a rapid pay back of investment.

The development of gas fields, as a rule, starts with bigger fields. Therefore, to minimise costs of the formation of the initial gas infrastructure, gas consumers also have to be big and singular (those engaged in industrial production, power generation) or concentrate demand in a small

area (public utilities in big cities), i.e. they should be interested in stable long-term supplies. Minimisation of supply risks at this stage is ensured through the application of a long-term contract mechanism of the ‘take and/or pay’ type, while price risks are offset through application of the cost-plus price formation mechanism. In its framework, contract gas prices are fixed as costs plus taxes plus an acceptable profit ratio.

A similar mechanism used to be applied at the initial stage of the oil market’s formation in the ‘traditional concession’ framework (see **Traditional concession**). A combination of long-term contracts guaranteeing sales throughout the whole (or its greater part) duration of a gas field development project, and guaranteed prices covering costs plus taxes, allows attracting loans secured by future revenues.

Traditional concession

A ‘traditional’ concession is now seen as a long-term contract plus cost-plus and including tax breaks.

In fact, the oil concession mechanisms in the first half of the 20th century were similar, as they had the similar targets of the formation of initial infrastructure of the world oil market (the first traditional concession, known as the ‘D’Arcy Concession’, was registered in Persia in 1901).

They were also long-term concessions, as they often embraced more than a single project, rather an area where several fields could be discovered and several projects implemented. Their duration reached many decades.

Along with other things, they allowed minimising supply risks. Price risks were minimised through the application of cost-plus and soft taxation — that was usually ensured by political instruments in the framework of ‘special’ relationships of a country where a project was implemented and a home country of the concessionaire.

This scheme minimises risks of debt financing and the cost of borrowed funds, i.e. financial costs of the project, which may be particularly high in countries with economies in transition and legal systems in the making, where contract law is yet to be established.

At the initial stage of a market’s development, gas prices are determined proceeding from the economy of particular gas projects implemented independently from each other. For that reason, prices in particular contracts are not linked with each other. There does not exist a single uniform gas price. Contract gas prices can grow when hard-to-recover fields are being developed and due to the monopoly nature of the market.

When a market moves to an intensive development stage, the domineering price formation formula and contract types change.

Broadening its sphere of application, gas enters into competition with other energy resources in various spheres of end consumption. As a gas infrastructure emerges and new market segments are taken over, it becomes possible to establish uniform gas prices.

For gas to have long-term competitive advantages, its price should be adequate to prices of alternative energy resources. Therefore, at this stage, various forms of pegging gas prices to other energy prices — refined products, coal, power energy — in particular spheres of application are used.

Such pegging as a mechanism for gas price formation also allows the smoothing of price fluctuations in the market of energy resources to which gas prices are pegged, and applying them in the market of that source of energy with a time lag (for example, by taking average prices of energy resources alternative to gas for a period of several months as a base).

This price formation mechanism creates additional price incentives for expanding demand for

gas when prices grow in the oil market — gas prices then follow oil prices, but do not outpace them.

However, gas prices may be higher than prices of certain refined products when oil prices go down — also as a result of this pegging mechanism. This encourages the use of energy resources alternative to gas, increasing its oversupply and leading to short-term offers of gas at dumping prices (below the pegged prices). Consumers then grow interested in moving from long-term to short-term gas supply contracts.

As the market further develops, gas gets an optimal niche for itself, predetermined by its competitive advantages. Growth in supply leads to tougher competition, the development of gas supply infrastructure and the emergence of multiple suppliers and routes for gas supplies to the market (the realisation of the concept of a multiplicity of supply routes as a mechanism for reducing supply risks). Other consequences are growing spot trade volumes, resulting in further price decreases due to oversupply (short-term contracts as a mechanism for reducing price risks for consumers).

But a shift to short-term contracts on a mass scale, as a prevailing form of contracts between suppliers and consumers, will only be possible when the formation of the basic gas infrastructure is completed and when capital investment in long-term capital-intensive gas production and transport projects is repaid. That is, when capital investment in new projects will add new alternative routes and gas supply sources to already existing ones, rather than be pioneering projects in new areas with underdeveloped or lacking infrastructure.

Premature rejection of long-term contracts in short-term contracts' favour increases the risks involved in financing large-scale investment projects in the gas sector and shifts the burden of those higher risks on to gas producers, who then face substantially higher financial costs of realisation of such projects.

As a result, capital investment in new projects may plummet due to shortages of funds — anyway, at least until new effective mechanisms are found for redistributing financial risks among all gas business players. In the future, this may slow down the market's development and rather than creating incentives for stepping up supplies of primary energy resources, may encourage better efficiency of their utilisation, on the one hand, and reduction of production costs, on the other.

At the stage of the market's intense development, its monopoly form can no longer promote effective development and gives way to a competitive market form aimed at reducing costs and increasing the efficiency along the energy (gas) chain.

At this stage, short-term and one-time deals start to prevail, creating preconditions for organising exchange trade in 'paper' gas (exchanges of gas contracts) — an algorithm similar to the transition to exchange trading in the oil market.

Still, long-term contracts will remain, and their prices will depend on exchange quotations.

At the mature market stage, the development of gas infrastructure will replace pegging formulas (in which price formation was based on the principle of the competition of gas with an alternative source of energy) with exchange quotations. Exchange prices will be fixed on the basis of comparison of gas with gas.

Prices in this mature competitive market will tend to go down. Those producers will have competitive advantages in the market, who will be able to reduce costs and go deeper into the end consumption market, where prices are relatively higher.