

Integration of Natural Gas Markets and the Issues of Energy Security

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Received March 16, 2010

Abstract—The main threats to energy security in the international gas trade are identified, the causes of their intensification are determined, and measures of reducing their adverse impact are proposed.

DOI: 10.1134/S004060151014003X

INTRODUCTION

In recent years the issues of energy security and the international gas trade have become one of the most acute problems appearing on the international agenda. Over many decades operation of natural gas markets seemed to be highly reliable, but today, as these markets become integrated and globalized, threats to security in the natural gas trade are obviously increasing. Interruptions of natural gas supply, conflicts about gas transit, price disputes, competition between specific gas pipeline projects, as well as growing mutual distrust among end users and producers of natural gas, are becoming customary features of the present-day natural gas markets. This is most often explained by geopolitical factors—even such a term as “gas weapon” came into existence. The present study shows that growing threats to security in the natural gas trade are not accidental, neither are they purely geopolitical phenomena, but reflect objective processes that take place in the power industry and the economy.

MAIN THREATS TO ENERGY SECURITY IN THE INTERNATIONAL NATURAL GAS TRADE

The concept of “energy security” that emerged in connection with the October 1973 oil embargo was initially construed as energy self-sufficiency of a country, i.e., the possibility of a reliable access to energy that would be sufficient in volume and affordable in price [1]. In the course of time this problem became more complicated because of a qualitative change in the world economy and world’s power industry: they became much more integrated and, as a matter of fact, global ones. The many-fold growth in the international energy trade and its contribution in providing energy consumption increased interdependence of players in the energy market and brought the issue of energy security from the level of an individual country

to the global level. Hence, today the problem of energy security is formulated as the need for reliable provision of the entire world economy with all kinds of energy without excessive damage to the environment and at the prices reflecting the key economical principles [2].

On the basis of this definition the following main threats to energy security can be identified for the natural gas sector:

—Vulnerability of the critical infrastructure to natural disasters, industrial catastrophes, and system incidents (threats to physical and technological safety).

—Inadequate development of the gas production and transportation infrastructure and low investments all along the entire gas supply chain that would result in shortage of natural gas supply (threat of underinvestments).

—Volatility of natural gas prices that adversely affects making investment decisions by both gas producers and consumers (price risks).

—Inconsistency between institutional framework implemented by counterparts that are involved in the trade in energy sources, including producers, consumers, suppliers, and transmitters (institutional threats).

THE REASONS FOR GROWING THREATS TO ENERGY SECURITY IN THE NATURAL GAS SPHERE

In the present work the method of institutional analysis has been used that, unlike the traditional neo-classical analysis, takes into account not only factors of production and technology, but also conditions related to implementation of various forms of the economic interaction between entities. Such extension of the scope of the analysis makes it possible to bring the analysis of change in the organizational structure of markets closer to reality and obtain more comprehensive characteristics of processes in question. Within the framework of this analysis the key specific features of gas markets, the most important of which are very high