PROSPECTS FOR GAS SUPPLY AND DEMAND AND THEIR IMPLICATION WITH REFERENCE TO TRANSIT COUNTRIES AND THEIR POLICY - drawing upon recent experiences from European countries

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Abstract: This paper examines some risks that affect decisions for the construction and operation of major transborder pipelines in the context of Eurasia, including the Caspian Sea and Transcaucasia. An attempt is made to provide highlights on the linkages between microeconomic and macroeconomic determinants of such undertakings, as well as ways and means for the development of policies conductive to the implementation of projects of such nature.

Key words: Oil and gas pipeline economics, pipeline investment risks, risk mitigation strategies, pipeline transit countries’ policies

1. GAS SUPPLY: FACTORS AFFECTING THE WELLHEAD COST OF GAS

1.1 Finding costs

Finding costs are exploration and development expenditures in current dollars (excluding expenditures for proved acreage) divided by reserve additions (excluding net purchases). When reported, finding costs for gas

1 The views expressed in this paper are those of the author and not necessarily of the Energy Charter Secretariat.
are converted to barrels of oil equivalent on the basis of 0.178 barrels of oil per thousand cubic feet of gas [1].

In essence, finding costs are an indicator of how expensive it is to replace reserves in proved acreage, or “proved reserves”. These are commonly defined as oil and gas that have been demonstrated to exist beyond reasonable doubt and can be economically extracted with existing technology and at the prevailing market conditions. Besides, “proved reserves” may refer, in addition to “conventional” crude oil and natural gas, to natural gas liquids, heavy oil and certain other types of hydrocarbons, but generally exclude data on “unconventional” hydrocarbon resources, such as tar sands, shale, oil and gas from coal, deepwater and polar oil and gas, very heavy oil, etc. “Proved reserves” are, as a consequence, limited to conventional hydrocarbons: oil that is easily movable and can be produced and refined with relative simplicity, and natural gas that is mostly methane; both must be relatively free of unwanted or harmful substances, such as dissolved salt, heavy metals, carbon dioxide, hydrogen sulfide, etc. As far as finding costs are concerned, they are related to the replacement cost of proved reserves with reserves of similar properties (for example, conventional hydrocarbons with conventional hydrocarbons).

1.2 Lifting costs

Lifting costs are “production costs”, i.e. costs incurred to operate and maintain wells and related equipment and facilities, including depreciation and applicable operating costs of support equipment and facilities and other costs of operating and maintaining those wells and related equipment and facilities. They become part of the cost of oil and gas produced. Production costs include the following sub-categories of costs:

- Well operations and maintenance;
- Well work-overs;
- Operating fluid injection and improved recovery programs;
- Operating gas processing plants;
- Ad valorem taxes;
- Production or severance taxes;
- Other, including overhead.

The following are examples of production costs (lifting costs):

- Costs of labor to operate the wells and related equipment and facilities;
- Repair and maintenance costs;
- The costs of materials, supplies, and fuel consumed and services utilized in operating the wells and related equipment and facilities;