

## The Natural Gases Exploitation Activities in Romania, in the Prospect of its Integration in the European Union

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### *Abstract*

*The end of the 20<sup>th</sup> century has brought Romania the long-awaited "balance of natural gases deliveries" in the national transport system, through the inauguration of the "Commercial measuring and regulating station for natural gases" in the North-West of the country (Medieșu Aurit). Considered as one of the largest and most modern such stations in Europe, it made the connection between the national gas transportation system and the Ukrainian one, thus linking Romania to Europe's natural gases network.*

*Which was Romania's way for this? Which were the changes taking place in natural gases exploitation activities? Which were the influence factors in defining the strategy for reorganising the exploitation of natural gases? These are questions to which this paper tries to answer. It seeks to present the natural gases exploitation in Romania in view of the major national objective: the integration in the European Union.*

**Key words:** *The Natural Gases Exploitation,*

### **The exploitation of natural gases in Romania**

The history of the development of natural gases production and exploitation in Romania has known significant moments, but the current and future situation is marked by a lack of correlation of the extraction dynamics with the existing resources. There can be distinguished three stages, which differ by a series of technical, economic and political particularities:

- the first stage, between 1909 and 1950, was characterised by the discovery of important amounts of natural gases, with small productions (up to 2 billion cubic metres per year) and with a relatively poor development of the transport and distribution system;
- the second stage, between 1951 and 1976, during which the discovery of new, important deposits and the production have known significant increases (reserves of up to 50 billion cubic metres per year and production of up to 29.8 billion cubic metres per year). The increase in exploitation was determined by the development of the transport and distribution system, both in Transylvania and outside the Carpathian arch. It is worth mentioning policies for a judicious and higher exploitation of the natural gases reserves.
- the third stage, between 1978 and 1996, during which the discovered reserves and the production were in continuous decrease, with yearly consumption levels much higher than the new discovered reserves. During this period there were extracted about 153 billion cubic metres of gases and there have been discovered only 60 billion cubic metres of gases, thus a coverage level of only 39.2%.

From the analysis of the extraction dynamics, following can be concluded:

- the amount of extracted natural gases is in a continuous decrease, with yearly means between 1-45%, the most accented decline being registered in 1989/1990 with 3.1 billion cubic metres per year.
- the decrease of extraction has determined a decrease in the exploitation of natural gases, which in turn resulted in a worsening of the economic situation.
- the decline of production parameters has imposed a re-equipping of compression stations, the opening of new derricks, collaborations and performing technologies in exploring and exploiting, all these determining a huge financial effort by the national natural gases exploitation company.

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### Tendencies regarding the future of natural gases exploitation in Romania

The analysis of the forecasts regarding the discovery of new natural gases reserves allows for following remarks:

- there is an alarming difference between the forecasts of the two evaluation teams, which should be subjected to a responsible analysis by the Government of Romania;
- the decline in production, in the “Romania” version is of 31%;
- taking into account the slope of the decline and the current situation of the reserves, it is estimated that by 2020 the production level would be about 1.5 – 2 billion cubic metres per year, which would impose massive imports for Romania.

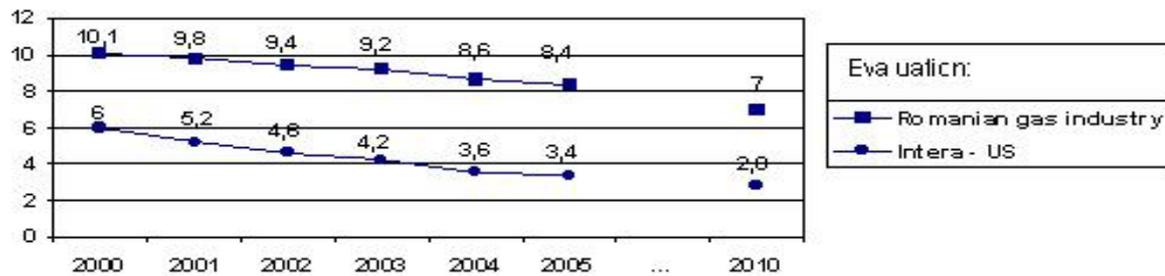


Fig. 1. Forecasts regarding the natural gases production in Romania

Nevertheless, the natural gases production in Romania will continue to be physically and economically important for Romania, for the strategic aspect of energetic safety and as a raw material.

As an example, the natural gas production in 1997 was of about 1.2 billion USD, while the one in 2010, even in a minimal forecast (3-4 billion cubic metres/year), will represent 400 million USD.

### The harmonisation of the practices from the Romanian gas industry with those of the European Union

Romania's engagement on the way to observe the Guideline will lead to a liberalisation of the gases market, without there existing an infrastructure able to support it. The functioning of a market economy imposes the existence of the “contract” as essential element between the participants in the market. The impossibility of respecting the contractual clauses supported by the current infrastructure leads to a partial observance of the contractual clauses, so that the market's liberalisation will not lead to the desired objectives: increase of the competitiveness, diminishing of the prices etc.

Romania's access requires the settling of a Network code, which is to contain specific instructions for the three subsystems which will exist in future:

1. The National Transport System (NTS), which will be comprised of about 5.500 km of main pipelines for the transportation of high-pressure gases and which will connect the ROMGAZ gas fields with those of PETROM and with the gas import points and the local transportation systems and the consumers connected directly to the NTS.
2. The Local Transport Systems (LTS), whose status will have to be clarified beneath the one for the NTS, they having to take over the natural gases from the NTS but also the low-pressure natural gases from the gas fields of ROMGAZ and/or PETROM and to deliver them to the distribution systems or to the consumers connected directly to the LTS. The functioning of the LTS will be ensured at pressures of 6-30 bar.
3. The distribution systems from the settlements and not only, which function at pressures of under 6 bar and which take over the gases from the LTS or directly from the collector pipelines of the gas extraction fields and delivers the gases to the consumers.
4. This division of the pipeline systems will have to be carried out at the same time with the identifying of delimitation points between systems and their endowment with measurement equipment.

This delimitation imposes a new information flow regarding gas parameters, for the correlation of the gas requests with the gas sources. At the same time, on the market, beneath internal producers, gas importers, transporters and distributors, there will appear also a large number of gases intermediaries. Between these there has to exist, beneath the informational flow regarding the gas also a commercial informational flow (fig.2.)

### The strategy of developing the natural gases exploitation and the compatibilisation with inter-continental systems

The re-organising, developing, efficientising and creation of conditions for the privatising of the gas industry are complex actions, which depend on the political will, on the ensurance of the legislative framework, on settling adequate tactics and stages.

The detailed analyses for the proposed goal implies a large a responsibility determined by following aspects:

- the gas industry ensures in first place the energy base of Romania, and in a significant proportion, the raw materials for the chemical processing, taking place on virtually the whole territory of the country in a complex, vertically-integrated system (extraction-transport-distribution).
- the international gas transit through Romania, beneath being a profitable activity (1.5-2.5 USD/1000m<sup>3</sup>/100km), constitutes also a beneficial mean in determining the political relationships between the linked countries and a factor of regional integration, on the condition of the correct unfolding of activities from a legal, technical and economic point of view.
- the better ensurance of the energetic independence represents an essential political, strategic, social and economic goal of every country.

The extraction, transport and distribution activities are vertically integrated, with patrimonial technical, economic, organisational interferences, as well as with responsibilities which need clarification.

The market economy, obeying the law of “demand-offer-profit” presents some random, but not chaotic, characteristics, risk elements which have to be assumed and calculated as part of tactics and strategies for each

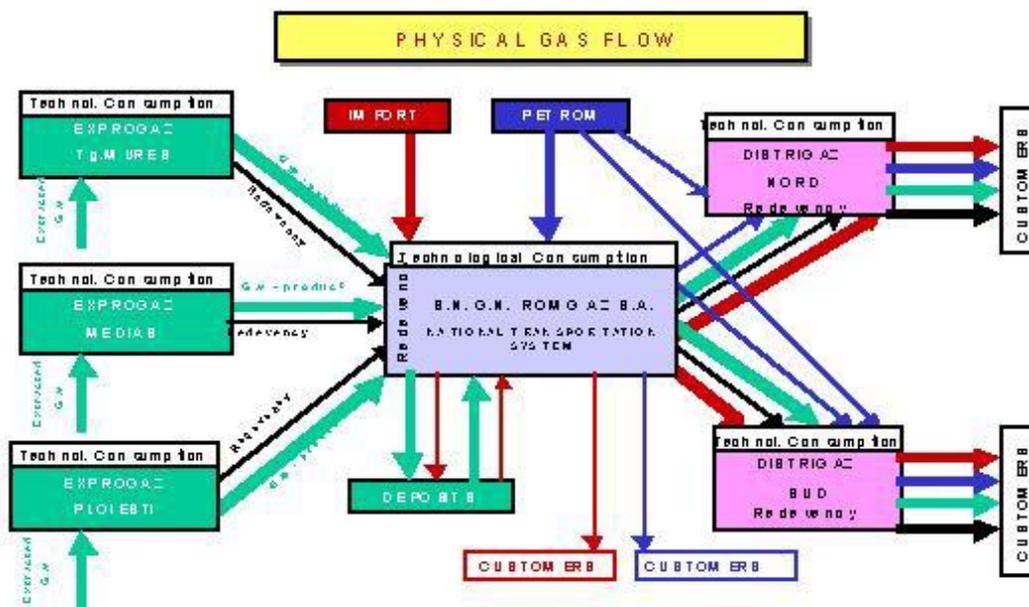


Fig. 2. The physical gas flow in Romania in the year 2003

particular activity, however correlated with national interests and the obligations towards the state and the ones which come from international arrangements and regulations.

Analysing the re-organising and restructuring of the fundamental activities as distinctive companies with juridical representation, for the preparation for the privatisation and alignment to European standards, following results:

- Exploration-production, having as final objective the commercialisation of extracted natural gases;
- Specialised transport of natural gases, of “common carrier” type, which is to ensure free and equal access for all producers, importers and gases customers, the efficiency of economic activity being determined by the difference in transport process and expenses for exploring, investments and obligations towards the state.

- The underground storage of gases from internal production and import, which will increase from 1.1 billion m<sup>3</sup>/cycle in 2000 to over 3-4 billion m<sup>3</sup>/cycle in 2010 will require investments of over 500 million USD.
- The international gas transit through Romania from the Russian Federation to third countries can be analysed as part of the transport activity or as a distinctive profit centre, an evolution being possible depending on interests and legal provisions, towards a company with distinct juridical personality.

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