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A SWOT analysis of Romanian Extractive Industry and Re-Industrialization Requirements of This Industry

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Abstract

In this paper we have tried to achieve a dynamic portrait of Romanian extractive industry after 1989 to date, the current state of the sector (through well-balanced SWOT analysis), and to emphasize the role and importance of this industry in the development of Romanian society. Our research followed the technological developments and socio-economic characteristics transformations at both national and international level, and analyzed the different sectors of this industry in terms of development and its evolution over time (for natural gas, coal, iron ore, ferrous and non-ferrous minerals). For each of these resources several topics have been analyzed, such as: structural changes and developments in reserves, production capacity, production extracted from each resource deposit, labor force, etc. These outcomes will allow to analyze the extractive industry outlook in the economic context in general, and the energy sector in particular, to identify re-industrialization requirements for this industry, and to shape up the industrial policy elements that support and boost the re-industrialization process (these latest issues will be further discussed in our future research).

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1. Introduction

As an economic sector, extractive industry is part of the primary sector, with agriculture, forestry and fisheries.

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Crucial economic role of the products obtained by the branches of this sector is that of "primary resource" for manufacturing industries. It should be added that, in one form or another, products from these resources are found in all other economic sectors, including those in the tertiary sector.

Several research revealed that Romania has numerous and varied deposits of useful minerals, but their contents are very low ("a country rich in poor resources"). The mining activity is in steep decline that is part of the general economic decline recorded after 1989, requiring reorganization based on economic principles, shutting down of exploitation of non-profitable deposits and developing new methods and technologies for the viable ones.

The overall objective of this paper is to create a dynamic portrait of Romanian mining industry after 1989 to date and the current state of the sector, and to highlight the role and importance of the extractive industry in the evolution of Romanian society. To achieve this objective, or research have pursued the technological developments and social and economic characteristics transformations at both national and international level, and different sectors of extractive industry have been analyzed in terms of development and their evolution over time, thus being studied extractive industries of natural gas, coal, and ferrous, non-ferrous and non-metallic minerals.

2. Natural gas industry in Romania

Situation of natural gas resources. Natural gas represents for Romania one of the most important energy resources, with a share of approx. 40% in the primary energy resources balance.

This is determined by the following factors: the existence of industrial resources and gas production; existence of extraction, transport and distribution infrastructure expanded throughout the country; Romania's favorable position in the international transportation system in Central and Eastern Europe; possibility of a future interconnection of the National Natural Gas Transmission System to the West European System, and natural gas resources in the Caspian region and Middle East.

In the present context, when most sectors are dependent on natural gas consumption, efforts to discover new natural gas resources and production rehabilitation in the sense of finding and applying the most appropriate technologies enabling the exploitation of gas deposits under optimal and economic efficiency are increasingly supported.

In the present, geological research and production of SNGN ROMGAZ runs in 14 exploration blocks located in the Transylvanian and the extra-Carpathian Basin, and in 136 commercial gas deposits. These fields are in an advanced stage of use, most of them having a current recovery factor of over 75 %.

Current reserves of natural gas are estimated at 184.9 billion cubic meters. Production of natural gas dropped to approx. 8.5 billion cubic meters in 2010, in the same year, dependence degree being of 70.6 %. Under these circumstances, the role of indigenous coal, particularly of lignite, in the national energy balance raises.

Qualitatively, Romanian natural gas is comparable to the best exploited in the world, is very pure, with a high methane content (ranging from 99.17 up to 99.77 % methane, the rest being nitrogen, oxygen and carbon dioxide), have no sulfur compounds, have a small proportion of inert gases, all these qualities determining an advantageous use not only for energy production, but also in glassware, thermal treatments, fertilizers, plastics and pharmaceutical products etc. From proven reserves, about 80 % can be achieved through existing technical and technological facilities, being considered "proved developed" reserves, and 20 % being considered "proved undeveloped" reserves that require planned additional investments and considered profitable by technical and economic studies developed.

Situation of production capacity. In over 90 years, based on high volumes of reserves discovered, in the gas industry has been created a well-developed infrastructure. Production capacity of SNGN ROMGAZ consists of wells and compressors, their degree use being directly influenced by the consumer. Studying the history of SNGN ROMGAZ production over the last 15 years, results that the share of gas extracted with the aid of compressor units is steadily increasing, reaching approx. 62 % of the extracted gas.

In the last period, as a result of significant changes of initial parameters (flow, pressure) as base of the designed initial capacity of compressor stations, at present a large number of stations are oversized in number and installed capacity, operating at the lower limit in terms of parameters and output. Under these circumstances it is necessary re-equipment compressor units with drum compactors adapted to the new conditions aimed at achieving proposed gas reserves' recovery factors.

The situation of underground storage capacity. To ensure maximum levels of consumption in the cold season,