

# MEASURES, PROGRAMS AND LAWS ON THE RESTRUCTURING OF THE MINING ACTIVITIES IN ROMANIA AND THE EUROPEAN UNION

**Marin Silviu Nan**, *Professor Ph.D, University of Petrosani*  
**Mariana Negru, Jr.ec. PhD**, *University of Petrosani*

**ABSTRACT:** *I have done an analysis of trends and prospects mining sector in Romania, under the conditions of restructuring activity in the mining sector, as a result of economic crisis world of raw materials, which has led to market reorientation natural resources industries. Considering the legislation with that of the European Union, which governs the activities of the mining sector, the analysis was based on critical situations and vulnerabilities of the mining industry, namely technical, economic dysfunction and companies in the mining industry of Romania system compared to the dysfunction of mining systems in Europe.*

**KEYWORDS:** restructuring, natural resources, mining activities, vulnerabilities, technical, economic, legal functions

## 1. INTRODUCTION

Natural resources play an important role in carrying out economic and social production. Diversity is recognized nature reserves and found that changes in the structure of the natural resources used in economic and social activities of interest moves in step with the development stages.

Economic activities

(production, distribution, exchange and consumption) involves the use of natural resources, and results in economic goods, meaning the objects, materials (including services) to meet human needs, individual or collective, and available for use.

Economic necessities and their satisfaction are the trigger, that the ultimate goal of economic and social activity [CS Teiuşan, *Accounting improving production costs and cost calculation in the coal mining industry, PhD thesis, ASE library, page 10*].

Operations natural resources / minerals in Romania is based on the specific processes of extraction, underground or surface. This implies, in fact, the connection of several interrelated conceptual and operational elements. These are practical context, technical systems related to extraction, transport, ventilation, equipment, tools and plants, mechanized process lines and other infrastructure subsystems.

On the basis of economic interest, of the material and legal infrastructures alignment operation can operate productively.

Expertise situations dysfunction and are operational in the field involves combining constituents mining extractive activity. Based on the results obtained expertise creates the opportunity to develop

new technical solutions in order to achieve profitable business based on technical standards, business and law and covers conceptual and economically stable.

In practice, there is evidence of critical issues that marked difficulties in the assessment and techno-economic assessment of mining activity in the overall daily operations and underground, and in assessing the restructuring of the mining and implementing measures and sustainable programs in developing mining sector strategy in Romania.

Among the issues / critical situations following lists:

- incapacitatea enrollment rational management of all technical and technological characteristics of the process of mining in areas with substances of interest;
- Possibility low depth analysis of technical phenomena which occasion upsets type accident;
- relaţionări inappropriate from the operating environment and the technical system operation;
- imposibilitatea total knowledge and / or quasi complete the provisions of the legislation, or the content or results of projects equipment approvals from both the users and the evaluators;
- inexistenţa or inconsistent technical risk studies, human technology and operational level;
- inconsecvenţa laws or changes in technical requirements for use of equipment;
- Poor relationship between the technical, economic and legal expertise.

It is therefore necessary to set up research on the formulation and development of efficient methods of technical expertise, economic and legal mining sector in Romania, with examples in coal.



communication, and by arranging special enclosures in good condition, well maintained roads and platforms.

However, coal mining is a very critical situation, taking into account the economic situation of our country which hardly cope with economic losses, such as those made by the extractive sector.

It is envisaged as advantageous location near the resources of industrial raw materials and consumer areas, aiming thereby increasing economic efficiency by reducing transportation costs.

Another category of the demographic factors are related to the labor force size, tradition, specialization, structure. The rational use of labor resources and natural resources, aims to resolve in good social problems in each area.

Coal sector is vulnerable at this time and where not taken concrete steps to recovery, there is a risk that it will be significantly reduced in the coming years, especially in underground mines.

Fossil fuel most widely used in the world is coal, which is still the main source of primary energy for several countries. From geographically, South America is the continent with the lowest coal reserves, only 2.2% of total reserves. Africa has less than 6%, of which 90% is held by South Africa.

Asia North America with over 25% of total reserves.

Coal reserves held by Europe is around 30% of worldwide and are held mainly Germany, Poland, Russian Federation and Ukraine.

Western Europe suffered a decline in coal mining being a major importer of coal for power plants, the dominant providers Colombia and South Africa [www.mbendi.co.za].

Eastern Europe remains heavily dependent on the use of lignite and brown coal from their own reserves as source of energy.

Britain was among the largest coal producers in the European Union, but in the context of the privatization of British Coal has been extensively restructuring activity and the effect of restructuring has caused underground mining in this area is only me in the European Union produce an economic efficiency. Cast mining, however, are clearly effective.

Germany is currently the largest coal producer in the European Union because it has sought to maintain a core of indigenous coal production amid economic downturn this sector. However, over a period of four decades (1960 - 2000), Germany's coal production fell by about 67%.

For Poland, coal represents 95% of primary energy production in the country. In this country, in 2003, came into force a new law for the restructuring of coal mining, and this law was intended to reduce the level of production and closing down. As a result of these measures taken has been a decline in coal

production from 102.1 million tons / year at 12-14000000 tons / year.

In Ukraine economically exploitable coal reserves are estimated at about 10 billion tonnes. In this country operates approximately 190 mines and coal pits, and most of the production is concentrated in the East, Basin Donetsk / Donbas Basin and Lviv-Volhynskiy.

In Ukraine mining is carried out by means of technically obsolete and therefore require investments for modernization and opening of new mines in areas with easily exploitable deposits.

For Russia, coal provides about 25% of domestic energy needs. Much of the coal production is consumed for use in households and exports represent only 15% of annual production. In this country, coal production fell below 180 million. Tons / year, however Russia remains the world's top 10 producers.

These productions are made possible by the extraction technology used, but must take into account the large number of mines that extract those quantities.

Coal production made by our country in 2009 is estimated at about 20.5 million tonnes / year of which about 18 million. Tons are lignite and the difference of about 2.5 million. Tons is coal.

Compared with large producers, the difference is large, and this is due to the small number of mines in operation - 11 underground mines, 16 mines to date, and because extraction technologies used technologies are outdated in terms technical especially in underground mines.

An important factor influencing the production, operation method is used, and this time underground Jiu Valley is mainly used "method of operation to undermine the coal and surrounding rock" that has high productivity but requires low investment costs, compared to operating methods using mechanized complexes and are more productive but requires higher investment costs.

#### **4.CRITICAL SITUATIONS AND VULNERABILITIES IN THE MINING INDUSTRY**

Coal mining in Romania is considered to be a burden on the economy and significant efforts to align the mining sector to international standards, in terms of economic efficiency and environmental protection.

Geo-mining conditions and mineralogical characteristics of deposits in Romania are complex and quality parameters are at the lower limit, based on the quality of similar deposits currently exploited worldwide, with advanced technologies and productivity 5-12 times higher.

The coal mining sector operates three businesses: two national, National Company of Lignite

Oltenia National Coal Company Petrosani and society națională- National Coal Society Ploiesti.

The restructuring of the mining sector began in 1990, and in this context we proceeded to closing mines and quarries and therefore massive staff reductions.

The result of restructuring actions generated problems are:

- Sudden drop in the economy affected mining regions;

- Increasing social problems in these regions;

- Increase poverty.

Level of technology and infrastructure condition characterized by reduction technology, determined by:

- Natural wear advanced mining equipment - complex mechanized coal mining, combine forward and slaughter, transport equipment, cooking equipment factories, equipment automation and dispatching;

- Delays in the execution of investment for commissioning of new capacities, with implications on production capacity.

The exception is the lignite, which is characterized by increasing technological careers determined by:

- Rehabilitation of the quarry and landfill technology;

- Dispatching operation of the pit equipment and electricity consumption;

- Switching to internal dump all the lignite;

- Expanding direct dumping technology;

- Improving infrastructure careers by creating easy and safe accesses to all work equipment and technology, ensuring safe and efficient means of communication, and by arranging special enclosures in good condition, well maintained roads and platforms.

However, coal mining is a very critical situation, taking into account the economic situation of our country which hardly cope with economic losses, such as those made by the extractive sector.

It is envisaged as advantageous location near the resources of industrial raw materials and consumer areas, aiming thereby increasing economic efficiency by reducing transportation costs.

Another category of the demographic factors are related to the labor force size, tradition, specialization, structure. The rational use of labor resources and natural resources, aims to resolve in good social problems in each area.

Coal sector is vulnerable at this time and where not taken concrete steps to recovery, there is a risk that it will be significantly reduced in the coming years, especially in underground mines.

## **5.DYSFUNCTION TECHNICAL, ECONOMIC AND LEGAL MINING IN ROMANIA**

Dysfunctions encountered in the coal industry in Romania are:

- Technical malfunctions;

- Economic dysfunction;

- Legal dysfunction.

Technical malfunctions are caused primarily by technology, technology which is often outdated and technically exceeded.

The work of extraction and recovery of minerals substance (extraction, transport, processing) using conventional technologies. Minerals blasting is carried underground and career, using explosives, rarely mechanized loading unrocked material is manually loaded drive or excavators, transport is by rail, with the underground conveyor belts and in career with belt conveyors, which are correlated with production capacities.

Technologies and techniques used in the Romanian mining is characterized by the following:

- Methods and technologies used in underground mining and quarries, as well as cooking, are comparable to those used in Europe and worldwide;

- Machinery and equipment employed for extraction and transport are made in our country, or in collaboration with leading European companies;

- Because of the difficult conditions found in mines in Romania and reliability of machinery, technical and economic results obtained are lower than the European or global level;

- Investment resources were insufficient and did not allow the last decade and a half, running specific programs of refurbishment and modernization of mines and quarries.

During this period, the majority of mines in our country, we have witnessed technological reduction due to wear and tear of equipment, the backlog in investment execution of commissioning of new capacities, especially in the mining to date, and the ground, with implications for current and future production capacity.

Due to difficult operating conditions, production costs are high achieved in Romania, so quarrying and underground. As a result, the Romanian state, as owner of the deposits, claimed achieving actual mining production through budgetary allocations for investment and subsidies.

In Europe and worldwide mining industry has seen, especially lately, a significant development, mainly in terms of technical equipment, we can not say the same about the mining industry in Romania and also about the Jiu Valley and Basin Oltenia, where due to the economic situation and the lack of money that

not only developed, but has experienced stagnation and regression.

The whole transport system is outdated mines physically and morally, because it has been used over the normal life situations and inadequate operating conditions, did not go upgrading and rehabilitation programs and are old conception (70-80 were designed last century).

Regarding cast mining technologies used trying to keep up, and even fail, with the technologies used worldwide. Principalele probleme cu care se confruntă exploatarile la zi, sunt cele legate de expropriari, expropriari care dacă nu sunt realizate la timp nu permit extinderea perimetrelor de exploatare.

The main problems facing the mining to date are related to expropriation, expropriation if they are not made on time do not permit expansion of mining perimeters.

Due to technical malfunctions occur and economic dysfunctions that show the effectiveness operation.

In many cases, operating subsidies, the price does not cover costs, registering losses. The main causes that lead to loss are:

- The geological-mining unfavorable coal deposits (tectonic complicated operating depths, low quality, high coefficient of overburden to  $8 \div 10$  m<sup>3</sup> / tonne difficult hydrological conditions over 10 m<sup>3</sup> water / ton extracted);

- - Use indicators of technological lines from 0.10 to 0.12 compared to 0.25-0.35 make at European level;

- Poor reliability and high cost of equipment;

- Higher employment costs up to 70%;

- High costs of transportation to consumers [John Gaf-Deac, legal and economic bases of the system resources in the new economy, Deva Infomine Publishing, 2007, p. 221].

The Jiu Valley coal deposit is used only at the rate of 5-6% of the amount produced in addition to recipes coke, coke because of low capacity.

Domestic production of coal fell from 5.3 million tonnes in 1989 to 2,700,000 tonnes in 2009, consumers resorting to imports.

Calorific value of coal energy is  $1.6 \div 1.85$  Gcal / ton from coal and 3.5 Gcal / ton from coal.

Electricity from coal is more expensive than that produced 40% nuclear and 30% more expensive than hydrocarbon (gas, oil) [John Gaf-Deac, legal and economic bases of the system resources in the new economy Publishing Infomine Deva, 2007, p. 222].

Because of the importance, specific technical and economic characteristics associated mining sector, natural resources minerals covered by legal regulations, by appropriate legislation.

Mining laws express the policies that guide the activities of sectoral natural resources. Mining laws are

fighting insurers sources, decrease or eliminate investment risk or to improve the stability productive economic activities operating and recovery.

In the past 20 years, the mining sector legislation in Romania and globally, is accompanied by provisions of growing high restrictiveness on the environment.

Extraction activities in Romania are conducted under the Mining Law no. 85/2003 [published in the "Official Gazette of Romania", Part I, no. 197 of 27 March 2003] supplemented by Government Emergency Ordinance no. 101/2007 [published in the "Official Gazette", Part I, no. 684 of 4 October 2007].

This law aims property resources, the report public domain and in service behavior and recovery and is the main way in which government policies imposed in the mining rights, obligations, legal and administrative procedures for the rational and efficient use of natural resources.

## 6. CONCLUSIONS

From critical analysis performed on the legislative provisions on mining in Romania, that approaches the optimum development of their content should focus on content regulation and the definition of the involved individuals and legal entities, and their interests in the exploration and exploitation minerals are now in the custody of the Romanian state.

A country or region may decide the manner of exploitation of natural resources through the application of different ways productive, economic, choosing between state or private monopoly.

Domain coal mining face problems and knows to have been presented first mining critical situations and then were presented dysfunctions technical, economic and legal facing the mining industry in Romania.

All these are important to know coal mining system in our country, the main problems it faces, and then based on them to be able to take action to remedy deficiencies.

## REFERENCES

- [1]. **Almășan, B.** - *Exploitation of mineral deposits in Romania. Technical Publishing, București, 1984*
- [2] **Ioan Gâf-Deac**, *Legal and economic bases of the system resources in the new economy, Ed Infomine Deva, 2007*
- [3]. **C.S. Teiușan**, *Improving production costs accounting and cost calculation in the coal mining industry, PhD thesis, Academy Library, pag.10*.
- [4]. **Mining Law no. 85/2003**, published in the "Official Gazette of Romania", Part I, no. 197 of 27 March 2003, with subsequent amendments