

PROSPECTS OF UKRAINIAN COAL INDUSTRY DEVELOPMENT FOR THE BRANCH RESTRUCTURING

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Ladies and Gentlemen,
dear colleagues,

retrospective and present-day analysis of world coal production as well as its consumptions demonstrates that coal has been and remains the principal power resource its role in fuel and power-generating complex is constantly growing. This conclusion is very important for Ukraine that possesses large coal reserves with the practical lack of petroleum and gas systems.

It is well-known there is no organic raw material alternative for coal in coke production, the integral part of metallurgy.

Coal is an indispensable raw material for various chemical product manufacture while potential of its technological treatment allows to use it for gaseous and liquid fuel production.

The above witnesses of the fact that coal industry as the basic industry of any advanced production region predetermines not only its fuel and power generation state and development but national economy course as a whole.

There are some background positions determining the outlook of Ukrainian mining facilities in the process of the branch restructuring, and namely:

- coal industry of Ukraine is the basic branch of economy having strategic importance for the life of the country;
- balance and industrial resources of coal at operating mines and prospected areas are sufficient not only to maintain coal output at its modern level but to increase it substantially to provide further functioning of coal industry for long term;
- the variety of mined coal ranks and features allows to satisfy the demand of both metallurgical industry in coking coal and power generation branch in steam coal;
- coal industry due to its capital consumptive character fails to function and develop at the account of its mining enterprise only thus requires state financing in the extent needed and sufficient for mine facilities modernization.

All these preconditions allow to determine the main task of Ukrainian coal industry restructuring as follows: to create the profitable branch operating on

the principle of mining enterprises work without losses for maximal satisfaction of the state requirement in specified coal ranks and parameters.

To determine the accessibility of the task as well as to get necessary forecast data it would be expedient to use general principles and approaches typical for program and target forecast. The formal mechanism of such forecast development includes analysis and evaluation of the existing status of the subject under consideration as well as development of ways and media for the put target achievement in the foreseen period.

Last year it was not once that management of DONUGI attracted attention of various meetings' members at the problems that have accumulated in the recent years in coal industry of Ukraine that impede the national satisfaction of demand in coal for the developing economy of the country.

Poor status of the industry can be explained by the number of either objective or subjective factors. As for objective factors they include geologic conditions of coal mining that are getting more and more complicated, low technologic level of national coal mining enterprises, high extent of physical and moral wear of main facilities and first of all, stationery equipment. Subjective ones are associated with the limitation of investment resources, the low effectiveness of the branch management system in 2002-2005, and incomplete structural changes, besides, the absence of market mechanism of price formation for coal products and the presence of the intermediary that came to the market to deal between mines and mining equipment producers for its own prices.

The analysis of mining work and production at operating enterprise has discovered the fact that the modern status of Ukrainian mining facilities does not satisfy the requirement of the task.

As you know, due to specific character of coal mines operation including permanent changes in the time and space of mining works conditions their effective activity and satisfactory technical and economic data can be only possible provided the coalmines are in permanent reconstruction. The optimal period shall not exceed 20 years for the mines extracting flat seams, and 10 years for vertical seams correspondingly. But there is neither reconstruction of operating mines nor new construction.

Thus the mining facilities of Ukraine go through their poor state being the oldest ones among coal mining regions CIS. Today it is only 14 mines or 8.5 per cent that are less than 30 old, 73 mines or 44.5 per cent are in the age between 30 and 50 years old while the operation life of 77 mines or 47 per cent exceeds 50 years including 36 mines or 21.9 per cent that are older than 70 years. Besides, in Central Donbass there are 7 mines which operation life is more than 100 years.

The lack of reconstruction does not allow to renew the state of a mine that makes impossible any compensation of geologic and mining conditions deteriorating with the dept of coal-seams under extraction.

At the same time 82 mines have the depth of mining operations in excess of 700 m including 29 of 1,000 m while in 42 mines the typical depth is between 500 and 700 m. Such substantial difference between the depth of mining works and the level of transport roadways leads to stepped transport systems, equipment break-downs and other negative phenomena.

There are 60.5 per cent of mines that are recognized as hazardous in spontaneous outbursts of coal and gas or even placed beyond classification.

Due to the heavy conditions of coal extraction and the low quality of mine works the annual output that is manifestation of mining potential does not exceed 600 thousand t in 105 mines or 64 per cent, of which 47 mines have their annual output of 300 thousand t. It is only 26 mines that provide 1,000 or more thousand t of output. Thus the average productivity of a mine comprises 600 thousand t that is much lower than the similar index of adjacent and distant lands.

Deterioration of Ukrainian mine facilities is accompanied by the dramatic reduction in the number of mining enterprises. In the Register of coal mining enterprises the number of enterprises by the beginning of 2005 was 285 mines and 9 open-cuts while only 164 and 3 of them correspondingly are practically involved in coal production. In 1991 their number was 275 mines and 8 open-cuts, that is the quantity of operating enterprises has reduced by 1.7 times.

On the ground of lack of new construction as well as reconstruction and modernization of existing mines there has been a decrease in coal industry output from 135.6 Mt in 1991 to 78.0 Mt in 2005.

Low technical and economic data of coal industry of Ukraine has predetermined the necessity of its restructuring which most intensive period started in 1995.

The world experience shows that coal industry restructuring is usually conducted in two directions. The first direction is to close and liquidate those unprofitable coal mining enterprises which life in the modern economic conditions is either problematic or impossible. The second direction is to improve the effectiveness of prospective coal mining enterprises using their own finances, state budget assistance and other financing sources.

In Ukraine the main and single recently used restructuring direction was that of mining enterprise closing.

In some regions where coal mining enterprises are responsible for city formation the decisions were made without enough substantiation of mines or open-cuts closing when liquidation costs were not compared with those for work continuation, and without costs calculation for partial or complete compensation of facilities under exit, etc.

Due to mines closing the production facilities got reduced by 22.4 Mt, the output by 5 Mt correspondingly. One should mention that these data relate to dramatic reduction that had taken place in the year on mines closing while even

in the previous year the output by that category of mines had been 2-3 times higher.

At closed mines there remain more than 900 Mt of industrial coal reserves. The negative aspect of mines closing is the appearance of depressive coal regions like cities of Stakhanov, Shakhtyorks, Snezhnoye, etc where diversification of production is problematic and new vacancies through new mine construction are impossible due to its absence. Thus the social tension appears that cannot be fully neutralized. Serious economic difficulties arise too.

Stabilization of 1999-2004 when the average coal output got fixed on the level of 80 Mt demonstrate that the branch with its inner reserve exhausted is unable to exceed this level without assistance by the state. Of course, it is unable to satisfy maximal possible national demand in fuel and power resources that is estimated to reach 90-95 MT of coal in 2006-2010.

The analysis of Ukrainian mining facilities and production potential of mines and open-cuts shows that cardinal measures are required to improve the branch effectiveness up to the target data.

The only way to improve and to renovate the existing mine facilities as well as to increase coal output up to the level of national demand is to build new mines on free areas in accordance with the Programme of the branch development adopted by Decree of Cabinet of Ministers of Ukraine on 19 September, 2001. Unfortunately this Decree does not work: the construction of 4 new mines that started before 2001 got laid up while that of 3 new mines has not started in 2003-2004. The forecast as for new mines on 7 free areas before 2010 is very pessimistic too. As for existing mines reconstruction according to the programme it practically fails.

Tasks and targets of the branch are presented in Conception of Coal Industry Development adopted by Cabinet of Ministers of Ukraine on 7 June, 2005. It is natural that the industry scientific sector welcomes the Conception as it includes those measures of the branch development that were proposed by DONUGI and other institutes for Coal Programme'94 but not embodied due to the lack of financing.

Specialists of DONUGI quickly and operatively executed the task by Ministry of Coal Industry of Ukraine and namely corrected the Programme of the branch development for the period up to 2010.

Now we believe that the further development of coal industry of Ukraine shall have at least two directions the principle being that of the Conception execution. At the same time we think a reserve version of possible branch development is necessary for the nearest future to provide significant increase of coal output.

On the ground of evaluation of production potential that cannot be improved in the coming decade either by new mines facilities or by those of reconstructed mines the only way to increase output is to improve the existing facilities' status and to maximize the degree of production capacity utilization.

DONUGI experts think that on the ground of basic criteria for mine facilities evaluation (industrial reserves, production capacity, output, etc.) it would be expedient to classify all existing coal mining enterprises for comparative analysis of production and technologic data and weak points disclosure to forecast progress or regress of their work as well as to observe the production potential dynamics.

To find reserves for coal output increase with minimal cost we propose to make audit of mine facilities for which purpose all mines and open-cuts should be divided into the following groups:

- I group – prospective (basic) mines where through new heavy-duty equipment introduction the output growth is possible together with technologic, economic and financial data improvement;
- II group – mines that require scientific approach in weak points elimination for further introduction of new technology;
- III group – mines working on below 1.0 m coal-seams that require new technology or modernization of existing methods and machines for effective mining;
- IV group – mines combining geological, mining and production conditions typical for II and III group.

Research shows that in the recent decade the leading group of prospective or basic mines including 53 enterprises or 32.1 per cent of the total group of mines having production capacity. Their summarized industrial reserves by 1 January, 2005 are in excess of 4.54 billion t or 70 per cent of all reserves by operating mines. These enterprises use prospective mine layout schemes and advanced mining methods with the equipment of new technologic level. Their summarized production capacity is as high as 52.3 Mt corresponding to 57 per cent of the total production potential of coal industry.

The II group includes 30 enterprises of relatively good state of mine works and considerable coal reserves exceeding 1 billion t. These potentially prospective mines could transfer to the I group supported by the state assistance.

The above two groups make the backbone of coal industry of Ukraine their output in 2005 having been 66.7 Mt or 83.3 per cent of the annual branch result.

Concentration of state assistance and private capital investments in these groups of mines together with other sources of financing could provide the total national coal output of 88-90 Mt in 2010. The sums would be directed to capital construction and technologic re-equipment according to the Programme, and first of all for mining and road-heading machines purchase of new technologic level.

The III group including 40 mines that are able to follow the data of 2005 and to produce about 9 Mt per annum up to 2010-2012 supported with the state for the production cost of 1 t of mined coal.

44 mines belong to the III group their annual production capacity being 11.7 Mt. They are considered to be non-prospective and unprofitable as their reserves are exhausted, their mine system is poor and economic data are low.

Nevertheless one should postpone their closing and liquidation because of the following reasons:

- in 2005 this group of mines has produced 3 Mt of coal the level can be maintained in the nearest years;
- coking coal produced by Ukrainian coal-seams, especially in Central Donbass region, is unique in its quality. It was only in Prokopyevsk, Kuzbass, Russia that similar coal was mined before the reserves exhaustion when those small mines got closed in 2000. We think that the mines extracting valuable sorts of coking coal must be preserved.

That is why for the IV group such measures are required as their operation life prolongation through reconstruction, modernization and local procedures for mining system improvement.

Closing and liquidation of mines is only possible when their balance coal reserves are exhausted and mining operations are executed on beyond-the-balance reserves with exclusively low labour productivity and technologic and economic results.

The coal output increase due to reconstruction, modernization and technologic re-equipment of operating mines accompanied by their closing and liquidation reduction could become incompatible with the needs of Ukrainian economy in future.

Consequently one should state that the basic direction of coal industry development now and in medium future is the increase of work effectiveness and profitability of operating coal-mining enterprises with the limited range of closing and liquidation among unprofitable mines.

In the distant future development of the mine facilities of Ukraine is due to new mines construction on prospected areas in accordance with the Ukrainian Coal Programme which production and economic parts are developed by experts of DONUGI.