

COAL INDUSTRY AS FOUNDATION OF STEADY ENERGY SUPPLY

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Ukraine indisposes any significant known deposits of oil and gas, while the supplies of coal of all classes and categories amount to more than 100 milliard tons. Side by side with this, our country has a developed infrastructure of coal-mining enterprises, transporting system, robust coal machine building, finally, richest experience in building and operating of coalmines.

At the same time, gross domestic product in Ukraine extremely low and employment of able work population is insufficient, that limits possibilities of growth of the population's welfare, creates social tension, restrains development of consumers' goods and services market being the major source of GDP increase.

All of it creates favorable terms for diversification of coal industry on the base of multiple-discipline production including hydrocarbon products. The arguments justify such a conclusion.

In the production loop of coal production and processing total mass of air exhaust by a mine, outburst of methane into atmosphere, mine water and breed from the lead through, maintenance and repair of the excavation and enriching of coal, exceeds an organic constituent as power and metallurgical raw material in-use in oftentimes. At the same time, enormous part of these coproducts does not find consumption as natural resource, although each of them potentially quite suitable for industrial utilization in wide sense of this word.

In the meantime, to Ukraine belongs leading place in the world not only on the supplies of coal. On the supplies of methane, she takes fourth place in the world.

The highly profitable production of methane is already conducted in the USA, where created and operates whole industry on production of gas from coal stratum since 1986. Set to work on extraction of methane in Australia, China, Canada, Poland, Great Britain and Russia.

Considerable progress development of Ukraine's deposits such as coal gases can attain in the case of the industrial mastering of the heat-and-power coherent modules, which are able to use the impoverished aero methane mixtures with vacillating debit and low concentration of methane and to produce not only thermal but also electric energy. However, as the bulk of mines exhausts in an atmosphere has low and explosive concentration of methane for combustion units, using it is possible by means of catalytic oxidization with subsequent utilization of heat of the off-gas. In addition, appears perspective the technology of methane's extraction from the weak air-gas exhaust of the venting systems of coalmines by low temperature adsorption at which formation of refrigerating medium takes place because of crystallization processes. In addition to that, there is possibility to decide such important problem for industry as improvement of temperature regime in a mine.

To these the possibility of coal industry as the basis of steady energy supply of Ukraine is not closed. For the receipt of synthetic motor fuel and combustible gas, a coal is the real natural resource.

The process of continuous gasification of hard organic fuel was first carried out in 1839. In the last century, it got wide distribution. For example, in Great Britain, CSSR, GDR was annually produced from 1,2 to 2 milliards cubic meters of fuel gas, which at that time on 50-70% satisfied the housing and communal necessities of these states. In USSR at the end of fiftieth years exploited almost 2,5 thousands of gasogenic options which produced 35 milliards cubic meters of gas.

In addition, accumulated large experience of processing coal in an oil-fuel, this process also generates combustible gas.

Not deciding in detail on the methods of synthetic fuel receipt (hydrogenation, semi coking, gasification), it is possible to establish, that a problem is fully decided technically. The thermal coefficient of efficiency of the process exceeded 40%. However discovering of highly economical deposits of oil in USSR, on near east, in North America, on the loops of washing Europe north seas, made production of synthetic fuel not competition one, although technical interest to the synthetic fuel at specialists is saved. In some countries work on perfection of technologies of his production proceed (Canada, Japan, India and other)

Quite obviously, immediate, mixed use development of methane extraction and production of synthetic fuel in Ukraine, as, actually, and in any other state, impossible. To it must precede multipronged scientific work in mining-and-geological one, technological, institutional, and other directions. All of it will enable to estimate the aspects of problem, offer the conceptual ways of its decision and will offer the plan of their realization, figure on economic proper and prognoses.