DOI: 10.31081/1681-309X-2024-0-4-26-36 Specialty 161, 51. U.D.C. 669+662.73

TECHNICAL AND ECONOMIC PREREQUISITES FOR THE FEASIBILITY OF CREATING OF SYNTHETIC MOTOR FUEL PRODUCTION IN UKRAINE

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The article formulates the main scenarios for organizing the supply of motor fuel to Ukraine. It is shown that a significant reduction in imports of motor fuel in the post-war period is possible only through the restoration and development of oil production and refining with the simultaneous search for options for organizing the production of synthetic motor fuel from non-oil raw materials. The article compares the technical characteristics of a full-cycle oil refinery and a plant producing synthetic motor fuels from coal. It is shown that in the USA and Western Europe, the depth of oil refining is 90-95 %. In Ukraine, these figures were much lower - only 72.1 %. In addition, the European Union's environmental standards governing the content of harmful substances in exhaust gases from cars and specialized machinery are becoming stricter, which should stimulate the development of oil refining and transport engineering technologies. When synthetic motor fuels are produced, the degree of carbon conversion of the original fossil coal into the target light products is 56.0 %, which is objectively less than the depth of oil refining. Under such conditions, the main advantages of obtaining synthetic motor fuels from coal compared to oil refining for the conditions of our country are: reduction of import dependence of the country's economy; sulphur content in the products obtained meets the requirements of modern European standards; the depth of processing of synthetic products reaches 90 % and more with the use of relatively simple equipment; favorable technological properties of synthetic oil determine its price on the world market by about 30 % higher than the best light oil 'brent'; the obtaining of a by-products of increased demand (light hydrocarbons, thermal and electrical energy); the possibility of obtaining synthetic base oils.

Keywords: fossil coal, motor fuel, synthetic fuel, oil refining, refining depth, Nelson index.

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