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# THERMAL SCIENCE

## International Scientific Journal

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### NEW STAVALJ COAL MINE AND THERMAL POWER PLANT

#### ABSTRACT

Štavalj deposit has over 180 million tonnes of coal reserves, which is considered by the Ministry of Mining and Energy as large energy potential of national importance. Pre-feasibility study was developed for the purpose of evaluation of new underground coal mine and thermal power plant complex. Mine is designed with two sets of mechanized longwalls, for the production rate of 2.3 million tonnes per year of run-of-mine coal or 1.68 million tonnes of clean coal. This production is sufficient for thermal power plant of 320 MW, based on circulated fluidised bed combustion boilers and one turbine, with emissions of CO<sub>2</sub> at same level than power plants operated by Electric Power Industry of Serbia. Following review of the Pre-feasibility study, possibilities for further improvement of underground coal mine are suggested. These improvements comprises of operation with one larger mechanized longwall set and without coal processing plant. Effects of these suggestions are lower initial investments, lower roadway development requirements, improved energy efficiency at coal production and smaller number of workers, all of which contributing to reduction of capital and operational expenditures and lower cost of fuel.

#### KEYWORDS

energy potential, coal, underground mine, thermal power plant, cost analysis, improvements

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