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# THERMAL SCIENCE

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### RECULTIVATION AND SUSTAINABLE DEVELOPMENT OF COAL MINING IN KOLUBARA BASIN

#### ABSTRACT

Coal plays a fundamental role in global development, but the coal mining industry exerts impact on the environment, society and economy. Kolubara Coal Company produces about 30 million tonnes of coal, and digs about 70 million m<sup>3</sup> of overburden per year. The main result of surface coal is certainly taking agricultural land, so that surface mines, which affect large areas in Kolubara, about 100 hectares a year, causing a number of problems related to the recultivation of degraded area after coal extraction. The lignite extraction through the method of opencast mining in Kolubara is about 60 years old. The previous exploitation usage is characterised by the fact that the disposal of overburden is made non-selectively, whereas the surface solum is not being preserved. The recultivation is carried out in parallel with overburden excavation. It is necessary to preserve the fertile solum through selective excavation in order to bring the soil back to its previous purpose - agricultural production. The objective of this paper is mainly to point out the need for the further expansion of the utilisation of fossil fuels, which in turn reduces the emission of CO<sub>2</sub>, and thus reduces or prevents global climate changes on Earth. In addition to that, bringing back deteriorated terrains to their previous purpose - agricultural production, or the afforestation - contributes to the maintenance of ecological balance in nature, which then makes coal mining sustainable.

#### KEYWORDS

mining, recultivation, sustainable development, economic development, environment, social responsibility

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