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CLEANER AND ENERGY EFFICIENT PRODUCTION: A CASE STUDY

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Abstract

A project called 'Cleaner Production' is conducted in the organization of the Cleaner Production Centre of Serbia at the Faculty of Technology and Metallurgy, University of Belgrade and the United Nations Industrial Development Organization (UNIDO). The goal of the project is to perceive critical places in a company and define measures which would achieve significant financial savings and, at the same time, protect and improve the condition of the environment with minimal investment, by saving resources and energy. Complete results of the project demonstrate that the means invested are, on average, returned within a year, whereas savings achieved reduce the emission of CO₂ by the total of 4,000 t/year, the amount of solid waste by 1,000 t/year and the amount of energy and water consumption in some companies will be reduced by as much as 10%. On the example of the 'Hipol' AD company, it will be demonstrated that there is a large number of cleaner production options precisely in the energy efficiency section and that very significant savings were achieved there. The plant is one of major consumers of heat and electric energy and the team paid most attention precisely to energetics, as the area with the highest saving potential. The present state is mostly affected by the inability to transfer from a liquid fossil fuel (fuel oil) to a gas fuel, considering that there is no natural gas distribution nearby. Out of suggested options, more than 60% refer to energy savings most of which were realized during the project. Effects of cleaner production options realization are especially visible through the reduction of specific consumption of energy sources and water – since 2008 savings have accumulated to over € 120,000.

Keywords: chemical industry, cleaner production system, energy savings, environment, financial saving

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