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5th DUBROVNIK CONFERENCE ON SUSTAINABLE DEVELOPMENT OF ENERGY, WATER AND ENVIRONMENT SYSTEMS

BOOK OF ABSTRACTS

September 29th - October 3rd 2009, Dubrovnik, Croatia

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University of Zagreb, Zagreb, Croatia
Instituto Superior Técnico, Lisbon, Portugal

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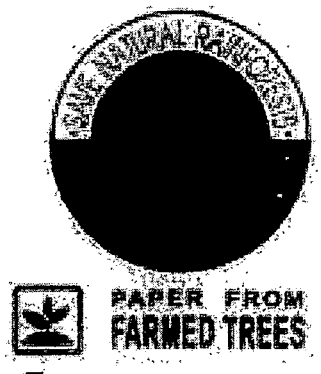

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Energy Management Systems Applied to Bread Factory

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ABSTRACT

The Regional Euro Energy Efficiency Center Kragujevac (REECKG) is established in 2004 at the Faculty of Mechanical Engineering Kragujevac by assistance Serbian Energy Efficiency Agency (SEEA) and Norwegian Energy Efficiency Group. The basic tasks of Center are: creation of strategies, plans and studies of energetic development of local communities and companies, balancing of energy production and consumption, and establishing of energy efficiency of facilities and technical processes, financial energy engineering, energy and ecological monitoring and management, as well as transfer of knowledge and innovations to employees in these fields, substitution of conventional with renewable energy sources, creation of databases concerning energy resources in production and consumption of all energy types in the area where the Center is authorized.

Energy experts of Faculty of Mechanical Engineering together with energy team of the bread factory "Pobeda", Arandjelovac, conducted the energy audit during the winter/spring period of 2004. The team from the Faculty several times visited the company for assessment of plants, procedures and relevant documentation that describe the technology and energy system in order to propose energy saving measures. Internal expert team was formed and relevant employees were interviewed concerning the energy consumption. Beside, some measurements were made using portable measuring equipment owned by the faculty.

This paper summarizes the outcome of the performed energy auditing and proposes potential areas for energy savings. Generally, energy saving measures can vary between simple low-cost measures (basic operation precautions and good housekeeping) and capital investments. Interesting energy saving measures and projects that were determined during the energy audit were the subjects of feasibility studies in order to analyse each technical alternative or verify conclusions which have been reached.

About creation and reached goals of development policy in the area of energy efficiency, environmental protection and sustainable development in the City of Kragujevac

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ABSTRACT

This paper presents a methodology development and the results achieved in the process of establishing energy management system in the City of Kragujevac (Serbia) and in its public services. The paper is an overview of influential factors in the field of energy management, analyzing their impact on raising the energy efficiency of individual utility service and the city of Kragujevac, as a whole.

The influx of investment in the City of Kragujevac made in the last few years is accepted by the administration of Kragujevac as the opportunity for the achievement of required investment for the reconstruction and modernization of the city's municipal sector, but also for the achievement of productive and very demanding cooperation with scientific research institutions. This favorable climate was welcomed by the research team of the Department of Energy and Process Engineering (DEPE) of Faculty of Mechanical Engineering in Kragujevac, who are acting for some time through the Regional Euro Energy Efficiency Center (REEECKG). The Department, according to its development strategy is dealing with issues of energy efficiency for many years and establishing of RECEEKG has become a part of a wider European and Serbian network of regional energy efficiency centers which in many segments act as an important factors in the creation and implementation of national energy strategy and policy, and in the City of Kragujevac act as a reliable support for energy market development.

Please note that at the top of Serbian network of regional energy efficiency centers is the Ministry of Mining and Energy (MoME) and work of REEECKG and other regional centers is directly coordinated by the Serbian Energy Efficiency Agency (SEEA).

Experience gained through cooperation with Serbian regional energy efficiency centers, the Norwegian Energy Efficiency Group (NEEG) and other partners from the Kingdom of Norway, as well from the implementation of a number of scientific, development and commercial projects in the field of energy management, environment protection and sustainable development, has helped REEECKG to aid administration of Kragujevac to its energy - environmental development strategy and to create a methodology for benchmarking in order to spread examples of good practice in the region of Sumadija and Pomoravlje, and other areas of Serbia which are in jurisdiction of the Center.

The paper also presents the most interesting scientific and research projects realized in the cooperation of several actors which were coordinated by REEECKG. In these projects participated beside REEECKG, the MoME, the Ministry of Science and Technology Development, SEEA, European Agency for Reconstruction (EAR), the World Bank (WB), the European Commission, and relevant experts from the government of City of Kragujevac

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