



“Gheorghe Asachi” Technical University of Iasi, Romania



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## ENERGY RECOVERY FROM SLUDGE WITH LOW ORGANIC LOADS RESULTED FROM WASTEWATER TREATMENT PLANTS

Ioan Neamt<sup>1</sup>, Mihail Reinhold Wächter<sup>1</sup>, Ioana Ionel<sup>1\*</sup>, Ilie Vlaicu<sup>2</sup>

<sup>1</sup>University POLITEHNICA of Timisoara, Faculty of Mechanical Engineering, 1 M. Viteazu Blvd., 300222 Timisoara, Romania,  
<sup>2</sup>AQUATIM SA Timisoara, 11 A Gheorghe Lazar Street, 300081 Timisoara, Romania

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### Abstract

The developing of the infrastructure for wastewater collection and treatment in Romania is leading more and more to the production of huge quantities of activated sludge, as direct result of the application of state of wastewater treatment. The rapid and rational development of a national policy for management of activated on short, medium and long term has emerged as a necessity, and must be implemented urgently.

The EU 27 countries consider environmental management of activated sludge as a priority for wastewater treatment plants operators, especially in the framework of Directives 86/278/EEC on using sludge in agriculture and 91/271/EEC concerning urban wastewater treatment. After 2000, solutions for the optimized energy recovery technology by burning activated sludge have been tested and developed mainly in Germany.

These solutions can be implemented also in Romania, as a necessity not only as member of the EU 27 countries, but also as a global benefit for the environmental protection and full use of the huge energy content of the sludge. The presented case study refers to a possible solution for energy recovery by the direct combustion of the sludge from municipal wastewater treatment plant in Timisoara, within efficiently thermodynamic cycles, by using the HUBER technology in concept “sludge and energy”.

As main conclusion one will support the idea that the supplementary financial gains generated from electricity and heat marketing– including the energy utilization for own purposes, is an environmental solution in addition to others, such as the possibility to use the residual sludge as fertilizer for agriculture, and generates economies by reducing transport costs, as well by covering most cases, the costs of the treatment process of the activated sludge.

*Key words:* combustion, energy recovery, activated sludge, thermodynamic cycles, wastewater

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\* Author to whom all correspondence should be addressed: E-mail: [ioana.ionel@mec.upt.ro](mailto:ioana.ionel@mec.upt.ro); Phone 0040256 201 370; Fax 0040256 294 753