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Development of a Horizontal Axis Wind Turbine for the Production of Thermal Energy

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Abstract

The wind energy conversion systems could play a significant role in the production of mechanical, electrical and thermal energy in the Republic of Moldova, in particular for providing the individual consumer with energy using wind turbines of low power (until 30 kW). In order to redress the situation of the energy sector, the Government of the Republic of Moldova, through the agency of the Supreme Council for Science and Technological Development (Academy of Sciences of Moldova), initiated several National Programs, addressing the elaboration of renewable energy conversion systems as well. This paper describes some research and application of the industrial prototypes of horizontal axis wind microturbines with power of 10 kW, which include some new elements comparative to the already existing systems (wind orientation mechanism, thermal generator). These wind turbines are intended to be installed in different geographic areas of the Republic and tested. Some results are included in this paper.