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Presentation title:	External Factors and Efficiency of Thermal Energy Storage System			

The Energy Performance of Buildings Directive (EPBD) requires that all new buildings will have nearly zero-energy by the end of 2020, indicating that the low amount of energy that these buildings will require comes mostly from renewable energy sources.

The size of each section of the thermal energy storage system (TESS) and obtained efficiency and productivity of these sections translating into overall system performance depend on many factors which can be divided into three main groups: climatic factors, thermal and dynamic properties of the building, and system control algorithm.

This paper presents the analysis of factors affecting the size and efficiency of the thermal energy storage system for residential building. Presented results were mainly used to analyze TESSe2b system (Thermal Energy Storage System for Energy Efficient Buildings. Application in domestic solar thermal systems and heat pumps). This paper will be focused on external factors.

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Assistant Professor at Warsaw University of Life Sciences in Warsaw / Poland.

He graduated in 1999 (M.Sc.) at Warsaw University of Technology, Faculty of Electrical Engineering in automation and computer engineering, with a specialization in hardware and software for measurement systems. He received his PhD in 2008 at Ruhr University Bochum in power electronics area.

Worked at the Institute of Power Engineering in Warsaw (2000-03 and 2009-11), Ruhr-University Bochum (2003-08), currently (since 2010) employed at the Faculty of Production Engineering at Warsaw University of Life Sciences. He has experience of work in/with the industry which earned by Institute of Power Engineering in Warsaw and ThyssenKrupp in Bochum.

Dr. Bakon works as an expert for the European Commission and the European Association of National Metrology Institutes (EURAMET). He was a lecturer at the University of Applied Sciences Bielefeld in Germany (2011-2014). He published 60 publications in the field of renewable energy sources, metrology and power electronics.

Interests: metrology, renewable energy, power quality, power electronics.