

Poster Presentation Registration Form

Poster Session

Savenergy Conference, 13 May 2017, 9.00-14.30

Venue: Cyprus State Fair

To register, please e-mail this form to acharalambous@oeb.org.cy or send it by fax to 22666661 (c/o Mrs Anthi Charalambous).

Deadline for submission: 28th April 2017

Cost (students): free for poster presentation or 30 € for participating in the conference

Presentation period: 9.00-14.30, 13th May 2017

No unattended presentations: At least one presenter is required to stand by the poster for the entire session.

Poster presentation: Visual display of research which includes text, tables, graphs etc. Bring the poster printed in dimensions 1,30X1,30. Posters boards will be provided.

Poster Title: A nearly zero energy building with building integrated photovoltaic system

Topic (select one): renewable energy ☒ energy efficiency ☐

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Level (circle one): undergraduate ☐ postgraduate ☒

Academic Program (i.e., school, department): Cyprus University of Technology, Department of Mechanical Engineering and Materials Science Engineering

Description of research work and key findings (max 250 words):

Photovoltaics (PV) usage in building integration increase in the last 10 years and this trend is expected to continue with the support of feed-in-tariff policies in some countries, the EU directives for renewable energy usage and energy from fossil fuels reduction and the on-going production costs reduction.

When the PV panels are integrated on a building's envelope and replace conventional construction materials of a building such as windows, shading elements, louvres, façade materials and roof tiles, the PV system is called building integrated photovoltaic (BIPV) system. BIPV systems can be installed on a building's façade as well as on the roof.

The aim of this study is to present a nearly zero energy building in Mons, Belgium, with BIPV installation. The discussion will focus on the performance of the system, the energy consumption of the building in comparison with the energy production from the BIPV system and the temperature of the PV panels. Temperature is an important parameter for the BIPV systems because when PVs are integrated directly to the outer roof layer without air gap, the PV panels are being heated and their efficiency drops. This also increases the temperature of the building and subsequently increases the building's cooling loads.

However, to achieve the optimum design configuration of the system and predict its performance, a simulation model was developed before the installation of the system. The predicted data as well as the real data from the system are compared and discussed.

Χορηγοί Gold:



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