

Event:  
Date:  
Place:

**ENERGY in BUILDINGS 2016**  
Saturday November 12, 2016  
Athens, Hellas



#	<b>Athina Gaglia, M.Sc.</b> Mechanical Engineer, NTUA	
Title:	Laboratory of Electric Energy Systems, School of Electrical and Computer Engineering, National Technical University of Athens	
Presentation title:	<b>Photovoltaic Energy Efficiency Analysis for Hellenic Residential Buildings</b>	
<p>Greece is privileged, given the high solar potential almost all over the country, with great possibilities of using the PV cells for electrical energy production. The direct use of solar radiation for energy production and the possibility of autonomous operation, make the PV the most appropriate technology to cover the electrical needs of buildings, including especially those in isolated (remoted) regions.</p> <p>This paper analyzes the possibility of installing PV in Greek dwellings that can cover the hole or a part of their electricity needs taking into account the variations of the daily electrical load. Firstly it is evaluated the available solar potential of Greek regions, and the solar energy that could be finally used by PV cells, taking into account the technical specifications of PV. The temperature of PV surface (<math>T_{air}</math>) and the incident solar radiation (<math>G</math>) are the main parameters affecting the final energy performance of PV and the final output power. Consequently, it is calculated the monthly energy contribution of PV, as well as the coverage ratio of specific electrical loads for all the Greek regions, in order to be examined and the possibility of electrically autonomous dwellings.</p>		
CV:		
<p><u>Professional Experience</u></p> <p>(2011-today) General Secretariat of Industry, Ministry of Economy, Development, and Tourism.</p> <p>(1997-2011) Group Energy Conservation at the Institute of Environmental Research &amp; Sustainable Development of National Observatory Athens.</p> <p>(1989-1997) Department of Museum Studies, Ministry of Culture. Department of Applied Physics, University of Athens and PROTECHNA Ltd (European and National research projects). ERGOTECH Ltd (Waterproofing on Attico METRO Stations).</p> <p><u>Teaching - Training</u></p> <p>(2011-uptoday) Institute of Training, National Centre for Public Administration and Local Government. Regulation on the Energy Performance of Buildings.</p> <p>(2010-2012) Technical Chamber of Greece. Building's Energy Performance - National Regulation and Buildings Energy Audit.</p> <p>(2007-2010) National Observatory Athens. Seminars on Buildings' Energy Performance, application of software EPA-NR.</p> <p>(1993-2001) Technical Educational Institute of Piraeus, Department of Mechanical Engineering. Lecture on undergraduate courses: Renewable Energy Sources, Fluid Dynamic and Hydrodynamic Systems.</p>		

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(1991-1993) Institute for Technological Applications of Athens and North Aegean. Energy, Solar Passive Systems, Ventilation, Lighting, Air Quality and Thermal Comfort in buildings.

Education

M.Sc. on Energy Production and Management, National Technical University of Athens.

Basic studies: a) National Technical University of Athens, b) Technical Educational Institution of Piraeus.

Research Interests & Accomplishments

Active in the areas of energy design and energy conservation in buildings, building energy audits, energy performance of buildings and electromechanical systems, energy production systems, renewable energy sources, etc. Participated in European and National research and demonstration projects.

Author and co-author of 18 publications in international journals, 54 in international and national conferences, 10 publications in national technical journals and 49 contributions in research and educational editions and project reports.

Scientific Committees

(2009-2014) Member of technical and consultative committees for the development of the National Regulation on the Energy Performance of Buildings and the Energy Inspectors, at Special Secretariat of Inspection of Environment and Energy, Hellenic Ministry of Environment, Energy and Climatic Change.

(2009-2015) Member of the technical committee of the Technical Chamber of Greece (TEE), for the development of the Technical Guidelines (TOTEE-1) "Analytic National Specifications of Calculation Parameters of the Energy Performance of Buildings and the Energy Performance Certificate", (TOTEE-3) "Climate Data for Hellenic Regions", (TOTEE-4) "Guidelines and Forms for Building Energy Audits, Inspection of Heating and Air-Conditioning Installations".

(2010-2015) Member of the technical committees of TEE, for the development of the Educational Manual on Buildings' Energy Performance for Energy Inspectors Certification.

(2012-2016) Member of the Examination Committee, for Certifying Energy Auditors of Buildings, Heating and Air-Conditioning, at Ministry of Environment Energy & Climatic Change.