

Event:

ENERGY in BUILDINGS 2025


Date:

Saturday, November 15, 2025

Place:

Athens, Greece



#	Kostas Nikolaou Chemical Engineer	
Title:	Postgraduate student at the School of Applied Arts and Sustainable Design, Hellenic Open University, Greece	
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Presentation title:	Monitoring and Assessment of Indoor Environmental Quality and Energy Consumption in a Hellenic Dwelling	
<p>This work initiated a monitoring campaign and field measurements of the indoor and outdoor environmental quality and conditions, as well as energy consumption in a dwelling under different operating scenarios. For example, using natural techniques such as cooling, ventilation, and heating, coupled with the operation of the mechanical systems using different heating and cooling systems, and mechanical ventilation. The monitoring campaign covers both heating and cooling seasons, providing a wealth of relevant data on energy consumption, indoor and outdoor conditions. The objective is to assess how different operating strategies are being used in a dwelling and how they can affect the indoor environmental quality and the energy use of the residence. The work also monitors the real operating conditions that are compared against the results from simple computational methods. In addition, specific experiments were implemented in order to collect field data and to assess the impacts on air quality and thermal comfort conditions under different operating scenarios. The paper summarizes new data that were collected during winter in the 2024-2025 period, including indoor air quality for combined heating and different ventilation mechanisms and energy use to achieve thermal comfort conditions.</p>		
Short CV:		
<p>Chemical Engineer, nearly 25 years specializing in waterproofing, insulation and provision of services for the design, planning and installation of energy management and energy saving solutions in residential and non-residential buildings. Currently a postgraduate student in "Sustainable Design of the Building's Indoor Environment" at the School of Applied Arts and Sustainable Design, Hellenic Open University, Greece.</p>		
CV:		
<p>Graduated from the Chemical Engineering Department of the National Technical University of Athens. From 1999 to 2005, he worked at ESHA Hellas as a sales engineer and project engineer, responsible for the completion of major technical projects throughout Greece. In 2006, he founded a technical company specializing in waterproofing, insulation and provision of services for the design, planning and installation of energy management and energy saving solutions in residential and non-residential buildings. He has been actively involved in building energy audits and diagnosis for over 15 years, participating in numerous projects across various sectors. He is currently a postgraduate student in "Sustainable Design of the Building's Indoor Environment" at the School of Applied Arts and Sustainable Design, Hellenic Open University, Greece.</p>		