


Event:
Date:
Place:

ENERGY in BUILDINGS 2024
November 22-23, 2024
Athens, Hellas



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| # | <p>Evangelia Mitsiakou Architectural Engineer (March), MSc Environmental Design of Buildings, Passivhaus/EnerPHit designer, PHPP Expert, Energy and Retrofit Assessor</p> |  |
| Title: | Principal Sustainability Consultant at AECOM LTD, Athens, Greece | |
| email: | Evangelia.mitsiakou@aecom.com | |
| Presentation title: | <p>Heat decarbonisation of public sector housing: deep retrofit using a retrofit plan methodology</p> | |
| <p>This study explores how deep retrofitting of public sector housing can significantly advance decarbonisation efforts. By focusing on energy efficiency in retrofits, we not only support the UK's decarbonisation goals, but also improve energy security, grid stability, the occupants' well-being and fuel poverty. Using energy consumption as the primary reduction metric ensures a practical, adaptable approach that remains effective across regions and over time. The study emphasizes the importance of a holistic retrofit plan that treats the building as a unified system, rather than focusing on individual components. Results from ten social housing buildings demonstrate the positive impact of deep retrofits on both decarbonisation and grid resilience, due to significant heating load reduction, especially when energy use is assessed, rather than greenhouse gas ('carbon') emissions. The paper also discusses lessons learned and suggests next steps for better defining retrofit strategies.</p> <p>KEY WORDS: deep retrofit, decarbonization, retrofit plan, fabric-first, low space heating demand, PHPP, social housing, public sector housing, energy efficiency, greenhouse gas emissions, carbon emissions, existing buildings, United Kingdom</p> | | |
| Short CV: | | |
| <p>Evangelia is a PassivHaus Designer since 2015, with expertise in building energy performance modeling and low/zero carbon design. She has played a key role as a sustainability expert on numerous high-profile projects, that target BREEAM 'Excellent' or LEED 'Gold' rating. As a technical lead, Evangelia also contributes to Net Zero Carbon studies, assessing retrofit strategies for large building portfolios.</p> | | |

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CV:

Evangelia is a certified PassivHaus/EnerPHit Designer since 2015, with expertise in building energy performance modeling and low/zero carbon design. Being the technical lead, Evangelia has working experience on retrofitting buildings to AECB standard which uses the Passivhaus methodology and Passive House Planning Package as a tool.

As a technical lead, Evangelia also contributes to Net Zero Carbon studies, assessing retrofit strategies for large building portfolios in both domestic and non-domestic sectors. Her ability to balance sustainability goals with practical building performance ensures that projects not only meet but exceed environmental targets.

She has also played a key role as a sustainability expert on numerous high-profile projects, where sustainability was a top priority by targeting BREEAM 'Excellent' or LEED 'Gold' rating. A significant part of her work involves supporting projects aiming for high BREEAM scores, the UK equivalent of LEED. Evangelia has conducted critical assessments required to achieve credits in various BREEAM categories, including energy, water, and health & well-being. Her technical knowledge in designing buildings with low energy demand, such as those adhering to Passivhaus standards, has enabled projects to secure high scores in BREEAM and LEED certifications.

With over 14 years of experience, Evangelia's strong background in building physics and energy consultancy allows her to lead sustainability-focused designs, working closely with building services engineers. Her contributions help deliver integrated low and zero carbon solutions, ensuring the success of energy-efficient, environmentally responsible projects.