

## International Conference on Sustainability in Energy and Buildings

### Invited Sessions

**Title of Session:**

Advanced HVAC Systems and Innovative Strategies for Thermal Comfort and Energy Efficiency in Buildings

**Name of Chairs: Prof. Vincenzo Costanzo, Prof. Diana D'Agostino, Prof. Gianpiero Evola, Prof. Francesco Minichiello**

**Description:**

Buildings represent a significant share of global energy consumption and greenhouse gas emissions. HVAC (Heating, Ventilation and Air Conditioning) systems account for a large portion of building energy use, playing a crucial role in both energy efficiency and occupant thermal comfort. Improving the performance of HVAC systems is therefore a key lever for enhancing building energy sustainability and supporting the transition toward low-carbon built environments.

This session focuses on advanced HVAC systems and innovative strategies aimed at reducing energy demand and environmental impact, as well as at improving thermal comfort in buildings. Contributions addressing experimental studies, numerical modelling, real-world case studies and best practices are welcome. Topics of interest include but are not limited to:

- high-efficiency HVAC systems
- smart control and automation for energy efficiency in buildings
- integration with renewable energy sources
- data-driven and AI-based optimization approaches
- thermal comfort and indoor air quality for both new and existing buildings

The session aims to bring together researchers and practitioners to share recent advances, challenges and future perspectives in the development of HVAC systems and innovative strategies for thermal comfort and energy efficiency in buildings.

**Website URL (if any): -**

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