

EmiratesGBC 2024 Congress Briefing

Beyond COP28: The Role of the Built Environment to Deliver on the UAE Consensus.

*Under the Patronage of the **Ministry of Energy & Infrastructure.***

Panel 4.2: The Untapped Potential of Retrofitting the Built Environment

“The Untapped Potential of Retrofitting the Built Environment” panel explored the critical role of retrofitting in advancing sustainability across the UAE's built environment, addressing the challenges and opportunities it presents. With ambitious national targets, such as retrofitting 40,000 buildings in Dubai by 2030, saving 2.7 terawatt-hours of electricity in Abu Dhabi, and retrofitting 3,000 buildings in Ras Al Khaimah by 2040, retrofitting is a cornerstone of the UAE's strategy to reduce energy consumption and carbon emissions.

Speakers

Faisal Rashid, Senior Director, Supreme Council of Energy

Nicholas Byczynski, Director of Sustainable Engineering, AESG

Rahul Mehta, Vice President, Digital Energy MEA, Schneider Electric

Lanre Lawale, Associate, Façade Engineering, Arup, as moderator

The discussion opened with insights from the **Supreme Council of Energy**, outlining Dubai's retrofit strategy to achieve 30% district cooling penetration and retrofit all government buildings by 2030, and emphasizing the importance of policies and public-private collaboration in overcoming barriers such as high costs and technical challenges, while achieving significant reductions in energy and water consumption.

As for **AESG**, whole-life carbon assessment in sustainable retrofitting is very important to understand, because addressing both, operational and embodied carbon, is critical to achieving net-zero targets. **AESG** stressed that focus on operational efficiency alone can lead to inefficiency,

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such as overuse of materials, and advocated for a comprehensive approach that includes deep retrofitting and smart design choices.

Schneider Electric discussed the role of digital solutions in driving operational efficiency in retrofitting projects, emphasizing that while hardware upgrades can deliver up to 20% efficiency gains, digital tools like IoT sensors and integrated building management systems can achieve up to 40% improvements. **Schneider Electric** underlined the need for strategy, data, and digitization to prioritize retrofitting efforts and enhance energy performance.

The panel also emphasized the importance of data and benchmarking. **AESG** noted the lack of high-quality performance data for existing buildings in the region, which hampers effective retrofitting. **Schneider Electric** echoed this, highlighting that understanding a building's baseline performance is essential for measuring the impact of retrofits and ensuring accountability.

The discussion concluded with a consensus on the need for collaboration between governments, private sector players, and technology providers to maximize retrofitting's potential. The panellists called for clear policies, innovative financing models, and widespread data collection to ensure that retrofitting can significantly contribute to the UAE's net-zero goals.