

EmiratesGBC 2023 Congress Briefing

Pathway to COP28: The Role of Sustainable Built Environment in Accelerating Climate Action

Panel 5: Government's Take on Net Zero

"Government's Take on Net Zero" panel discussion's objective was to explore and evaluate the country's strategies, policies, and initiatives towards achieving carbon neutrality. It aims to foster an informed dialogue among experts, stakeholders, and policymakers to assess the UAE's progress, challenges, and plans in transitioning to a sustainable and low-carbon economy.

Speakers

Akshay Datar, Strategy & PMO Manager, Energy Efficiency and Renewables (Reem) Office, Ras Al Khaimah Municipality

Alya AlRand, Head of Building Projects, Department of Public Works - Sharjah

Dr Abeer Sajwani, Section Head, Policies and Environment, Department of Municipalities and Transport Abu Dhabi

Majd Fayyad, DSM Strategy & Policy Lead at Dubai Supreme Council of Energy | Director & Board Member at Advancing Net Zero Volunteering Team

Katarina Uherova Hasbani, Partner and Global Director of Strategy and Advisory, AESG, as moderator

During the panel discussion "Government's Take on Net Zero," the panelists shared valuable insights regarding the advancements, progress, and challenges encountered by governmental entities in pursuit of the Net Zero target.

In **Abu Dhabi**, the **Department of Municipalities and Transport** mentioned their local development of the Net Zero concept and its relationship to the building industry. The building sector plays a crucial role in achieving net zero goals as it accounts for approximately 25% of the total GHG emissions of the entire UAE. Due to that, in Abu Dhabi, various initiatives have been

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put in place to reduce carbon emissions and to transition towards a Net zero future by the Establishment of Climate Change Task Force and the development of the Climate Change Policy.

However, the transition comes with challenges, such as those of the existing infrastructure with its inflated cost of retrofitting, the limited awareness & expertise in sustainable building practices and energy efficiency, the lack of capacity building of staff, and the funding & financial barriers. In addition to the mentioned challenges, there is also the regulatory and policy frameworks, the implementation of Green Building regulations and finally the coordination & collaboration between the different sectors.

With challenges being understood, the Demand Side Management Strategy in Abu Dhabi looks at the reduction of energy consumption by 22% & water consumption by 32%. Within this strategy, the Department of Municipalities & transport initiated two programs, the Efficient Street Lighting and Green Buildings and Regulations, which is the Estidama Pearl Rating System. The continuation of DSM initiatives will remain as key contributor to Net Zero pathway through focusing on updating green building regulations, retrofitting existing inefficient buildings, increasing penetration of efficient systems, and investing in renewable energy, we can move closer to a Net zero Future.

This year, **Dubai** celebrates 10 years of successful implementation of the demand side management strategy which aims to reduce Dubai's demand by 30% by 2030. To achieve these goals, Dubai has put concerted focus on reducing the energy and water consumption in buildings through building regulations and compliance, thus positioning Dubai to transition towards net zero energy buildings in the long-term. Addressing the existing building stock, the **Dubai Supreme Council of Energy** highlighted that Dubai has an active ESCO market in Dubai which is the first in the region, with a target of retrofitting 30,000 buildings by 2030. The implementation of these programs alongside other DSM programs has helped us decrease the electricity and water consumption per capita in Dubai by 17% and 19% compared to 2010 levels. On cost level, Dubai saved AED 11.5 billion.

As for **Ras Al Khaimah (RAK) Municipality**, to advance towards Net Zero, there are two main energy efficiency programs: building regulations and building retrofits, which have shown excellent performance. In 2020, RAK mandated its green building regulation, Barjeel, resulting in nearly 2000 Barjeel-permitted and completed buildings to date, exhibiting 30% less energy and water consumption than baseline structures. Additionally, RAK has successfully retrofitted close to 300 buildings and is accelerating the adoption of Net Zero by offering free home energy audits to provide recommendations for improvement. Also, the panel emphasized the importance of on-site solar generation for achieving net zero status, particularly in the UAE's climate.

Looking into the progress of current and upcoming policies linked to attaining Net Zero within the building industry, the panel highlighted that achieving net zero energy buildings requires focusing on enhancing energy efficiency, primarily through building codes already in place in most Emirates. However, implementing a rating system for existing buildings and incentivizing building owners with

better ratings for energy performance, could encourage upgrades and bring these buildings closer to net zero standards. Such a rating system is in early stages of development in Ras Al Khaimah, while Dubai has developed a labeling scheme and is currently at pilot stage.

Reflecting on the Emirate of Sharjah, The Department of Public Works elaborated on the design and construction procedures of Net Zero government building projects in the Emirate. It was shared that they had started working on Net Zero governmental buildings as a pilot project, to demonstrate long-term energy and cost savings from Net Zero buildings, which will inform decisions on advancing to NetZero for other buildings. The successful pilot project relied on a partnership with a supplier that offered an innovative system and equipment technology integration to support the project's design. Such collaborations were emphasized as crucial for the construction industry because they will aid in achieving the Net Zero 2050 goal.

Collectively, when looking into challenges faced in the transition towards Net Zero, regulatory support and cost were mentioned. The panel agreed that favorable regulation allowing on-site renewables was key to achieving Net Zero, based on the UAE's climate and as demonstrated by showcase projects in Masdar City.

Furthermore, pilot projects would encourage consultants and designers to focus on making the net zero buildings more cost effective. On the retrofit side, to address the misconception that retrofits are not cost-effective, the panel emphasized the need for increased awareness and educational programs targeting developers and building owners to encourage them to retrofit. Dubai Supreme Council of Energy highlighted the importance of advancing the retrofit market towards net zero by pushing retrofits beyond shallow retrofits to deeper retrofits which can save 40% to 50% of energy consumption in buildings.

The private sector can contribute significantly by fostering innovation, conducting case studies, and testing local solutions that extend beyond lighting to encompass building envelopes. Moreover, occupant behavior emerged as a critical factor in achieving net zero goals. Collaboration between the government, the public, and non-governmental organizations (NGOs) is essential in raising awareness and addressing occupant behavior through various platforms and initiatives.

Looking into how the private sector can help the public sector achieve Net Zero, the panel emphasized the role of the private sector in driving innovation, providing expertise, and facilitating capacity building within the building sector. Additionally, the public-private partnership model implemented in Sharjah by the Department of Public Works was emphasized as an effective approach, highlighting the importance of collaboration to push the boundaries

and achieve ambitious results. The planning stage was identified as a critical point to address challenges and promote net zero initiatives. They recommended providing incentives to developers, whether governmental or private, to encourage their participation in net zero projects, despite not being the ultimate end-users or tenants.