2020 Town Hall Series
Middle East
USGBC convened the sustainability community for its inaugural Middle East Town Hall to celebrate regional accomplishments and reaffirm strategies for moving toward a healthier, more resilient future.

Gopal kicked off the event by welcoming the Middle East green building community while Deepthy highlighted some of the amazing progress being made across the region. Dave Witek introduced the many functionalities of the Arc platform that help make performance measurement accessible for all, and Mahesh Ramanujam shared his vision for creating a strong and healthy economy through the healthy people and healthy places strategy.

## Regional Highlights

**Bahrain**

The Island Nation of Bahrain is establishing itself as a country committed to bettering the lives of every Bahraini citizen through sustainable development.

In January 2019, the Sustainable Energy Authority launched the Green Building Code, which outlines guidelines for both new and existing buildings to ensure energy efficiency. Furthermore, in March 2019 Bahrain published its Construction Projects Directorate, which includes a “Green Retrofit” Initiative, that emphasizes the use of LEED certification.

The newly constructed barracks at Naval Support Activity Bahrain (NSA Bahrain), Bachelor Enlisted Quarters, are set to satisfy the housing needs of nearly 500 sailors. Built to maximize efficiency, the building contains solar powered water heaters, Energy Star appliances, and an irrigation system that uses condensate water from the base’s Consolidated Utilities Building. The plumbing systems reduce water consumption by 40% and the barracks are constructed with energy efficient Insulated Concrete Form technology that can withstand winds of up to 250 mph. Coming in nearly $500,000 under budget, the environmental innovations and sustainability components incorporated into Bachelor Enlisted Quarters not only increase service member quality of life but also translate into real dollar savings for NSA Bahrain and the Navy.

Through the green building community’s consistent progress, Bahrain now has over 1.2 million GSM of certified space over 30 LEED projects and is well on its way to becoming a sustainable development leader in the Middle East.

**Jordan**

With more than 1 million GSM of project space and over 300 LEED professionals, Jordan is doing the work necessary for a better future.
The Dutch Embassy was the first building in Jordan to receive the prestigious international LEED certification. This environmentally-friendly and energy-efficient building was constructed by transforming and renovating an old villa. Taking inspiration from traditional Jordanian building practices, the architect used thick walls made from local materials to act as natural insulation. The structure's original swimming pool was repurposed as a thermal buffer, resulting in the cold summer night breeze being captured and pumped back into the building during the day as a natural cooling system. During the colder months, solar panels warm the water inside which is then pumped into the central heating system. The building also features a low water intensive garden, glass walls to maximize natural light, and canvas shades to keep the building cool.

The Arab Technical Group's headquarter facility in Amman, originally obtained LEED Gold certification under the LEED v2009 Commercial Interiors rating system in 2015. They were the first facility in Jordan, to re-certify their premises as a LEED Platinum building through the Arc platform, further emphasizing their commitment towards efficient building performance.

With committed members like the Jordan Green Building Council, OMRANIA, Consolidated Consultants Group, and Specialized Wood Establishment, Jordan is well on their way to establishing a more resilient future.

Kuwait

Already establishing over 3.5 million GSM of certified space across 64 projects, the community in Kuwait is working together to establish a healthier life for all.

Longtime Silver member ALARGAN International Real Estate Co. focuses on sustainable residential and commercial buildings to ensure an economically and socially viable urban environment. While ALARGAN has a presence in Oman, Bahrain, Saudi Arabia, and Morocco, it is headquartered in Kuwait and recently achieved LEED v4.1 O+M Platinum Re-Certification, becoming the first to do so within the country. The project features high performance glazing to manage exterior heat, energy-efficient lighting that uses motion detectors and daylight-sensing technology. Almost 75% of the frequently occupied spaces rely on natural light and low-emitting materials which assists in improving the indoor air quality. As the focus on developing green buildings in Kuwait broadens, ALARGAN International Real Estate Co. continues to pioneer innovative services for sustainable buildings in the country.
Thanks to the important work being done by members like Kuwait Green Building Council, ALARGAN International Real Estate Co., Gulf Consult, SSH International, KEO International Consultants, Kuwait Gypsum Ceilings Factory, Hempel Paints, Kuwait Technical Consulting Bureau, and Alia Alsayegh Engineering Consultants, Kuwait is transforming into a healthier and more resilient setting for the nearly 4.2 million people who call the country home.

Lebanon
Green building practices and techniques are paving the path for a more sustainable future in Lebanon.

USGBC member SOCOTEC Liban recently announced a 5-year action plan that identifies their commitment to reducing their environmental impact wherever they work and in any stage of a project whether it be construction, operation, or demolition. They have identified three key tasks that will help them to achieve their goal: limiting their carbon footprint through energy conservation, environmentally conscious travel, and general eco-friendly behavior; develop responsible and sustainable purchasing practices; and support the circular economy through waste sorting.

With the dedication of active members like SOCOTEC Liban, MAN Enterprise, the American University of Beirut, and EcoConsulting, Lebanon’s sustainable building community continues to grow and make incredible progress in the region.

Oman
With nearly 2 million GSM of certified space, Oman is on its way to a more resilient economy and a better quality of life for its residents.

Like many in the region, Oman’s economy relies heavily on revenue generated by oil and gas. In order to combat this, Oman launched its Tourism Strategy 2016-2040, which aims to increase tourism’s GDP contribution by 6%. This diversification of Oman’s economy caused a rapid rise in commercial construction and the adoption of more sustainable and resilient building practices.

In Muscat, the Oman Tourism Development Company (OMRAN) was created as part of Oman’s Tourism Strategy to promote sustainable development throughout the country. OMRAN currently has 5 LEED Certified properties and several more underway. The LEED Gold City Hotel features exteriors clad in sun shading mesh made of aluminum grids and glass fiber reinforced concrete, which prevents overheating and reduces cooling
requirements. An interior courtyard allows natural light to reach the center of the building limiting the need for artificial lighting. Additionally, the LEED Gold Oman Convention & Exhibition Centre (OCEC) was the first project to achieve LEED Gold certification in the Sultanate for its Exhibition Centre, Car Park, and Energy Centre. The project features locally sourced and low-emitting materials in addition to water efficient landscaping and fixtures. The passion OMRAN has for designing healthier, more resilient buildings is contributing to the efforts the Middle East region is making to create a more sustainable world.

**Qatar**

With more than 550 LEED professionals throughout the country, Qatar is laying the groundwork for a more resilient future.

The LEED Gold Qatar National Convention Centre (QNCC) Extension and Exhibition Hall is the first certified project on the Qatar Foundation (QF) campus. The 107,535 square meter project includes large exhibition spaces, conference and office rooms, concourse, and back-of-house support areas. An external bridge connects the new exhibition hall with the existing Qatar Science and Technology Park which supports a pedestrian friendly campus. QF’s dedication to sustainable growth is further demonstrated with the inclusion of several green building features such as on-site renewable energy sources that produce a considerable percentage of the building’s energy needs; Roof surfaces that either support a PV array or are covered with a high-albedo roofing material to reduce the heat island effect; A greywater capture system is fed from all of the low-flow showers, fixtures and sinks used for the sewage conveyance from the building and elements to provide a high standard of indoor environmental quality; Locally extracted and manufactured materials were used whenever possible and the concrete floors, supporting members and other selected finish materials added to the quantity of recycled content.

With a steadily growing base of over 200 LEED projects totaling nearly 6.2 million gross square meters of certified space, Qatar is helping to grow and educate the green building community in the Middle East.

**Saudi Arabia**

Healthy buildings are leading the way to a healthy economy in Saudi Arabia. In 2016, Saudi Arabia unveiled their 2030 Vision which provides the framework to reduce their dependence on oil and diversify the economy. Construction, specifically sustainable construction, plays a significant role in making this vision a reality.

In Riyadh, the LEED Gold Marriott Hotels Diplomatic Quarter, the first LEED certified hotel in the country, is one example of how thoughtful construction can turn undesirable environmental factors into green building
advantages. The building features recycled and low emitting materials, onsite renewable energy, and water efficient landscaping. The layered design of the hotel mimics the geology of the region and creates a protected micro-climate. Complex reflection processes allow the buildings to amplify natural light and spaces are generously lit with skylights, reducing the need for artificial lighting. The hotel’s construction and plentiful shaded areas allows for natural ventilation, minimizing the dependence air conditioning.

The Marriott Hotels Diplomatic Quarter serves as an exemplar of the marriage between economic grown and environmental sustainability and clearly illustrates that Saudi Arabia is well on its way to achieving its goals.

**United Arab Emirates**

The UAE is a green building powerhouse in the Middle East with more than 1,200 LEED projects covering over 658.5 million total gross square feet of certified space.

A number of notable projects are contributing to the spread of green building in the UAE. DEWA’s Sustainable Building, the largest LEED Platinum government building in the world at the time of certification, prioritized efficiency in its design. The facility consumes 66% less energy than a traditional building and generates additional renewable energy through an on-site 660 kilowatt (kW) solar power plant. Du, from Emirates Integrated Telecommunications Company (EITC), was recognized for sustainability best practices through Mirdif and Fujairah City Centre retail outlet’s LEED v4.1 O+M Platinum re-certification. The Signature Shop at Mirdif re-certified through the Arc Platform, scoring 84 out of a possible 100 points. The Provis and Khidmah’s headquarters in Abu Dhabi recently received the highest level of points in LEED Interior Design and Construction (ID+C) Commercial Interiors certification in the region and is the fourth project globally to achieve 90 points in the LEED rating. As a community, Dubai Silicon Oasis Authority (DSOA) implemented several environmental initiatives in line with its smart city strategy such as smart lighting, integrated water recycling & smart irrigation, and as a community succeeded in reducing its cumulative energy consumption by 33.67%, surpassing the 30% target set out in the Dubai Integrated Energy Strategy 2030. They have 4 LEED v4.1 O+M Platinum certified facilities: the high-bay building, the techno-point building, DSOA Headquarter building, and Techno-hub 2.

A great example of how an existing, high energy and water consuming building can be transformed into a high performing skyscraper is the Dubai Chamber’s head office. The building was constructed in the dense business hub of Dubai in 1995 and its LEED Certification demonstrated that existing buildings in the region could be greened without major investment. Since then, the Dubai Chamber has continued to upgrade its office with the latest sustainable features and achieved LEED Platinum at recertification, showing that the highest standard is also attainable in the UAE through thoughtful renovation focused on creating healthier, more resilient buildings.

With over 2,000 LEED Accredited Professionals, including LEED Fellow Mario Seneviratne, the UAE is a booming metropolis of sustainable and resilient innovators who are demonstrating their commitment towards a higher quality of life for all.
Fostering a Sustainable Future

Educational institutions across the Middle East are demonstrating their commitment to green building practices through LEED certifications and initiatives. For example, INSEAD’s middle east campus in the UAE recently achieved LEED Operations + Maintenance (O+M) Platinum certification. This is the first business school in the world to achieve this certification and regionally it is the first to receive LEED v4.1 O+M certification. With the support of Consultant Alpin, INSEAD was able to optimize performance and prioritize the health of the building occupants to ensure a sustainable future for the leaders of tomorrow.

In Lebanon, USGBC Member, American University of Beirut launched their “Boldly AUB” Campaign, which is aimed towards enriching education and research, furthering innovation and entrepreneurship, enhancing healthcare, solidifying community relevance, and ensuring resilience. Their efforts include a balance of economic, cultural, and environmental consciousness on campus. Currently AUB owns four LEED projects including their recently LEED Gold certified Penrose Hall.

At the King Abdullah University of Science and Technology in the Saudi Arabia, sustainability is at the core of KAUST’s vision to be a destination for scientific and technological education and research and to inspire discoveries that address today’s global challenges. Influenced by traditional middle east architecture, KAUST’s LEED Platinum campus is home to scientific research that will enable KAUST to improve its environmental standards and contribute to global solutions. As the first LEED Platinum building in Saudi Arabia, KAUST serves as a living laboratory demonstrating that environmentally responsible methods of operation and maintenance are possible in the region.
The importance of green building goes far beyond present-day environmental consciousness. As exemplified by INSEAD, KAUST, and other educational institutions who are pursuing LEED certification, such as the Lebanese American University, the International College in Lebanon, and the Qatar Academy Msharieb. Each of these organizations are helping to ensure healthy and resilient buildings for our future leaders.

**Leaders in Green Home Innovation**

In the Middle East, there are several standout residential leaders in green home innovation. By incorporating such things as improved air quality, energy efficiency and optimal lighting in their spaces, it is clear how these residential areas are putting human health, comfort, and the environment at the forefront of their innovation.

The KAPSARC research campus in Riyadh is a unique project incorporating sustainability. All of the villas on this 70,000m² campus have been awarded LEED for Homes, with 188 out of 191 being LEED Gold certified. This campus has shown tremendous leadership being the first project outside of North America to be awarded a LEED for Homes certification and also the first large project anywhere in the world to achieve this certification at all. In pushing for greatness this campus specifies strict limits on its energy efficiency and water usage exemplifying its proactive sustainability goals.

A major project leading in innovation is the 550,799.45m² Diyar Al Salam Residences Project in Saudi Arabia. These residences are equipped with the first charging stations for electric cars as a residential property in the Kingdom in addition to glass facades to enjoy the natural light coming in during the daytime and air conditioning filters with water to help reduce costs and ensure optimal thermal comfort. The residence also includes a bicycle parking facility to promote physical exercise as well as recycling bins spread throughout the building to encourage recycling by residents. Diyar Al Salam has shown to be all encompassing with its intentions by aiming to be not only environmentally friendly, but also financially responsible, and human-centric.
Oman has also shown great leadership with its LEED certified ALARGAN Green Home. This residence is the first LEED Platinum home in its Telal Al Qurm property in the Sultanate of Oman. This single townhouse has proven to put the health of people and the environment at the forefront of its design, consuming 30% less energy, 35% less water and emitting 40% less CO$_2$ than a normal home. This home, having followed LEED for Homes guidelines is said to have saved the homeowner 67% more on energy consumption and 35% more on water consumption annually than a normal home would have.

Responsible Infrastructure

The Middle East is home to several development and consulting companies that have introduced avant-garde projects to their region. One of these companies is The Red Sea Development Company, a Platinum member since 2019. They have designed what is one of the world’s most sought-after travel destinations: The Red Sea Project. This site has three unique components to it: incorporation of more than 90 pristine islands, miles of sweeping desert, and dramatic mountain landscapes. Although this is an immensely beautiful project, developers did not disregard their responsibility to preserve the natural environment or standards for sustainable development. The Red Sea Project aims to mitigate carbon dioxide emissions, waste production, and light and noise pollution, while maintaining the destination at a level equivalent to a Marine Protected Area.

DAR Consulting, a LEED Platinum member operating out of Lebanon, has a strong demand for sustainable development with their projects. They are committed to preserving the natural resources, enhancing the open space, and protecting the public health and wellbeing of the communities they work in. As a consulting company they offer many services to help assist their clients with creating environmentally friendly infrastructure. Some of these services include Environmental and Social Impact Assessments, Environmental Effects Monitoring, and a specialty in Sustainable Buildings Designs and Certifications, which includes their commitment to and implementation of LEED.
EcoConsulting, a LEED organizational member in Lebanon since 2009, has made great strides in the environmentally friendly real estate world. With over 15 years of experience in leading consulting seminars for their clients, they provide the best proactive solutions and technologies, in-depth knowledge on green construction, and real case examples from projects they have worked on before.

These companies, along with many more across the Middle Eastern region, have shown the importance of committing to creating or teaching about responsible, green, and healthy infrastructure.

Embracing Your Environment

In the Middle East, climate and landscape provide challenges that are unique to the region. For that reason, communities, cities, and developments must consider environmental factors and long-term resilience when during development and operation.

Majid Al Futtaim properties, a leading retail developer in the Middle East region has led the green building movement for decades, with various LEED Certified buildings to their credit, ranging from retail malls, office spaces, interiors, and existing buildings.

The Msheireb Downtown Doha regeneration project aims to revive the old commercial district with new architectural methodologies and design married with traditional Qatari heritage and architecture. Made up of a combined 1,408,936 sqm, the development will eventually include over 100 buildings all targeting a minimum of Gold certification with some pursuing Platinum. The project has a strategic goal to reverse the existing pattern of development in Doha, which trends towards isolated land use, reliance on car transportation, and high energy structures. Msheireb Downtown Doha will become a social and civic hub in the city center where people can live, work, shop, and socialize.
The design and architecture of the district prioritize sustainability and resilience while considering the environmental factors of the region. The master plan includes street patterns designed to align with the prevailing winds, channeling cooling sea breezes. The structures themselves feature thicker walls, strategic building orientation, and shade from nearby buildings to cool the local environment and reduce air-conditioning requirements. Utilization of materials from the region and the adoption of new technologies and practices make the most efficient use of water and energy. Central chillers create efficient use of infrastructure and provide 30% more efficient cooling when compared to typical building systems. The project also features 6500 PV panels producing renewable energy equivalent to 4% of building energy use and 1400 solar thermal panels producing enough energy to provide 75% of hot water used. High efficiency plumbing fixtures reduce water usage up to 30% while efficient irrigation systems and the use of native species adapted to survive in the climate reduce irrigation requirement.

On a larger scale, the Emirate of Dubai recently achieved LEED for Cities Platinum certification and is the first city in the region to certify under the program. LEED for Cities and Communities certification helps revolutionize the way cities and communities are planned, developed, and operated in order to improve the quality of life for their inhabitants. According to Abdulla Al Basti, Secretary General of the Executive Council of Dubai, “this certification reinforces Dubai’s strategic vision for a better future…this milestone serves as further proof that Dubai is on the right track to becoming a smart, sustainable city and to securing a green, safe, and happy living environment for our generation and future generation to come.” This statement is further evidenced by the Dubai Clean Energy strategy 2050, which aims to achieve 75% clean energy output by 2050. In June 2020, Dubai took substantial steps towards that goal by installing the world’s tallest concentrated solar power tower, which stands at over 262 meters tall in the Mohammed bin Rashid Al Maktoum Solar Park, a 77 KM2 solar park south of Dubai.

The environmental conditions in the Middle East provide a unique set of challenges for cities, communities, and developments in the region. As shown by Msheireb Downtown Doha project LEED certification and the Emirate of Dubai’s LEED for Cities certification, it is possible to work within these conditions and even use them as tools in order to create sustainable and resilient place for people to live, work, and play.
Healthier Offices and Facilities

Whether it be in an office, a factory, the outdoors, or somewhere in between, the health of a workspace is vital for the productivity and well-being of workers.

The Algorithm Zekrit, a pharmaceutical firm based in Zouk Mosbeh, Lebanon, has taken initiative to make its office spaces both environmentally friendly and healthier for their tenants. Seeking further expansion into the city of Zekrit, the new building is working toward successfully achieving the LEED Gold certification through various sustainability recommendations and performance simulation studies. The 11,824.23 m² space has allowed for 55 rooms with HVAC lab controls, a chilled water plant, steam boiler plant, compressed air system, and water treatment.

Stimulating their national economy, The CCBCSA Sudair Production Facility in Saudi Arabia is doing its part to help push for better buildings. Their new facility, completed in 2019, will create roughly 200 new jobs for Saudi Arabians. Coca-Cola, the owner of this LEED Silver facility, claimed the location for the plant because of its proximity to the capital, Riyadh, and its strategic importance as a center for manufacturing in the kingdom. This facility will allow the company to be at the core of the manufacturing world effecting sustainable changes.

The Izzat Marji Group Headquarters, located in Jordan, is also pushing for healthier workspaces. The space spanning 8,700m² is the first in Jordan to receive the Jordan Green Building Guide Certificate at the highest level of “A”, and the first commercial building in Jordan to receive a LEED Platinum Certification. The building, uniquely, is able to completely cover its electrical consumption. Using innovative renewable energy and energy efficiency systems through PV systems, they are able to convert solar energy into electric power. With the energy efficient equipment, they use in addition to the use of PV systems in the building, carbon dioxide emissions are expected to decrease by approximately 310,500 kilograms per annum. Outside of doing their part to manage their energy use, the headquarters also captures rainwater and saves 58% in water-usage while also providing excellent indoor quality for their tenants.
Speakers

Mahesh Ramanujam
President and CEO
USGBC, GBCI, & Arc Skoru

David Witek
Chief Operating Officer
Arc Skoru

Deepthy K B
Regional Director, Middle East
GBCI

Gopalkrishnan P.
Managing Director, South East Asia & Middle East
USGBC

Contact

Deepthy K B
Regional Director, Middle East
GBCI
deepthyb@gbcio.org