

Sustainable Building Leads the Way to Sustainable Mobility in Dubai

By Sarah Merricks

THE UNITED ARAB EMIRATES (UAE) is going above and beyond to tackle climate risk and focus on environmentally friendly development. This leadership is especially evident in Dubai. One of the fastest-growing metropolises in the world, Dubai has become a model for how a city can transform into one of the most sustainable and livable cities in the world.

The city has taken a number of initiatives to reduce its carbon emissions through energy-efficiency policies and production of renewable energy, including committing to reducing emissions from government entities and industries by 16 percent. The Mohammed Bin Rashid Al Maktoum Solar Park, for example, is the largest generator of solar energy in the world from a single location—with a capacity to produce 5,000 megawatts by 2030—almost 25 percent of the total estimated energy production in the Emirate.

In March 2014, Dubai municipality mandated green-building specifications and regulations for all new buildings. Dubai is also a leader in waste management; in 2012, it developed a waste management master plan to reduce the amount of waste sent to landfills to zero in 20 years by using an integrated and innovative approach. And most recently, in April 2019, the city was the first in the middle east (MENA) region to receive LEED for Cities Platinum certification.



Government Leadership

These are all impressive achievements that solidify Dubai's role as an international leader and are due in large part to government leadership. For example, the Dubai Electricity and Water Authority (DEWA) has demonstrated a strong commitment to reducing the effect of its own ecological footprint. As the distribution authority for electricity and water in the Emirate of Dubai, DEWA's contribution toward healthy and sustainable development through its buildings and assets has been commendable.

In keeping with the company's vision of becoming a sustainable world-class utility, the authority decided to pursue sustainable design for its office building in Al Quoz, Dubai. And in September 2012, DEWA Sustainable Building achieved LEED Platinum certification with a score of 98 out of 110 points, making it the largest government building in the world at the time to earn Platinum certification. It was also the highest scoring building in the MENA region and among the top in the world. Earlier this year, the project built on this commitment by also achieving Parksmart Pioneer certification, and it was the first building in the MENA and North Africa region to be recognized under Parksmart.

The Building

The 236,996 gross-square-foot building houses DEWA's customer service center, a customer call center, an engineering and control center, and the Supervisory Control and Data Acquisition center for water systems. The building uses 66 percent less energy and 48 percent less water than a traditional office building thanks to the use of high-efficiency water fixtures. The building has a fully automated control panel to control the cooling and air conditioning systems and a number of ventilation units that further reduce energy consumption. An efficient stormwater management plan at the facility ensures recycling of water for irrigation, and special regulators, sensor taps, low-flow fixtures, and waterless urinals help further reduce water consumption. An in-house laboratory also ensures that water quality conforms to global environmental standards.

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Materials used in construction contain approximately 36.79 percent recycled content; 28.53 percent of those materials were regionally sourced. The project also has a solar hot water system, an on-site grey-water treatment plant, a 660-kilowatt solar power plant, and a vegetated roof. LED lights and automatic lighting control systems power the building's lighting mechanism with occupancy sensors. And indoor air quality in the building is constantly monitored through the use of carbon dioxide sensors with alarms in all densely occupied areas, while outdoor air is treated and supplied throughout the building to provide better ventilation.

Location

Located close to the Dubai Metro Station the project helps reduce pollution and land development impact from automobile use. Bicycle racks have been allocated for 5 percent of the building users, in addition to preferential parking for low-emission and fuel-efficient vehicles and six electric-vehicle charging stations.

As a destination and origination point in the UAE's transportation system, DEWA recognized the importance of making sure its building maximized its sustainable transportation impact and pursued Parksmart in addition to LEED certification for the headquarters. This LEED-plus approach made sure the authority took advantage of both LEED's sustainability strategies and those in Parksmart and were also specific to the parking structure building type. If LEED Platinum was good, DEWA figured, then LEED plus Parksmart must be great. And so it is. ♦



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