

GREEN BUILDING CITY MARKET BRIEF

# ABU DHABI UNITED ARAB EMIRATES



## DRIVING STRATEGIES

Under the guidance of the Abu Dhabi Urban Planning Council (UPC)'s **Plan Capital 2030**, the Abu Dhabi government has focused on sustainable urban development with a concerted emphasis on infrastructure capacity, community planning and quality of life.

Along with this plan, federal strategies such as the UAE Vision 2021 and the Green Economy for Sustainable Development Initiative serve as tools to drive progress of green buildings and sustainability in Abu Dhabi.

## GREEN BUILDINGS

### Green Building Rating Systems

Following the launch of the Estidama framework in 2008, the UPC developed the Estidama Pearl Rating System (PRS) in 2010, addressing four pillars of sustainability: environmental, economic, social and cultural. The PRS is mandatory for all new buildings in the Abu Dhabi Emirate. It is also the first sustainability rating system in the Arab region.

The Estidama Pearl Rating System (PRS) is currently mandatory for proposed new-construction villas, buildings and community projects that fall under the ownership of developers. The PRS has been integrated into the building permit process at the various municipalities such that the construction of an applicable development is only possible if a project complies with the PRS requirements. The Executive Council Order of May 2010 states all new applicable buildings must meet the 1 Pearl requirements starting in September 2010, whilst all government funded buildings must achieve minimum of 2 Pearls.

In November 2016, the UPC's Estidama program formally announced its participation in the Abu Dhabi Government Unified Hub for Building Permits, which aims to streamline processes for all relevant government agencies responsible for the issuance of all building permit related approvals and/or No Objection Certificates (NOCs).

The UPC has also transferred ownership of Estidama Villa Products Database (EVPD) to Abu Dhabi Quality and Conformity Council (QCC) in Jan 2017. This transition has been decided by Abu Dhabi Government in order to utilize QCC capabilities to enhance product quality and to build upon the successful implementation of the Estidama Pearl Rating System.

## SUSTAINABLE DEVELOPMENT

### Energy Benchmarking

In September 2016, Emirates Green Building Council (EmiratesGBC) published a first-of-its-kind report on energy and water performance for UAE hotels to advocate for carbon footprint reduction and improved water and energy performance of hotels.

On the federal level, the Ministry of Energy (MoE) launched an energy database called Atmatah in 2016 to track the consumption trends of government buildings.

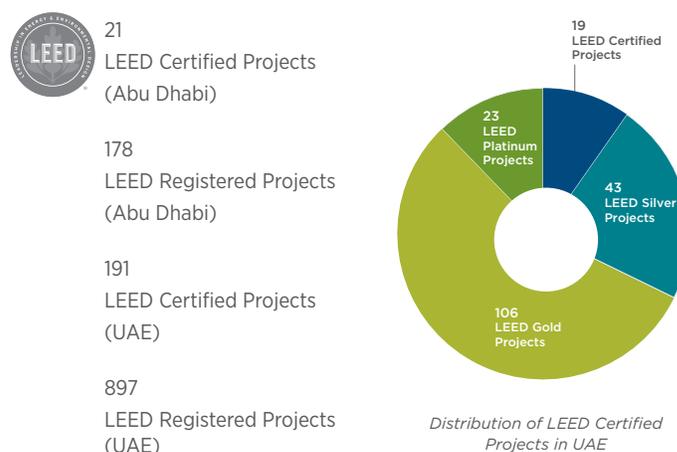
## CITY DETAILS

Population (2015)	1.145 Million
Land Area (km <sup>2</sup> )	972
Climate Action Plan	Yes

## MEMBERSHIP AND PROFESSIONALS

EmiratesGBC Members – Individuals	41
EmiratesGBC Members – Companies	158
LEED Credentialed Professionals (UAE)	1721
Pearl Qualified Professionals (PQP)	1975

## PROJECT BREAKDOWN



## ESTIDAMA SPOTLIGHT: MARCH 2017

- 1577 Estidama PRS Design Rated Project
- More than 14,200 villas awarded a Design Rating
- More than 120 buildings awarded a Construction Rating
- More than 1,950 villas awarded a Construction Rating
- More than 460 Construction Rating Audits conducted
- Over 2,000 products, from 125 suppliers, listed in the Estidama Villa Products Database

### Energy Efficiency

In January 2017, Abu Dhabi Water and Electricity Authority (ADWEA) launched a Demand Side Management (DSM) program under the name “Tarsheed” to encourage customers to use water and electricity more efficiently and aims to reduce the water and electricity consumption by 20% in Abu Dhabi by the year 2030.

The Emirates Authority for Standardization & Metrology (ESMA) is the federal body enforcing mandatory energy efficiency requirements and labeling systems on water fixtures, lighting, electrical appliances and air conditioners.

### Sustainable Transportation

With the aim to develop balanced, sustainable, and multi-modal transportation, the Department of Transport (DoT) in Abu Dhabi in 2015 increased the number of bus routes, doubled the number of family taxis, and promoted carpooling by launching a facilitating website. Another project in the pipeline is Abu Dhabi’s Metro which is intended to relieve traffic congestion on the highway networks and provide optimal connectivity between Abu Dhabi Islands, suburbs, and upcoming communities.

As part of the integrated sustainable transport system, the DoT also developed the **Walking and Cycling Master Plan (WCMP)** that promotes alternative forms of transportation. It aims to enhance mobility, promote healthy lifestyle for citizens, and ensure that land is used in a sustainable manner.

### Renewable Energy

Established in 2005, the Masdar Initiative has led to the development and implementation of most of the renewable energy projects in Abu Dhabi. Shams 1 project, a 100 MW concentrated solar power (CSP) plant, is the most prominent one. Other projects such as the 100 MW solar PV Noor 1 project and the 350 MW solar PV Sweihan project are currently under final consideration.

The renewable energy program in Abu Dhabi continues to focus on PV and CSP with the potential of installing wind farms and waste to energy power systems. This will certainly help in achieving the renewable energy target of Abu Dhabi of 7% by 2020 and the UAE’s renewable energy target of 44% by 2050.

### Waste Management

Tadweer, the Center of Waste Management in Abu Dhabi, was established in December 2008. It implements the Waste Management Strategy in the Emirate to establish a full cycle integrated waste management system. Under this strategy, Tadweer developed several projects and campaigns including the upgrade of collection techniques as well as dump-site investigation and rehabilitation.

In 2015, 28.2% of the total solid waste in Abu Dhabi was recycled and composted.

In November 2015, Tadweer unveiled the Abu Dhabi Waste Management Master Plan 2040 in-line with Abu Dhabi Economic and Environment Vision for 2030 and UAE Vision 2021 which addresses the UAE’s waste reduction target of 85% by 2021.

Since 2002, the Clean-Up UAE campaigns, launched by the Emirates Environmental Group (EEG), has brought together individuals, families,

and organizations from both public and private sectors to participate in cleaning, waste segregation and recycling campaigns.

In 2016, 125,536 people participated in the Clean Up UAE campaign and collected 110,000 kg of wastes across the country.

### LEED SPOTLIGHT

To stay up-to-date on LEED Certification and Registration in the United Arab Emirates, check out the [Green Building Information Gateway \(GBIG\)](#). GBIG was developed by the U.S. Green Building Council and features information on buildings that have achieved certification under LEED or other systems.

### PROJECT SPOTLIGHT

#### Sheikh Zayed Desert Learning Centre

The Sheikh Zayed Desert Learning Centre building is a sculpture that affords multiple spatial experiences. A kinetic architectural promenade gives the building its ultimate form that responds to the imposing mass of Jebel Hafeet, a theatrical background to the wildlife park in which it is located. The idea of geographic strata has been expressed through the building’s system of ramps and multiple levels. Nestled into the land and plantings, the building further imitates the natural world. The Sheikh Zayed Desert Learning Centre achieved the five pearl rating of the Estidama Pearl Rating System (PRS) in its design and construction phases for 2008 and 2009 respectively, and currently in the operational phase, making it among the first UAE government sustainable developments to attain the highest possible rating for sustainability and a benchmark for future projects.



Image courtesy of Sheikh Zayed Desert Learning Centre

### REFERENCES

1. Emirates Green Building Council Membership Figures. Retrieved on 31 March 2017
2. LEED Professionals and Project Figures. Retrieved on 31 March 2017
3. Estidama Pearl Rating System Figures. Retrieved on 31 March 2017