

GREEN BUILDING CITY MARKET BRIEF

DUBAI UNITED ARAB EMIRATES



DRIVING STRATEGIES

Following the success of the **Dubai Strategic Plan (DSP) 2015**, the Government of Dubai released the new **DSP 2021** in December 2014. The new strategy aligns with the **UAE Vision 2021** and the **Green Economy for Sustainable Development Initiative** and aims to position Dubai at the forefront with a primary focus on Dubai residents. The DSP 2021 also intends to build a strong and safe society within a sustainable and smart city.

Along with Dubai’s plan to be the most sustainable city in the world by 2020, the aforementioned strategies serve as tools to drive the progress of green buildings in the Emirate.

GREEN BUILDING POLICIES

Regulations on New Constructions

Dubai Municipality began implementing **Green Building Regulations and Specifications (GBR&S)** on government owned buildings in January 2011 and has mandated the regulations for all new buildings in Dubai starting March 2014. The objective of these regulations is to enhance the performance of the newly constructed buildings, improve public and environmental health, as well as improve the safety and general welfare of citizens.

The applicability of GBR&S on existing buildings is limited. Extensions and refurbishments must comply with these requirements only if they require a building permit from Dubai Municipality.

Existing Buildings’ Retrofit

30,000 buildings in Dubai were identified as having a high energy saving potential; based on this, several public and private initiatives have been launched to engage in retrofit projects. In this regard, Etihad ESCO, a Dubai Electricity and Water Authority (DEWA) venture, manages a retrofitting program for existing governmental buildings with the aim of creating a viable performance contracting market for energy service companies in the UAE.

Etihad ESCO aims to generate 1.7 TWh energy savings, 5.6 BIG water savings, and 1 M tons CO2 emissions’ reduction by 2030.

In 2015, Emirates Green Building Council launched its *Technical Guidelines for Retrofitting Existing Buildings*. These guidelines provide a set of retrofitting methods that are used to improve the performance of existing buildings, advance occupants’ comfort and increase building longevity. They also provide efficiency measures that can be used by building owners and end-users when retrofitting their properties.

SUSTAINABLE DEVELOPMENT

Education and Awareness

At the federal level, the Ministry of Environment and Water launched its **National Environmental Education & Awareness Strategy 2015-2021** to promote and spread the concept of sustainable development amongst youth, community members, industries and governmental entities.

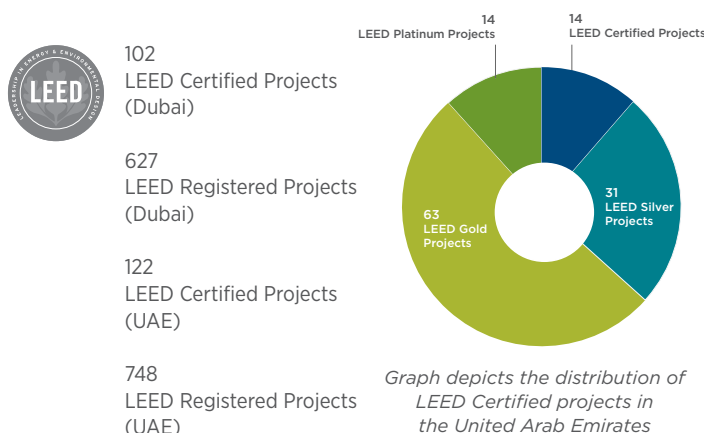
CITY DETAILS

Population	2.42 million
Land Area (km ²)	4,114
Gross Domestic Product (in USD billions)	82.87
Annual Rainfall (mm/year)	94
Climate Action Plan	Yes

MEMBERSHIP AND PROFESSIONALS

EmiratesGBC Members ² – Individuals	53
EGBC Members ³ – Companies	157
LEED Credentialed Professionals (UAE)	1,314

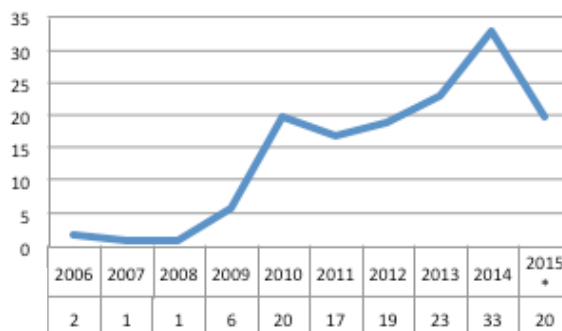
PROJECT BREAKDOWN



CITY TARGETS SET BY THE DUBAI’S GOVERNMENT

- 30% energy savings by 2030
- 30% water savings by 2030
- 15% solar energy contribution in fuel mix by 2030
- 75% clean energy contribution in fuel mix by 2050

NUMBER OF LEED CERTIFIED PROJECTS IN UAE:



Furthermore, several initiatives were launched by private and non-governmental entities to ensure that sustainability is addressed through school curriculums. For instance, the “Eco-Schools” award program, supported by the Environmental Center for Arab Towns (ECAT), provides schools with guidelines to actively engage their staff and students in sustainability projects.

Energy and Water Efficiency

One of the main objectives of the **Dubai Integrated Energy Strategy (DIES) 2030**, issued by Dubai Supreme Council of Energy (DSCE) in 2011, is to decrease energy and water consumption by 30% by 2030. Additionally, it promotes diversification of fuel sources to include clean coal, solar and nuclear energy.

As for energy efficiency, the Emirates Authority for Standardization & Metrology (ESMA) is enforcing mandatory energy efficiency requirements and labeling systems on water fixtures, lighting, electrical appliances and air conditioners. In July 2014, ESMA banned the import of inefficient incandescent lamps into the country.

Also, through its newly established department for energy conservation and energy efficiency, the Ministry of Energy aims to establish a database and local benchmarks for various energy consuming sectors across the UAE.

Sustainable Transportation

In September 2015, DSCE launched **Dubai’s Green Transport Initiative** to encourage the use of sustainable transportation, such as hybrid and electric vehicles.

The Green Transport Initiative would contribute to a 19% decrease in the total carbon emissions in Dubai with a target of achieving a 10% increase in the number of hybrid and electric cars by 2030.

As a pioneering response to this initiative, DEWA was the first governmental organization to add electrical cars to its fleet in October 2015.

The local Road & Transport Authority (RTA) also works to promote efficient transportation in Dubai to increase community connectivity and help in achieving a better and healthier lifestyle for residents. Dubai Metro, Dubai Tram, bio-fuel operating buses, and electric boats can be seen as success stories for the Emirate. The RTA was expected to deploy more than 200 hybrid taxis on Dubai roads by the end of 2015 and targets to deliver 900 kilometers of cycle paths by 2020 as per Dubai Bicycle Master Plan.

Waste Management

In 2012, the waste management department of Dubai Municipality launched a door-to-door waste collection and recycling program under the title of “**My City, My Environment**”. Recycling bins have been made available in different areas of the city to encourage the public to recycle to help in the development of a more environmental friendly city.

The rate of recycling in Dubai doubled from 8% to 16% in two years after the launching of the “My City, My Environment” programme.

Since 2002, the **Clean-Up UAE campaigns**, launched by Emirates Environmental Group, has brought together individuals, families and organizations from both public and private sectors to participate in cleaning, waste segregating and recycling campaigns.

In 2014, 123,176 people participated in the Clean Up UAE campaign and diverted 94 Tons of waste from landfill.

Renewable Energy

In January 2012, the **Dubai Programme for Renewable Energy** was launched by HH Sheikh Mohammed bin Rashid Al Maktoum, Vice President and Prime Minister of the UAE and Ruler of Dubai.

As part of this program, the Mohammed bin Rashid Al Maktoum Solar Park has been designed to be one of the largest renewable energy projects in the region. When completed, it will be a 3,000 MW production capacity plant, and will help support the DIES 2030 in achieving its target of 15% of energy produced from.

To encourage installing micro-solar systems, DEWA also launched its **Shams Project** that implements the council resolution number 46 of 2014. The project enables customers to install photovoltaic solar panels on residential and commercial buildings and generate electricity on-site. The excess of energy produced will be injected into DEWA’s grid.

PROJECT SPOTLIGHT:

The Sustainable City

The Sustainable City, a 5 million square feet project, is the first residential community of its kind in Dubai. It aims to demonstrate that luxury housing is possible while maintaining sustainability standards, which span across 500 townhouses. The main features of the city are listed below:

- Zero net maintenance and service fees
- 100% waste and water recycling
- 100 MWp solar production
- Productive landscapes
- Urban farming and green houses
- Solar shaded parking and rooftops
- Free Electric buggies and electric charging stations
- Equestrian centre
- Horse-riding and jogging tracks



Image Courtesy of The Sustainable City

REFERENCES

1. Dubai Statistic Center Website: <https://www.dsc.gov.ae/en-us/EServices/Pages/Population-Clock.aspx>.
2. Emirates Green Building Council Membership Figures were retrieved on 31 October 2015..
3. LEED Professionals and Project Figures were retrieved on October 21 2015.