Energy and Water Performance of DUBAI HOTELS

Overview

EmiratesGBC conducted the Hotels Benchmarking Project as part of Dubai’s commitment to the Building Efficiency Accelerator (BEA) Initiative to establish energy and water benchmarks to support the retrofit market and drive policy makers in developing strategies. Read the full Report on the EmiratesGBC’s benchmarking web page.

Key Findings - Hotel & Hotel Apartments

### Best Hotel & Hotel Apartments Performers
- **Energy**
  - EUI 1 < 171 kWh/m²/year
  - EUI 2 < 23 kWh/guest night/year
- **Water**
  - WUI 1 < 915 litres/m²/year
  - WUI 2 < 155 litres/guest night/year

### Median Hotel & Hotel Apartments Performers
- **Energy**
  - EUI 1 = 249 kWh/m²/year
  - EUI 2 = 69 kWh/guest night/year
- **Water**
  - WUI 1 = 1,486 litres/m²/year
  - WUI 2 = 363 litres/guest night/year

### Worst Hotel & Hotel Apartments Performers
- **Energy**
  - EUI 1 > 414 kWh/m²/year
  - EUI 2 > 168 kWh/guest night/year
- **Water**
  - WUI 1 > 2,632 litres/m²/year
  - WUI 2 > 915 litres/guest night/year

### Key Results

- **EUI 1**
  - BEST: 104 kWh/m²/year
  - MEDIAN: 249 kWh/m²/year
  - WORST: 648 kWh/m²/year
- **EUI 2**
  - BEST: 19 kWh/guest night/year
  - MEDIAN: 69 kWh/guest night/year
  - WORST: 219 kWh/guest night/year
- **WUI 1**
  - BEST: 850 litres/m²/year
  - MEDIAN: 1486 litres/m²/year
  - WORST: 3106 litres/m²/year
- **WUI 2**
  - BEST: 144 litres/guest night/year
  - MEDIAN: 195 litres/guest night/year
  - WORST: 915 litres/guest night/year
The Building Efficiency Accelerator (BEA), is a public-private collaboration that turns global expertise into action to accelerate local government implementation of building efficiency policies and programs. The global initiative is led by World Resources Institute (WRI) and is one of the six assessment tools under the UN program Sustainable Energy for All which aims to double the global rate of improvement in energy efficiency.

Key Findings - Resorts

**Best Resorts Performers**

**EUI 1**

\[ EUI_1 < 193 \text{ kWh/m}^2/\text{year} \]

\[ EUI_2 < 71 \text{ kWh/guest night/year} \]

**WUI 1**

\[ WUI_1 < 1,093 \text{ litres/m}^2/\text{year} \]

\[ WUI_2 < 586 \text{ litres/guest night/year} \]

**Median Resorts Performers**

**EUI 1**

\[ EUI_1 = 334 \text{ kWh/m}^2/\text{year} \]

\[ EUI_2 = 148 \text{ kWh/guest night/year} \]

**WUI 1**

\[ WUI_1 = 1,676 \text{ litres/m}^2/\text{year} \]

\[ WUI_2 = 855 \text{ litres/guest night/year} \]

**Worst Resorts Performers**

**EUI 1**

\[ EUI_1 > 444 \text{ kWh/m}^2/\text{year} \]

\[ EUI_2 > 249 \text{ kWh/guest night/year} \]

**WUI 1**

\[ WUI_1 > 4,927 \text{ litres/m}^2/\text{year} \]

\[ WUI_2 > 997 \text{ litres/guest night/year} \]

Key Results

**EUI 1**

\[ \text{BEST: } 181 \text{ kWh/m}^2/\text{year} \]

\[ \text{MEDIAN: } 334 \text{ kWh/m}^2/\text{year} \]

\[ \text{WORST: } 483 \text{ kWh/m}^2/\text{year} \]

**WUI 1**

\[ \text{BEST: } 1054 \text{ litres/m}^2/\text{year} \]

\[ \text{MEDIAN: } 1676 \text{ litres/m}^2/\text{year} \]

\[ \text{WORST: } 4927 \text{ litres/m}^2/\text{year} \]

**EUI 2**

\[ \text{BEST: } 65 \text{ kWh/guest night/year} \]

\[ \text{MEDIAN: } 148 \text{ kWh/guest night/year} \]

\[ \text{WORST: } 260 \text{ kWh/guest night/year} \]

**WUI 2**

\[ \text{BEST: } 492 \text{ litres/guest night/year} \]

\[ \text{MEDIAN: } 586 \text{ litres/guest night/year} \]

\[ \text{WORST: } 997 \text{ litres/guest night/year} \]

Best vs Worst Performers

**Overall, best performers consume**

58% less energy per area than worst performer

**Best hotel performers consume**

65% less water per area than worst performer

**Best resorts performers consume**

78% less water per area than worst performer

---

EUI 1: The Energy Use Intensity 1 is the total energy used by the property (i.e. the onsite electricity, fuel and district cooling) used divided by the gross conditioned floor area.

EUI 2: The Energy Use Intensity 2 is the total energy used by the property divided by the annual guest night.

WUI 1: The Water Use Intensity 1 is the total water used by the property divided by the gross conditioned floor area.

WUI 2: The Water Use Intensity 2 is the total water used by the property divided by the annual guest night.

The 5th percentile and the 95th percentile values were used as a scale to define the best performers and worst performers, respectively.