



# VERIFIED CORPORATE HERO - 2013

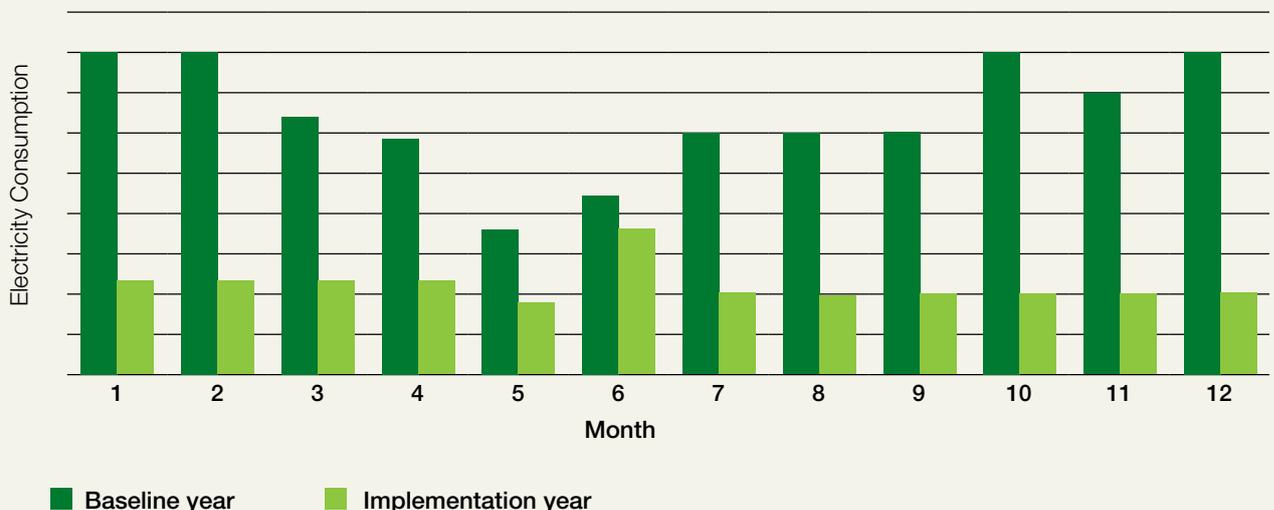
## ARCHCORP

Archcorp joined the Heroes of the UAE programme in 2010 after relocating to a new office. One of the driving factors behind the decision to relocate was the desire to “Go Green” and become a carbon neutral company. To achieve this target, Archcorp carried out a number of initiatives from developing the green office concept to post-occupancy measures to achieve energy savings, reduce water consumption, reuse materials and furniture and recycle waste. As a result, Archcorp’s head office at Port Saeed Dubai, has achieved US Green Building Council LEED Silver certification.

Archcorp’s efforts to reduce its carbon footprint under the Heroes of the UAE paid off as it was able to reduce 55% of its electricity consumption and 89% of its water consumption. Reductions for electricity have been verified for the entire office of 378 square meters through utility bills, and reductions for water are estimated based on retrofits installed, given that the company pays a flat fee for water as part of the rent and is not metered.

The payback was 1.56 years, which means the investment is paid in less than two years, and demonstrates the profitability of investing in retrofits. These efforts resulted in the company saving 43.9 tonnes of CO<sub>2</sub> emissions over a year.

### Monthly Electricity Consumption for baseline year and implementation year



### How Archcorp Reduced its Carbon Footprint

The most interesting element about Archcorp’s case study is that they selected its new office location with the purpose of reducing its carbon footprint. The new office was selected with criteria that included proximity to the metro in order to encourage employees and visitors to use public transport. In addition, they fitted a variety of energy and water conservation measures on the new property and aimed to reuse and reduce waste.

### Technical changes

#### Electricity:

Archcorp evaluated the existing systems in its new office and identified several areas for improvement to reduce its electricity consumption:

- Air conditioning was identified as the most energy-consuming element of the electricity bill, as well as providing employee productivity and comfort. While the air conditioning system is owned and maintained by

the building owner, Archcorp took on the responsibility and risk to update its air conditioning system to achieve their target. Adjustments to the system produced estimated savings between 10-15%:

- Revision of the layout duct to introduce fresh air to the office
  - Installation of programmable thermostats to vary the speed, switch on/off as per occupancy requirements during the day and maintain the temperature between 24-25°C.
- Lighting measures focused on reducing the lighting load. Halogen bulbs were replaced with more efficient CFLs and LEDs, and fixtures were placed to ensure the best possible light distribution. Archcorp used natural light more efficiently and installed sensors throughout the office. Combined, these measures produced estimated savings of 37% of electricity consumption; highlighting the great potential of addressing lighting smartly in an office environment.
- Energy consumption from office equipment was addressed by implementing energy saving equipment. Currently the Archcorp office has 82.92% of its equipment with Energy Star ratings.

#### **Water:**

Archcorp pays a flat fee for water consumption, but still considered it crucial to undertake water reduction measures. It installed water saving fixtures in all water using devices including kitchen, washbasins and showers. Water savings were calculated indirectly following Guide 2: *How to Develop a Case Study Report for the Heroes of the UAE Campaign*, and savings were estimated at 89%.

#### **Sharing Lessons Learned**

The journey to reduce its carbon footprint returned many valuable lessons to Archcorp. It has required them to overcome many challenges such as the lack of metering, which has made it difficult to monitor results and calculate the financial benefits. Additional challenges faced include the pre-installed air conditioning system and landlord's control over the equipment.

It was also difficult to identify suitable energy efficient products in the market place, yet Archcorp succeeded thanks to the leadership of its senior management in supporting sustainability goals, which was supported by the strong internal capacity of an architectural/ engineering firm.

While the best energy and water conservation measures should be planned in the design stages of buildings, this case study demonstrates such retrofits are feasible to implement to an existing office and still produce excellent returns on investment.

#### **About Archcorp**

Archcorp is a UAE based consultancy established in 2005, providing services in architecture, interior design, master planning and engineering. Archcorp is in a unique position as architects and engineers who can lead the way in conserving energy and water and contributing to reduce the carbon footprint, not only through its operations, but the services provided to its clients.

#### **Building Information**

Location: Port Saeed, Dubai

Building Type: Office (rented)

Area: 378 sq. m.

Utility Bills: DEWA bills for electricity and flat fee for water

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