

# CASE STUDY

DP World

DP WORLD 

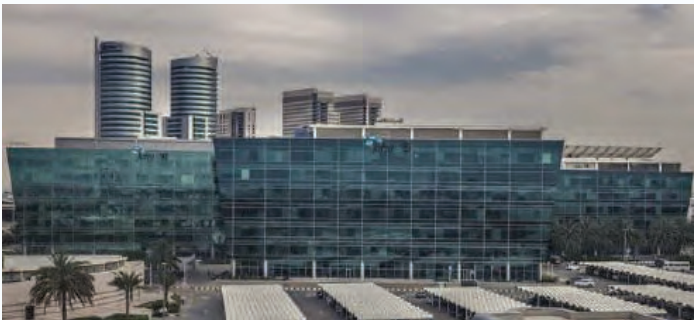


## DOTS Energy Services

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Energy performance of DP World was below par when benchmarked with internationally accepted standards. Alarmed authorities appointed ESCO to perform a detailed energy audit which revealed substantial quantum of energy savings potential.

The crucial challenges faced by ESCO during identification & designing of ECMs were the frequent unlikely renovations undertaken by client within the facility which proved to be technically demanding.

Both energy audit & solution implementation was to be carried out without disturbing the facility operations. Project also included supply, installation, testing, commissioning along with operational verification of the BMS with energy management dashboards.

**THE SOLUTION**

Performing instantaneous measurements, logging activities, understanding operational philosophy, maintenance strategies and occupant feedback gathered during the survey assisted the ESCO to formulate below measures

- ✔ Implementation of Integrated BMS
- ✔ Optimisation of chilled water pump operation
- ✔ Installation of Chiller Plant Manager for demand based auto operations
- ✔ Replacement of in-efficient lighting to more efficient LED luminaires with occupancy/motion based operations
- ✔ Shifting from manual to automated operations with appropriate setpoints, operating schedule & night set back modes for FAHU, AHU & FCUs
- ✔ Installation of PMU (Phasor measurement) for continous Energy Management for monitoring & targeting
- ✔ Training & awareness Program (CSR Initiative)

**BACKGROUND**

The facility located in JAFZA was commissioned in 2010. The office has dynamically changed over the years with internal renovations being executed. The main energy guzzler being the chiller plant had inappropriate controls which led to in-efficient operations. Load side equipment also performed in-efficiently & in manual mode.

**BUILDING SPECIFICATIONS**

Typology	Office
Location	JAZFA, Dubai, UAE
Age	9 Years
Building Configuration(m <sup>2</sup> )	G+6+Roof (~3500)
Major Equipment/System	Air cooled chiller Constant Primary+variable secondary CHW pumps FAHU AHUs with VAV FCU Lighting

**THE RESULTS**

Building retrofit concluded in 2018. Performance of facility in the first reporting period was deemed to be satisfactory with 20% avoidance of cost & energy.

**Estimated Energy Avoidance: 8415 MWh**

**Estimated Cost Avoidance: 3.7 Mn AED**

**Estimated Annual Savings: 20%**

**Estimated Carbon Reduction: 5470 Tons**

Solution implementation saves the below equivalent GHG emissions from

Greenhouse gas omissions from

CO<sub>2</sub> emissions from

1,263

Passenger vehicles driven for one year

14,549,329

Miles driven by an average passenger vehicle

669,593

Gallons of gasoline consumed

584,546

Gallons of diesel consumed

1,038

Homes' electricity use for one year

32.5

Railcar's worth of coal burned