

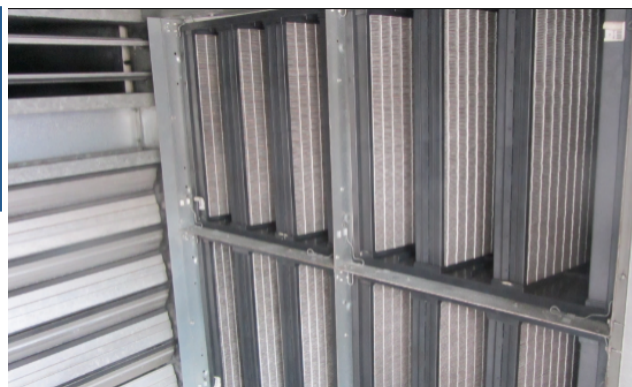
iSERVcmb Best Practice

Electricity HVAC savings of 41% per year by adjusting the operation of the A/C equipment.

UP-Porto 27 27 – PT

Introduction

This report summarizes the results UP-Porto 27 building participation to the iSERVcmb project with regard to its HVAC system energy consumption. The report refers to consumption from 2013 year.



iSERV Achievements

Energy Savings

Electricity: 13.3 kWh/m².year

41%

HVAC electrical consumption reduction

Cost Savings

Electricity: 2 €/m².year

Emissions Reductions

Electricity: 1.9 kgCO₂/m².year

Investment to achieve savings

1.7 €/m².year



	Key Figures
Location	Portimão, PT
Sector	Office
Construction Date	2008
Project Size	828 m ²
EPC	C
Sub-metering Level	Party Metered
Data Frequency	Hourly
Data Collection Protocol	Meters and sensors attached to BMS
Data Sending Protocol	Automatically extract data & manually send to an email address
Nature of Savings achieved	Improved Operating Schedule Improved HVAC Control
No. HVAC Systems	3
HVAC Components	<input type="checkbox"/> Heat Generators <input type="checkbox"/> Cold Generators <input type="checkbox"/> All-in-One Systems <input type="checkbox"/> Heat Pumps <input checked="" type="checkbox"/> Air Handling Units <input checked="" type="checkbox"/> Splits <input checked="" type="checkbox"/> Terminal Units <input type="checkbox"/> Heat Recovery <input type="checkbox"/> Heat Rejection

Building Profile

UP-Porto 27 Portimão is a building, which main activity is office. The total conditioned gross internal area is 828 m², with one storey, located in Portimão, PT. The air distribution in the single floor of the building is provided by 1 AHU. Thermal energy for cooling and heating the spaces is provided split systems. The total Nominal Cooling and Heating Capacity is of 141 kW and 166 kW, respectively.

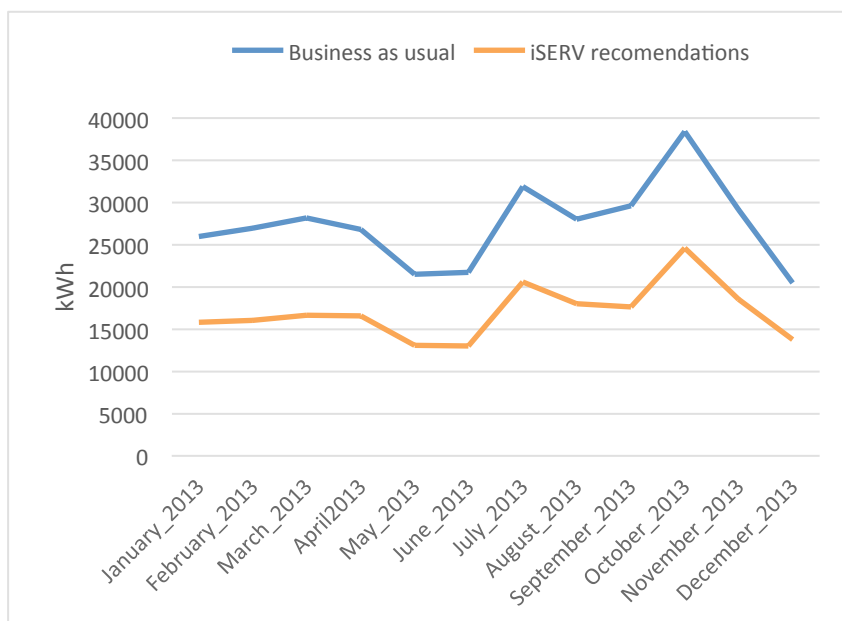
Building Management System installed

The building systems are controlled by a BMS. The consumptions monitoring is achieved by an independent system. The building is occupied 12 hours/day from 8:00 to 20:00, 5 days/week.

Savings of 11 MWh/year due optimized HVAC control

The data provided starts at January 2013 and includes electricity energy consumption. Energy saving opportunities have been identified in several HVAC systems with a total estimated savings of 11 MWh on the analysed period.

This Energy conservation opportunities are mostly related to system control. The difference in the annual consumption is represented in the figure on the right and include the split systems and the AHU control improvement and turning off equipment when not needed. The estimated result of this measures could represent a reduction of 41% in the HVAC systems consumptions, without major investments. The reduction of the HVAC annual building energy use can be reduced to 13.3 kWh/m².year. It is not possible to know the total building savings, because there is no meter in the main electricity board.



The annual electrical savings achieved in the building are estimated in 11,000 kWh/year on the HVAC systems. This translates to annual electricity savings from the HVAC alone of approximately EUR 1,650/year.

www.iSERVcmb.info

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how energy efficient are you really?

