

iSERVcmb Best Practice

Electricity HVAC savings of 29% per year by adjusting the operation of the A/C equipment.

UP-Porto28

28 – PT

Introduction

This report summarizes the results of UP-Porto 28 Contact Center's participation to the iSERVcmb project with regard to its HVAC system energy consumption. The report refers to the period from Jun 2012 to August 2013.



iSERV Achievements

Energy Savings

Electricity: 268.3 kWh/m².year

41%

HVAC electrical
consumption reduction

Cost Savings

Electricity: 40.2 €/m².year

Emissions Reductions

Electricity: 38.6 kgCO₂/m².year

Investment to achieve savings

18 €/m².year



	Key Figures
Location	Seia, PT
Sector	Office / Call Center
Construction Date	2007
Project Size	1,066 m ²
EPC	Choose an item.
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	HVAC Equipment Replacement Improved HVAC Control
No. HVAC Systems	8
HVAC Components	<input type="checkbox"/> Heat Generators <input checked="" 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"/> Pumps <input checked="" type="checkbox"/> Terminal Units <input checked="" type="checkbox"/> Heat Recovery <input type="checkbox"/> Heat Rejection

Building Profile

UP-Porto28 Seia building is a contact center, which has also offices served by the HVAC systems. The total conditioned gross internal area is 1066 m², with a single floor located in Seia, PT. The contact center is mainly an open space served by 2 AHU with heating and cooling. The building has secondary activities like offices and lecture rooms, served by fan coils. Corridors, toilets and reception are served by other HVAC systems. Cooling and Heating is provided by two packaged chillers/heat pumps with a total Nominal Cooling and Heating Capacity of 256 kW and 280 kW, respectively.

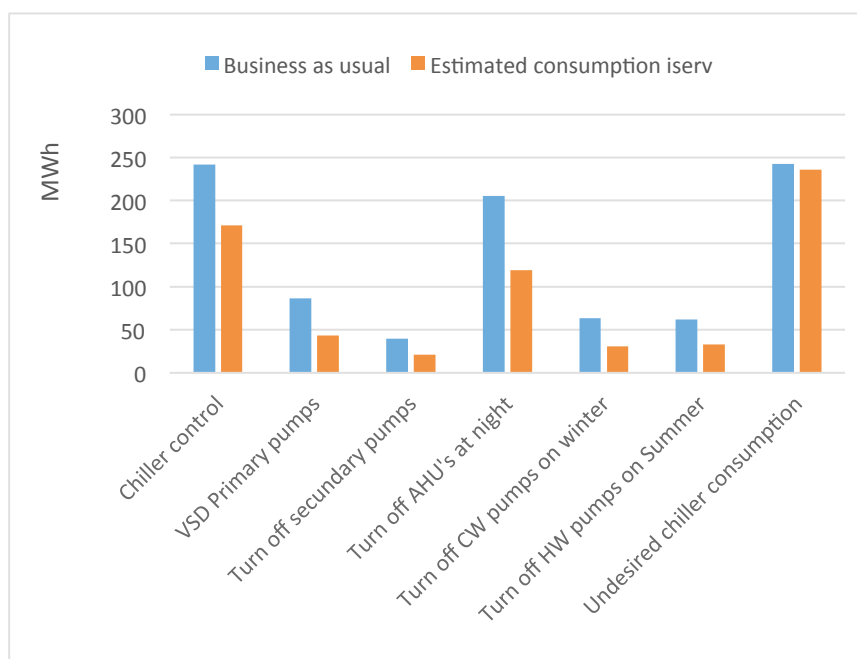
Building Management System installed

The building systems are controlled by a BMS. The consumptions monitoring is achieved by an independent system. The building is occupied 24 hours/day, 7 days/week.

Savings of 286 MWh/year due optimized HVAC control

The data provided starts at June 2012 and includes energy consumption electricity. Energy saving opportunities have been identified in several HVAC systems with a total estimated savings of 286 MWh on the analysed period.

This Energy conservation opportunities are mostly related to system control and occupants awareness. These measures are represented in the figure on the right and include Chiller control improvement, installation of variable speed drive on the primary pumps, turn off equipment when not in use and concentrate the occupation of occupants, in smaller areas during the night. The estimated result of these measures could represent a



reduction of 41% in the HVAC systems, without major investments. The reduction of the total annual building energy use can be reduced to 563.7 kWh/m².year, representing electricity savings of 29% from the electricity use.

The annual electrical savings achieved in the building are estimated in 238,000 kWh/year on the HVAC systems. This translates to annual electricity savings from the HVAC alone of approximately EUR 28,500/year.

www.iSERVcmb.info

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how energy efficient are you really?

