

iSERVcmb Best Practice

Electricity savings of 26% per year was found with HERO (tool for automatic online ECO detection with use of long-term monitored data for specific HVAC system).

SPAR Vrhovci SPAR Slovenia –SI

Introduction

This report summarizes the results of SPAR Slovenia participation to the iSERVcmb project with regard to its HVAC system energy consumption. The report refers to the period from 2012 to 2013.



iSERV Achievements

Energy Savings

Electricity: 13005 kWh

26%

Total HVAC electrical consumption reduction since participation

Cost Savings

Electricity: No data €/m²

Emissions Reductions

Electricity: No data CO₂/m²

Investment to achieve savings

No data €/m²



	Key Figures
Location	Vrhovci, Slovenia
Sector	Retail
Construction Date	2011
Project Size	1013m ²
EPC	N/A
Sub-metering Level	Party Metered
Data Frequency	15'
Data Collection Protocol	Manufacturer on board data collection system
Data Sending Protocol	Automatically extract data & manually send to an email address
Nature of Savings achieved	Improved HVAC Control Improved Operating Schedule HVAC Equipment Replacement
No. HVAC Systems	1
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 type="checkbox"/> Humidifiers <input type="checkbox"/> Dehumidifiers <input checked="" type="checkbox"/> Pumps <input type="checkbox"/> Storage Systems <input type="checkbox"/> Terminal Units <input type="checkbox"/> Heat Recovery <input type="checkbox"/> Heat Rejection

Building Profile

SPAR Vrhovci is a shopping center with conditioned gross internal area (CGIA) of 1013. Cooling is provided by packaged chiller, with a total nominal cooling capacity of 27 kW and one air handling unit.

Building Management System

The building system operates on an optimized stop and start. The building owner carries out measurements on HVAC systems and provided it into HERO online database which were also used for this case study. The building is occupied 08:00 to 20:00, Monday to Friday, from 8:00 to 17:00 in Saturday and from 8:00 to 12:00 in Sunday. Outside of these hours, setback points are used.

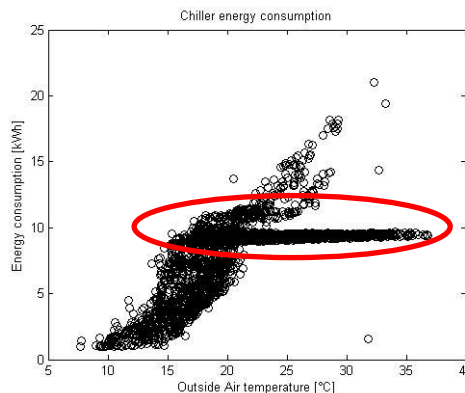
Savings of 13 MWh/a due to optimized HVAC control and upgrade of HVAC system

The data provided starts at August 2012 and includes energy consumption of electricity. HERO tool was used to provide with the result about possible ECO's to reduce electricity energy use on HVAC system.

ECO's which were found on HVAC system were next:

- To improve operating schedule
- **To reduce electricity energy use in standby mode (cold generator)**
- To find appropriate working space for cold generators

Figure below shows the malfunction of the cold generator which has influence on higher electricity energy use because of inadequate working space (closed or basement).



These electricity savings represent a reduction of 26% from the initial electricity energy use on HVAC system.

The annual electrical savings achieved in the building are currently 13005 kWh achieved by optimized HVAC control and upgrade of HVAC system.

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how energy efficient are you really?

