

SMARTCOOL™

IMPROVE YOUR BUSINESS BY E³

ENERGY EFFICIENCY - ECONOMIC BENEFITS - ENVIRONMENTAL SUSTAINABILITY

Smartcool's Energy Saving Module (ESM)™ is a unique retrofit technology that saves energy on the compressors in air conditioning and refrigeration systems. Working in conjunction with existing equipment and controls, the ESM™ maintains pre-set temperatures without causing over-cycling and reducing compressor run time by up to 30%.

Smartcool clients confirm electricity demand and consumption savings in excess of 20%, giving them a rapid return on investment and reducing their carbon footprint. Here's just one example of the savings that can be achieved with Smartcool:



CASE STUDY: HOTEL

DUBAI, UAE

INSTALLED 2008



"The installation of the ESM™ in our hotel has given us substantial benefits, both financially and environmentally. I believe that the use of the ESM™ goes in the right direction in taking a more responsible approach in using less natural resources in our building. Energy efficiency is a key concern in the hospitality industry, and Smartcool is providing a great solution."

Siegfried Nierhaus, GM
Radisson SAS, Dubai Media City, UAE

ENERGY EFFICIENCY

187,089 KWH
Annual energy savings achieved
by installing the ESM™

ECONOMIC BENEFITS

\$14,389
Annual financial savings

15 MONTH
Return on investment

ENVIRONMENTAL SUSTAINABILITY

110,185 KG
= 242,917 LBS
Annual GHG emissions reduction

132 ACRES
Trees required to sequester the
same amount of GHG emissions
57 HOMES
Could be powered for a year with
the energy saved

EQUIPMENT

2 YORK CHILLERS FOR A/C

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Savings achieved by the ESM™ are easily quantifiable. The unit can be switched between ON and OFF modes, allowing for a comparison of energy usage by the air conditioning or refrigeration compressors with and without the ESM™.

Smartcool can provide a standard monitoring and verification package to interested clients, which includes recording the energy usage and temperature performance of their existing equipment both with and without the ESM™ in the circuit. Smartcool will install energy data loggers to measure and record the KW, kWh and amperage used by the cooling system during a set evaluation period when the ESM™ alternated between ON and OFF. These data loggers take a measure every 8 seconds and are set to provide a date stamped printout every 6 minutes. Temperature loggers are also used to measure and record the controlled space temperature is maintained.

EVALUATION DETAILS



The Radisson SAS Hotel located in Media City, Dubai, UAE, is a seven-storey luxury facility with 246 guest-rooms and 12 meeting rooms. The two York chillers responsible for cooling the West Tower of the hotel served as the target of this initial installation.

Smartcool's ESM™ with the Intelligent Interface Module was chosen for the installation, due to its ability to effectively and safely optimize the compressors in chillers.

ESM™ units were installed in June 2008 to optimize the chillers. Each chiller also had a Profile Energy Logger installed to monitor the energy consumption of the compressors. The number of starts made by each compressor were monitored using a Squirrel Logger. Data was collected over a two week period as the ESM™ units alternated between OFF and ON modes. The energy savings shown below were achieved with no discernable impact on temperature.

EVALUATION PERIOD RESULTS

ESM™ OFF = 5,619 kWh
ESM™ ON = 5,152 kWh
Average Daily kWh Savings = 513 kWh

ANNUAL ESTIMATED RESULTS

Annual Energy Savings = 187,089 kWh
Return on Investment = 15 months
GHG Emissions Reduction = 110,185 kg
or 242,917 lbs

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