

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: COMMERCIAL REAL ESTATE

ORLANDO, FL, USA

INSTALLED 2008



The Navy Exchange has a chain of retail stores across the US, focusing on providing quality items to the Navy and the community at large. With an environmental program well underway, including initiatives in recycling, lighting improvements and HVAC upgrades, the Navy Exchange is committed to achieving greater energy efficiency in its facilities.

ENERGY EFFICIENCY

1 15,307 KWH
Annual energy savings achieved
by installing the ESM[™]

ECONOMIC BENEFITS

< 36 MONTH
Return on investment

ENVIRONMENTAL SUSTAINABILITY

52,405 KG
= 155,535 LBS
Annual GHG emissions reduction

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

EQUIPMENT

TWO TYLER REFRIGERATION RACKS

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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 Navy Exchange facility in Orlando includes a refrigerated case section. Smartcool's ESM™ was installed on the two Tyler refrigeration racks responsible for cooling these cases. One rack consisted of three compressors and the second consisted of four compressors.

The ESM™ units were installed in December 2008 to optimize the compressors in the refrigeration racks. Smartcool's standard monitoring and verification process was initiated to determine the performance of the unit. Data was collected 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 = 1,332 kWh
ESM™ ON = 1,068 kWh
Average Daily kWh Savings = 264 kWh

ANNUAL ESTIMATED RESULTS

Annual Energy Savings = 115,307 kWh
Return on Investment = < 36 months
GHG Emissions Reduction = 52,405 kg
or 115,535 lbs

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