

# SMARTCOOL™

IMPROVE YOUR BUSINESS BY E<sup>3</sup>

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: FOOD SERVICES

LONDON, UK

INSTALLED 2007

 Gategourmet

"The ESM™ supports our commitment to drive down energy costs and reduce our CO<sub>2</sub> emissions - the product is excellent and the service from Smartcool has been attentive and responsive."

Sukh Punn, Utilities Manager UK  
Gate Gourmet

### ENERGY EFFICIENCY

**620,000 KWH**  
Annual energy savings achieved  
by installing the ESM™

### ECONOMIC BENEFITS

**\$72,196**  
Annual financial savings (USD)

**12 MONTH**  
Return on investment

### ENVIRONMENTAL SUSTAINABILITY

**276,724 KG**  
= 610,071 LBS  
Annual GHG emissions reduction

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

### EQUIPMENT

10 UNITS FOR A/C AND REFRIGERATION

[WWW.SMARTCOOL.NET](http://WWW.SMARTCOOL.NET)

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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

As the world's largest independent provider of airline catering and provisioning services, Gate Gourmet delivers 700,000 quality meals to over 3,000 flights every single week in the UK alone. The company's facilities at Heathrow require a significant amount of cooling to maintain the freshness and quality of their products, making energy efficiency in this area a key cost saving measure.



ESM™ units were installed in 2007 to optimize the reciprocating compressors in Gate Gourmet's 10 air conditioning and refrigeration units. Smartcool evaluated the performance of the ESM™ units by alternating between ON and OFF mode to gain comparative energy usage data. Smartcool's standard energy and temperature logging system was used to collect the data, which was compiled into a clear and concise report for Gate Gourmet.

#### ANNUAL ESTIMATED RESULTS

Annual Energy Savings = 620,000 kWh  
Return on Investment = 12 months  
GHG Emissions Reduction = 276,724 kg  
or 610,071 lbs

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