

SMARTCOOL™

IMPROVE YOUR BUSINESS BY E³

ENERGY EFFICIENCY - ECONOMIC BENEFITS - ENVIRONMENTAL SUSTAINABILITY

Smartcool's ECO³™ 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 ECO³™ maintains pre-set temperatures without causing over-cycling and reducing compressor run time. The ability to save energy on the heating and cooling cycles of compressor driven heat pumps, along with its quick installation, make the ECO³™ a highly economical solution.

Smartcool clients confirm electricity demand and consumption savings averaging 15%, giving them a rapid return on investment and reducing their carbon footprint. Here is just one example of the savings that can be achieved with Smartcool:



CASE STUDY: INSTITUTION

NSW, AUSTRALIA

INSTALLED 2009

*Smartcool is presenting results on behalf of an anonymous client.

ENERGY EFFICIENCY

2,920 KWH

Annual energy savings achieved
by installing the ECO³™

ECONOMIC BENEFITS

< 36 MONTH

Return on investment

ENVIRONMENTAL SUSTAINABILITY

1,787 KG

= 3,939 LBS

Annual GHG emissions reduction

EQUIPMENT

TWO 7-TON REVERSE-CYCLE AIR CONDITIONING
(HEAT PUMP) UNITS

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Savings achieved by the ECO³™ 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 ECO³™. Alternatively, energy savings can be tracked by taking regular readouts off the screen on the unit.

Smartcool also provides 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 ECO³™ 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 ECO³™ 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

Two 7-ton reverse cycle air conditioning units (also known as heat pumps), provide the heating and cooling for one room of the institution where the Smartcool test was conducted.

The ECO³™ units were installed in 2009 to optimize the compressors in the air conditioning/heat pump units. The clear display screen of the ECO³™ allowed for the run, save, bypass and override hours of the units to be easily monitored. Screen read-outs were collected as the ECO³™ units alternated between OFF and ON modes. The energy savings shown below were achieved with no discernable impact on temperature.

ANNUAL ESTIMATED RESULTS

Annual Energy Savings = 2,920 kWh
Return on Investment = < 36 months
GHG Emissions Reduction = 1,787 kg
or 3,939 lbs



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