

Smartcool Performance Report

Family Home Florida, USA

Smartcool's energy efficiency solutions achieved the following results on the air conditioning system for this stand-alone family home:



"In the first full month we have had the ECO3 installed we have had the lowest electricity bill in 11 years! I'm really happy that we made the decision to install the ECO3 and I am confident that it will pay off over the long run - BIG TIME!"

- Harrison Hine, Homeowner

The Project

The project was carried out by Carpenter Electric, an independent Smartcool distributor active in Florida.



Carpenter Electric installed the ECO3 to optimize the compressors in one 3-ton Lennox, one 2-ton Lennox and one 2-ton Trane air conditioning unit. These units provide air conditioning to a family home, including a home office and separate suite.

The ECO3 logs the number of hours the compressor runs as well as the number of hours the ECO3 prevents the compressor from running in order to save energy. This data is shown on the product display screen for easy savings verification.



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Project Results

The ECO3 reduced the energy consumption of the air conditioning compressors by an average of 32.5% kWh, saving approximately 10,230 kWh per year, and cutting the annual electricity bill by \$1,180. The energy efficiency improvement will also cut greenhouse gas emissions by 6,281 kg every year.

The homeowner has reported monthly savings on his electrical bill of \$98.32 and will see a full payback from his energy efficiency investment with the ECO3 in just 15 months.

These energy efficiency gains were made with no discernible impact on temperature or humidity performance of the air conditioning system.

Smartcool's Energy Efficiency Solutions

Smartcool's green technology is specifically designed to reduce electricity usage (kWh) and demand (KW) of air conditioning compressors, while maintaining temperature and humidity performance.

Conventional controls, including the most sophisticated Building Management Systems (BMS), operate only on reaching pre-programmed fixed (static) values to switch compressors on, and off, or adjust capacity. Rather than replacing existing controls, Smartcool's ESM™ and ECO3™ interface directly with controls to optimize the compressor run time and achieve greater energy efficiency.



The ESM™ and ECO3™ use proprietary software to dynamically analyze compressor cycles, achieving an overall reduction in run time without causing over cycling. Energy efficiency gains are achieved without affecting cooling capacity, temperature requirements or manufacturer warranties.

Smartcool's products optimize the performance of the compressors which consume an estimated 70% of the energy utilized by the cooling system. By reducing the compressor run time through cycle optimization or load shedding, our products save energy both through lower electricity usage (kWh) and decreased demand (KW).

