

# Smartcool Performance Report

**City of North Miami Beach**  
Florida, USA



**NORTH MIAMI BEACH**  
*Florida*

Smartcool's energy efficiency solutions achieved the following results in an installation on the air conditioning system of the City's public service operations office building:



## The Project

The project was recommended by American Utility Bill Auditors AUBA), an independent third party performing utility audits and seeking green energy solutions for its clients. AUBA coordinates Energy Start and LEED audits for commercial properties on behalf of Smartcool's clients and distributors.



American Utility selected the ECO3 to optimize two Trane air conditioning units. One of the units is a 22 kW dual compressor commercial system and other is an 11.5 kW TR19 Hi-Lo residential high efficiency single compressor system with a smart digital thermostat. Together, these two air conditioning units provide cooling to the City's building.

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%. This will save the City approximately 120,113 kWh per year, and cuts their annual electricity bill by \$7,357. The energy efficiency improvement will also cut greenhouse gas emissions by 73,448 kg every year.

These energy efficiency gains were made with no discernible impact on the temperature 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).

