

HVAC innovation takes flight at Phoenix Sky Harbor

**ECM Technologies demonstrates
improvement averaging 10% savings.**



Overview

Phoenix Sky Harbor Airport is Arizona's largest and busiest airport, and among the largest commercial airports in the United States.

The Airport engaged ECM Technologies to treat the office building's HVAC system with ThermaClear®. This building, on the periphery of Terminal 3, experiences traffic from both facilities personnel and outsourced services.

ECM Technologies' team of engineers succeeded in securing accurate data results in the face of numerous challenges, especially inconsistent operational use of the building. Both parties were gratified to quantify a 10% reduction in energy use and extend the useful life of this system.

Savings

Estimated annual energy reduction



17,047 kWh

CO2 equivalent savings



12.1 metric tons

Estimated annual carbon reduction



**1,359 gallons
of gasoline**

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The initial data review identified a number of issues with the chiller that required repairs. With client support we put together a sound pilot study that supported a thorough analysis demonstrating efficiency gains in this mixed-use building.”

Proving the efficacy of ThermaClear®

Unit Type	Critical cooling needs
71-Ton Air-cooled chiller	Manage inconsistent cooling demands.
 A JOHNSON CONTROLS COMPANY	Extend equipment lifecycle on already aged system.
Conditioned Space	
20,795 ft²	Prove efficacy in advance of treating other business-critical facilities at the airport campus.
Installed by	
 MERGING BUILDINGS & TECHNOLOGY	

Performance Measurement & Verification

ThermaClear® performance was validated through comprehensive, real-time monitoring throughout ECM Technologies research and development process. Our monitoring system adhered to International Performance Measurement and Verification Protocol standards to capture key indoor and outdoor metrics like temperature, humidity, chilled water / air flow and energy consumption. Data was recorded every minute over an extended testing period, ranging between 3 and 9 months per test, to capture both pre- and post-treatment data.

Sky Harbor Annex - kW/Ton versus Outside Air Temperature

