

Case Study

Business Case for Single-Story Retail Site

ENRG Blanket® Enables Retail Sites to Reduce HVAC Consumption by 28% or More and Reduce Carbon Emissions by Over 9 Metric Tons in a Year



The Challenge

The customer wanted to reduce energy consumption and improve thermal comfort in retail sites, while adhering to aggressive corporate environmental goals and meeting their ROI requirements. This 5,011-square foot retail site is located in Napa, California in ASHRAE climate zone 3C. Site is a single story facility equipped with electric HVAC units delivering both cooling and heating.

The Solution

PCES completed a detailed site audit, followed by a measurement and verification (M&V) analysis of the building's energy profile. Approximately, 3,007 sq. ft. of ENRG Blanket was installed above the drop ceiling, covering ≈60% of the occupied space. The ENRG Blanket was selected to optimize the site's thermal performance based on operational characteristics and weather patterns in the geographical location. ENRG Blanket was installed in less than 3 hours during non-operational hours, avoiding any disruption to routine bank operation. M&V analysis includes 24 months before and after ENRG Blanket install to validate the impact ENRG Blanket had on the building's energy profile.

The Results

The impact on the building's energy profile was immediate. Post installation M&V reflected a sharp decline in energy consumption. After normalizing weather, occupancy patterns, and calculating HVAC load at 39% the project resulted in a 28% reduction in HVAC consumption (12,578 kWh/yr).

% HVAC Energy Savings	28%
% Total Building Savings	11%
% kW Demand Reduction	15%
Annual Energy Savings	\$2,765
Verified Energy Savings	12,578 kWh/year
Expected 10-year Energy Saving	\$27,647
Avoided Carbon Dioxide Emissions	9 metric tons/year
Additional Benefits	<ul style="list-style-type: none"> • 3 years ROI • 2.5 kWh saved / ft² • Maintenance free

