



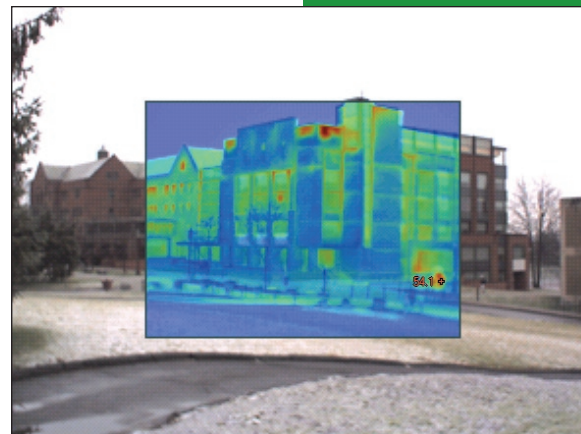
CASE STUDY

Design, Engineering and Installation of Renewable and Energy Efficiency Technologies

Climate Impact and Energy Strategy Plan

SITUATION

In 2007 Trinity College signed the American College & University Presidents' Climate Commitment, thereby committing themselves to the active pursuit of climate neutrality. To build their strategy, Trinity retained the team of Groom Energy Solutions and Nexus Environmental Partners to provide a full assessment of their current situation and develop Trinity's Sustainability Strategy Plan.



STRATEGY AND FINDINGS

The Groom/Nexus team performed a full on-site campus assessment of Trinity's infrastructure, buildings and systems along with their prior operational characteristics. The analysis included utility data aggregation, computer modeling as well as use of a thermal camera to identify sources of building envelope energy loss. Along with their current GHG emissions results, the plan was developed to categorize near, medium and long-term opportunities for managing down Trinity's climate impact.

The plan detailed near-term energy-efficiency projects with both performance and financial impact for Trinity's steam-heat system, the campus common hot-water/chilled-water loop, the addition of variable frequency drives and building control systems for both conditioning and lighting. Building envelope analysis provided views towards building access points and windows and operational behavior modifications which provide GHG reductions. New energy-efficiency opportunities for both fuel cells and Combined Cooling Heat and Power were identified. Groom Energy also provided a renewable energy analysis that detailed where Trinity could apply architectural wind, solar-electric and solar-thermal systems for high impact implementations.

RESULTS

Groom Energy recommendations became the basis for project and behavior modifications representing an annual savings of more than 14 million kWh of electricity, worth about \$1 million, for an investment of about \$5.5 million. This would result in a reduction in greenhouse-gas emissions of 3,500 metric tons of carbon-dioxide equivalent.

