

ARCHITECTURAL ENERGY
CORPORATION
Integrated Engineered Solutions

Science + Technology Facility

Golden, Colorado



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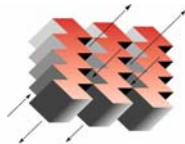
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The Science and Technology Facility (STF) is the newest research laboratory on the National Renewable Energy Laboratory's Golden, Colorado campus. The state-of-the-art facility is designed to allow government and industry to work side-by-side to develop new manufacturing processes for photovoltaic cells, hydrogen fuel cells and other distributed energy technologies. The STF consists of research laboratories, including an 11,500 square foot Process Development and Integration Laboratory, an office area, and a number of associated research and administrative support spaces.

In keeping with NREL's commitment to energy efficiency and renewable energy, the STF incorporates many energy efficiency, renewable energy and sustainable design features, including extensive daylighting in the laboratory and office areas, an evaporative cooling system, building-integrated photovoltaics, and low-environmental impact materials and products. The STF is projected to receive a Gold LEED® rating.

Project Information: Science + Technology Facility

Project Type	Laboratory
Client	National Renewable Energy Laboratory Golden, Colorado
Design Team	<i>Architect and Engineer:</i> SmithGroup Phoenix, Arizona <i>Energy / Daylighting Consultant</i> Architectural Energy Corporation Boulder, Colorado
Size	71,000 ft ²
Location	Golden, Colorado
Cost	\$22.6 million
Year Constructed / Occupied	2005 / 2006
Sustainable Design Features	<p>The Science and Technology Facility is an excellent example of an integrated, whole-building sustainable design solution. It combines energy efficiency, renewable energy and sustainable design features in a functional, attractive and energy and environmentally responsive design.</p> <ul style="list-style-type: none">• Optimal levels of wall and roof insulation, and a high albedo roof surface.• High performance glazing tuned by function and orientation.• Aggressive daylighting of all laboratory and office areas, designed to uniformly distribute daylight, eliminate glare and minimize solar heat gain.• High efficiency electric lighting with daylight dimming controls.• Direct/indirect evaporative cooling system.• Low-environmental impact materials and products for all major interior and exterior finishes.



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