



Background

US Airconditioning Distributors is the world's largest privately owned HVAC distributor, and headquartered in the City of Industry. The company was incorporated in July of 1990 when long time Carrier employees John Staples and John Scarsi purchased the distributorship and began operations as Southern California Air Conditioning Distributors. Today, the company has 3 distribution centers in City of Industry, San Leandro and Salt Lake City and 47 branches located throughout California, Utah, Nevada, Idaho and Arizona. US Airconditioning Distributors employs over 700 people with sales expected to exceed 500 million in 2006.

Challenge

As a socially responsible corporate citizen, US Airconditioning is committed to protecting and improving the environment. The company's truck fleet is powered by natural gas. US Airconditioning's investment in on-site solar generation illustrates the company's commitment to adopting a responsible approach to energy use while reducing electricity costs.

"We're proud to be deploying one of the largest solar array in California. We wanted to cleanly, efficiently and cost-effectively power our business. We, like our customers, recognize good value, and want to power our distribution centers in an environmentally-sound and economically-viable manner."

John Staples
President & CEO
US Airconditioning Distributors

US AIRCONDITIONING DISTRIBUTORS CALIFORNIA



Solution

US Airconditioning has always placed great emphasis on its commitment to The company chose to leverage one of California's most abundant resources - the sun - and incorporate solar power as a key component of its energy portfolio to help meet the distribution facilities' electricity needs, lower energy costs and conserve natural resources.

In April 2006, US Airconditioning completed the installation of multiple solar arrays totalling 829kW at their facilities in the City of Industry and Chatsworth. These systems makes innovative use of an unused asset—the roof of the buildings—to generate on-site electricity and help reduce the company's operating costs. US Airconditioning's solar system covers over 90,000 square feet, making it one of the largest solar rooftop installation in California.

Benefits

By integrating solar power into their energy mix, US Airconditioning will lower energy costs while reducing impact on the environment. The solar electric systems generates enough electricity during the daytime to power over 800 homes. In addition, this grid-connected solar system reduces the distribution centers' electrical loads, especially during peak demand times when the utility grid is most strained and electricity is most expensive. Expected savings from on-site solar generation are in excess of \$118,000 annually.

By avoiding the purchase of fossil fuel generated electricity, US Airconditioning's solar system spares the environment from thousands of tons of harmful emissions, such as nitrogen oxide, sulfur dioxide and carbon dioxide, which are major contributors to smog, acid rain and global warming. It is estimated that over the next 30 years, the solar-generated electricity will reduce emissions of carbon dioxide by nearly 10,500 tons. These emissions reductions are equivalent to planting approximately 3,000 acres of trees, not driving 26 million miles, or removing 2,000 cars from the roadways of California.

■ Specifications

US Airconditioning Distributors

Headquarters/Main Distribution Center

Location: 16900 Chestnut Street, City of Industry 91748

Date Completed: April 2006

System Peak Capacity: 723 kW

PV Surface Area: 79,000 square feet

Solar Electric Tiles: 3,615

Chatworth Parts Store

Location: 9250 Owensmouth Avenue, Chatworth CA 91311

Date Completed: February 2005

System Peak Capacity: 106 kW

PV Surface Area: 11,000 square feet

Solar Electric Tiles: 706

Photovoltaic System Description

The photovoltaic system installed at US Airconditioning Distribution centers uses PowerLight's PowerGuard® technology, a lightweight building-integrated photovoltaic (BIPV) roofing assembly that is installed over an existing roof membrane. The photovoltaic modules use solar cells made of solid-state semiconductors to convert sunlight into direct current (DC) electricity. The DC output from the PV modules is converted to 208 V AC by means of a 225 kVA inverter, and then stepped up to 480 volt, three-phase AC by a transformer for direct connection to the building's service panel.

The PowerGuard tiles fit together with interlocking tongue-and-groove side surfaces that enable them to resist wind uplifts without penetrations. In addition to generating electricity, PowerLight's PowerGuard solar roof system provides thermal insulation and protects the roof membrane from harsh UV rays and thermal degradation. These benefits result in decreased heating and cooling energy costs and extended roof life.



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About PowerLight

PowerLight Corporation is one of the nation's leading designer, provider and installer of grid-connected solar electric systems. PowerLight's distributed generation products produce reliable, affordable clean power for businesses and government agencies worldwide.

Inc. Magazine has ranked PowerLight Corporation among the top 500 fastest growing privately held companies for the past five years. Today, PowerLight has worldwide offices and a full line of commercial solar electric products.

PowerLight's Mission

PowerLight is committed to making clean power a mainstream and affordable source of the world's energy supply. Our solar products enable companies to reduce operating costs by transforming clean, abundant solar energy into electricity.



2954 San Pablo Avenue
Berkeley, CA 94702
main 510.540.0550
fax 510.540.0552
www.powerlight.com