"LED lighting feels more natural and appealing than yellow an orange sodium lighting. SolarOne® Solutions combines the best of both worlds; beautiful LED lighting and photovoltaic solar power by employing a unique management system to control both for maximum efficiency and reliability"

SolarOne® Solutions President, Moneer Azzam

BEFORE

AFTER

Fast Facts

Client
Massachusetts Maritime Academy

Project
Largest Array of Solar-Powered Outdoor Street-lights in New England

Location
Buzzards Bay, Massachusetts

Luminaires and Controls
Hadco's Solar/LED Fixtures & Solar One's SO-Bright Technology

Light Source
Solar/LED

Lighting Effect
Solar LED Decorative Lighting

Lighting Support
Philips Hadco, Solar One

Background

The lights, provided by SolarOne® and Hadco, are powered by photovoltaic (PV) panels, making them completely independent of the electric grid. With their own solar power source, the light posts can easily be installed wherever light is needed, without expensive investments in trenching, cabling and repaving.

The Challenges (the opportunity)

The lighting project was largely funded by a $325,000 state renewable energy grant to Mass Maritime, supplemented by a $34,000 rebate from the Commonwealth Solar program managed by the Mass Technology Collaborative. The balance of the funding was provided by the Massachusetts State College Building Authority and other Mass Maritime funds. Ming-Jay Shiao of Solar Design Associates was the Specifying Engineer who advised the school to employ the SolarOne® Solutions light fixtures. Gregg Conboy of Erland Construction was the General Contractor for the project and said that setting the fixtures in place was straightforward. Architect Erika DeRoche, PCA of Prellwitz Chilinski Associates was instrumental in the overall campus lighting design.

The Solution

The new lights replace an old assortment of low pressure sodium fixtures and overbearing flood lights, the combination of which left the campus spotty, dark and poorly lit. Instead of adding safety, the old lighting created isolated pools of glare between dark areas. With no underground power conduits, the easily installed PV-powered lights were readily and economically placed along walkways and around the dormitories, which previously had no site lighting. The new solar-powered LED lighting reflects a larger trend in outdoor lighting, as evidenced by this month's National Geographic cover article (November issue, 2008). The softer, whiter directional LED lamps provide exceptional clarity and visibility on areas that require light, without sending stray light into areas that are best left dark. The result is an enhanced night time setting, with marked reduction in light pollution and energy usage.

The Benefits

There has been an increased amount of positive activity in the area as a result of the lights, but beyond the practical use, Hansen said the project helps students think about how they use energy. "When you walk down that area at night time, it really gives you a feeling of comfort and safety. And, we like the LED lighting" said Hansen. The long-lasting LED lights significantly reduce maintenance, and perform well in cold temperatures. The light's solar panels are positioned to shed snow, and SolarOne's proprietary SOBright ™ Technology, which manages brightness and adapts to low power conditions, ensures that facilities are never left in the dark, even in the darkest days of winter and during extended cloudy periods. "The system is designed to ride through eight really cloudy days," Azzam said. Ideal for pathways, sidewalks, parking lots, and bus shelters, SolarOne® overhead lights are currently in use or being installed in locations as diverse as college campuses, corporate centers and city streets. "The SolarOne lighting really has met all of our requirements." said Hansen "They're attractive, they provide a good light for our students in the areas we wanted, and they haven't added to the expense of operations on the campus."

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