

The Sustainable Precaster

This is one in a series of case studies about sustainable best practices in precast concrete manufacturing.



Solar panels supply electricity and occasionally enable to plant to send power back to the California energy grid.

SOLAR POWERED PLANT U.S. CONCRETE PRECAST GROUP-SAN DIEGO

When U.S. Concrete Inc. introduced its Environmentally Friendly Technology (EF Technology) several years ago, the concept was simple: to replace a percentage of Portland cement with pozzolans like fly ash and blast furnace slag. U.S. Concrete adopted EF Technology in all its facilities in 2006 and by 2008 the group had reduced its carbon footprint by more than 1 million tons by reducing its use of cement.

Since the inception of EF Technology, U.S. Concrete's plant in San Diego has been at the forefront of its parent company's sustainability initiative, expanding on the initial concept through a variety of sustainable practices. One of the San Diego plant's biggest environmentally friendly initiatives is its adoption of solar technology coupled with basic energy-saving techniques.

Inside the plant, 450-watt light bulbs were replaced with 220-watt bulbs. In addition to replacing 460 bulbs, the company installed motion sensors on the lamps so that lights automatically turn off when areas of the plant are unoccupied. In addition, light detection sensors were mounted near the plant's skylights that turn off lighting whenever the ambient light in the plant is at the proper level. During the first nine months, the plant reduced its energy costs by an average of 13% compared with the same nine-month period the previous year.

On the roof of the plant, the company installed 50,000 square feet of solar panels, taking advantage of state incentives that

reward the plant whenever it sends power back to the California power grid. In the nine months that followed, the plant's electricity bills averaged 53% of its previous year's bills. The two initiatives combined to reduce the San Diego plant's overall electricity costs by more than half.

In addition, the company has systems for recycling water and sand (from sandblasting) and has added other sustainable practices, such as collecting all recyclables on site for pick up. U.S. Precast is a member of the Green Supplier Network and has worked with GSN to establish a carbon footprint analysis and an EPA review of the plant that included additional suggestions for improvement.

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