

Sustainable Energy Management



Wind turbine blade

**by Steve Coppinger, P.E., Director,
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Increasingly steep energy costs burden our construction and industrial materials industries; energy markets are volatile and environmental regulations to limit unnatural climate change pressure manufacturing. To mitigate these challenges, CalPortland has partnered with the U.S. Environmental Protection Agency's ENERGY STAR® Program to develop a long-term corporate energy strategy focused on efficiency. With its energy expenses exceeding \$100 million per year, CalPortland is motivated to make changes that save energy.



at CalPortland

CalPortland's comprehensive approach to energy management is centered around a strong energy organization supported by corporate management. All employees from front line operators to the CEO participate in the program. CalPortland works with vendors, customers, utility companies and government agencies to improve the program, which features energy reduction initiatives, renewable energy projects, procurement specifications and policies, as well as outreach and awareness initiatives. The program has saved the company more than \$6 million since its inception, significantly reducing process emissions as well. CalPortland has won several local, state and national awards for its commitment to energy efficiency.

Organization & Corporate Commitment

In 2003, seeking ways to curb energy use, reduce costs, and improve environmental performance, the company worked with EPA's ENERGY STAR program to create a formal energy management program. The company believed that it was important to have a formal program that could focus specifically on energy related issues. The program would not have worked without the continued support of senior management. Initially, some plant managers were not enthusiastic about the idea because they were convinced that they were already doing all that they could to reduce energy use. Once the program was under way, however, they realized its value.



Mojave wind turbines with plant

CalPortland's CEO has made energy management a core company value. A director of energy services has been assigned to manage the corporate energy program, and a full time corporate energy manager handles day-to-day operations. A corporate energy team was formed consisting of plant and corporate personnel representing several different departments and functional areas, including

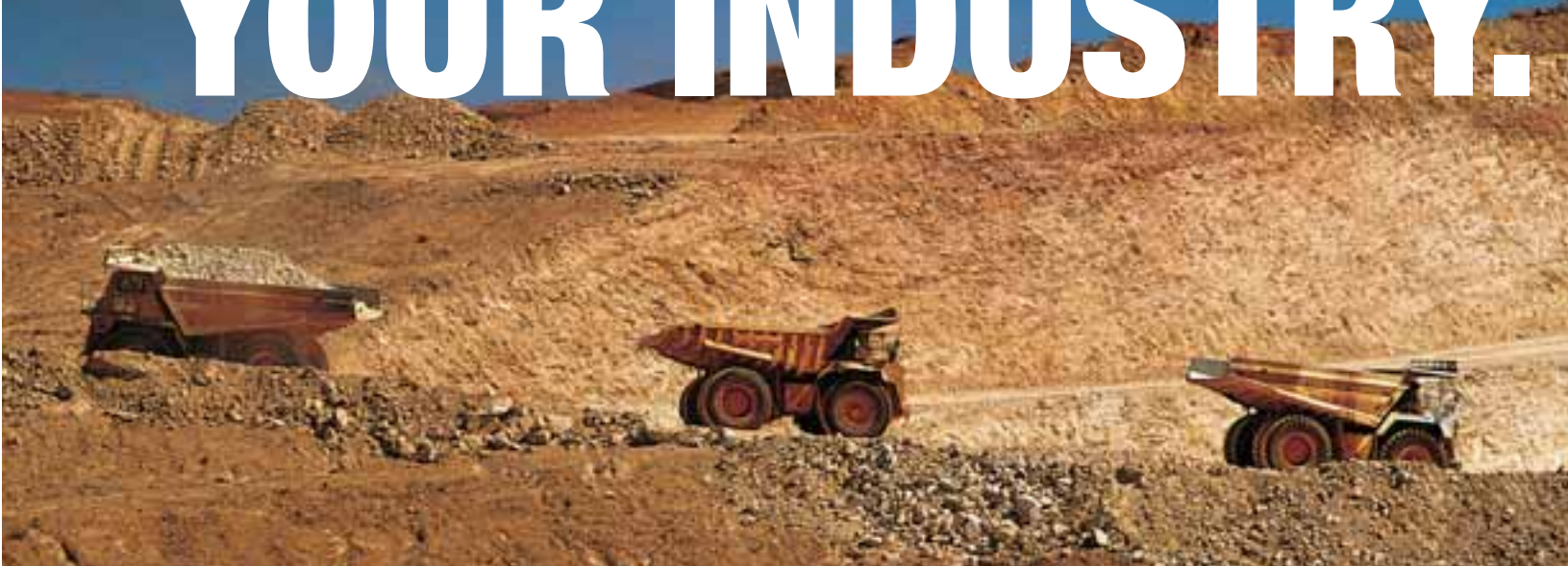
engineering, operations, maintenance, accounting, executive management and procurement. Additionally, CalPortland enlisted assistance from the ENERGY STAR program to develop a long-term strategic plan. The plan outlines goals, methods and specific energy saving target areas.

Energy managers—16 of them—have been assigned to all major plants and divisions of the company, and

local energy teams support each manager. Corporate energy meetings, held every two months at plant sites on a rotating basis, increase participation of local plant employees in helping to target savings opportunities at each facility. The senior vice president of operations and the vice president of engineering have committed to attending these various corporate energy meetings.

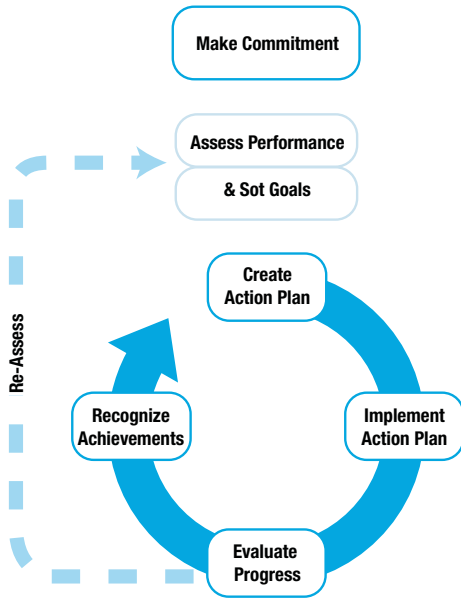


YOUR INDUSTRY.



CalPortland, an active member of EPA's Climate Leaders program, participates in voluntary emission and energy reporting. CalPortland has committed to reducing greenhouse gas emissions throughout the company.

Energy Saving Initiatives



ENERGY STAR Guidelines

CalPortland closely follows ENERGY STAR Guidelines for Energy Management. These guidelines recommend tracking energy consumption, benchmarking, setting goals, creating an action plan, evaluating progress and creating energy awareness throughout the organization. Initiatives include compressed air reductions, premium efficiency motor replacement, variable speed drive installations, lighting retrofits, process improvements, reliability programs and benchmarking. CalPortland sustains continuous improvement by institutionalizing a comprehensive array of energy initiatives. This is accomplished by setting aggressive corporate policy, e.g. all purchased motors must meet NEMA efficiency guidelines, and developing specifications and purchasing practices that require the use of efficient equipment.

CalPortland conducts "treasure hunts" and energy assessments at manufacturing plants to identify

energy saving opportunities and quantify potential savings. Smaller projects identified in the assessments are then entered into the work order system for future tracking. Larger projects are submitted for consideration in the capital budget process.

Renewable Energy and Alternative Fuels

In 2006, CalPortland's Mojave, Calif., cement plant signed a long-term power purchase agreement with a local wind developer to provide a large percentage of the plant's electrical power. As a result, the developer installed eight 3-Megawatt wind turbines on CalPortland's property that provide nearly all the plant's electricity when the wind is blowing. These 400 ft. tall turbines should supply about 70 gigawatt hours of wind power per year, enough to power roughly 12,000 homes for a year. Significantly, this is the largest "behind-the-meter" wind project in the United States. The turbines were installed in 2007 and began generating electricity in early 2008.

YOUR VOICE.

The aggregates industry is facing an uncertain economy, a fluid political climate, and increasingly challenging environmental issues. Now more than ever, you need to be sure your voice is heard in Washington, D.C.

The National Stone, Sand & Gravel Association is the only national trade association with

a single-minded focus on the aggregates industry. NSSGA works day in and day out with both regulators and legislators to be sure they are aware of issues that may adversely affect the industry.

NSSGA members can also take advantage of numerous opportunities for training and education, access to research and development results, networking opportunities, and much more.

NSSGA membership is an investment in your future and the future of the industry. For more information about the benefits NSSGA members receive every day, go to www.nssga.org, or contact Andrew Dougherty at 800-342-1415.



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Colton Tire System

CalPortland's Colton, Calif., cement plant transforms waste heat from its two kilns into as much as 5.0 megawatts of electrical power through a waste heat boiler. The Colton plant also uses alternative fuels and recycled materials, including tires that are injected into the mid-kiln region of both kilns. In 2007, the plant burned 2.25 million tires, reducing the amount of purchased fuels, eliminating the need for more space in landfills and lowering NO₂ emissions.

CalPortland currently has plans under way to install solar projects at manufacturing plants and the corporate office located in Glendora, Calif.

A large number of vehicles in CalPortland's mobile equipment fleet run on bio fuels.

Incentives & Resources

CalPortland capitalizes on many resources available throughout its operating areas. EPA's ENERGY STAR Program offers free consulting services and facilitates industry focus groups that share energy best practices. The U.S. Department of Energy provides grants and assessments to help identify and quantify energy saving opportunities. The DOE also developed several energy saving tools and software programs and offers training on industrial energy efficiency in areas such as compressed air, motor management and pumps.

CalPortland works with many utility companies in western states to perform energy assessments. The

company has received more than \$1.5 million in energy rebates and incentives over the past three years. Finally, CalPortland works closely with vendors and customers to find ways to improve energy performance.

Outreach & Awareness

Since initiating the program in 2003, CalPortland has promoted the virtues of energy efficiency both inside the company and throughout the industry. CalPortland takes the initiative to offer presentations to industry groups and companies, government workshops, schools and local communities that educate audiences on energy efficiency and environmental responsibility. It has held open houses at many of its manufacturing plants featuring ENERGY STAR booths and complimentary CFL light bulbs and ENERGY STAR pamphlets. Guests included representatives of local communities and businesses and government officials.

Awards & Recognition

CalPortland has won local, state and federal awards for its energy

management program. CPC has won national EPA ENERGY STAR Awards for four consecutive years, including the "Sustained Excellence" award for the past two years. Two CalPortland cement plants were awarded the ENERGY STAR in 2006 and 2007 for their energy efficient performance. The company has also been recognized by the Portland Cement Association and the States of Oregon, California and Arizona for excellence in energy efficiency.

CalPortland has made a significant impact on reducing energy consumption, process emissions and the cost of operations as a result of its formal energy management program. Among the best rewards, however, is the sense of pride among employees that they have accomplished something that improves not only the bottom line but also the environment. ■

CalPortland Company, headquartered in Glendora, Calif., was incorporated in 1891 and is one of the oldest companies in California. The company is a manufacturer of cement, concrete, concrete products, aggregates and asphalt. Its 3,000 employees operate manufacturing facilities throughout the western United States.



Mojave Plant