

# BULLETIN

Western's monthly energy efficiency and planning newsletter dedicated to customer activities and sharing information.

## VISION FOR FUTURE, ACTION TODAY SET HOWARD, SD, APART

**EDITOR'S NOTE:** *Every Western customer is unique, but there are also many circumstances and characteristics that they share. This profile is the first of many to come, highlighting the strengths, challenges, programs and operational and planning strategies our customers use to "keep the lights on." The goal is to encourage utilities to recognize the issues they have in common and to swap ideas and ask each other questions. Feel free to contact the people interviewed in this story. If you would like your utility to be featured, contact the Energy Services Bulletin Editor.*

**H**oward, S.D., population 858, is defined not by its size or challenges, but by its can-do spirit.

The small municipal utility that serves the eastern South Dakota city is a Western customer and member system of Heartland Consumers Power District. A characteristically bare-bones staff attends to 500 residential, 130 commercial and three industrial meters. City Finance Manager Donna Klinkhammer, handles billing and

fields customer calls while Electric Superintendent Kody Dawson manages the operational side, with an occasional assist from Water Foreman Jerry Adler. In other words, Howard looks like most small-town power providers—until you start digging into the details.

### WIND PIONEER

Take those two wind turbines at the western edge of town, for example. Howard was the first municipality in South Dakota to own and operate its own wind turbines. Installed in 2001, the reconditioned 108-kilowatt (kW)

*See VISION FOR FUTURE, page 2*



These two 108-kW Micon turbines were the first municipally owned and operated wind generators in the state of South Dakota. (Photo by Howard, S.D.)

### WHAT'S INSIDE

- Los Angeles FIT program .....3
- E-newsletters .....4
- Website of the month:  
GreenExpo365 .....6
- Technology Spotlight:  
Classroom lighting .....5

Micon units supply almost 10 percent of the city's energy needs.

The percentage of wind in Howard's power portfolio is higher than the nation's, which hovers around 3 percent, but the fringe benefits to the city are even greater. The wind project persuaded Broadwind Energy LLC to locate a gearbox maintenance and testing facility in the town, bringing 35 jobs for city residents. "Those turbines have been really good for economic development," confirmed Klinkhammer.

Broadwind represents the utility's biggest load, she noted. "Demand really spikes when they are testing the gearboxes," Klinkhammer said. "We just put in a new transformer at the plant to handle it."

### ECONOMIC SUCCESS STORY

The utility is also making a \$40,000 addition to its system to serve an elevator and fertilizer plant that are part of the Howard Farmers'

Cooperative complex. PBM Packaging, a commercial printing service with 24-hour operations rounds out Howard's roster of commercial and industrial customers. "Our biggest operational challenge is making sure our infrastructure can keep up with the economic growth," said Klinkhammer.

That's a great problem for a small, rural city to have, and some of the credit goes to Miner County Community Revitalization (MCCR). The nonprofit organization grew out of a high school class project in which the students studied the causes of the area's decline and identified solutions. The project brought the community together and led to the establishment of MCCR in 1997.

The Northwest Area Foundation launched a 10-year exploratory partnership with MCCR in 2001 to look for ways to bring sustainable business development to Howard. MCCR purchased one of the wind turbines and donated it to the city, helped to attract an organic beef producer to the area and built a conference center and hotel for wind technician training. As a result of these efforts, Howard enjoys a much stronger economy than is the norm for rural America.

### HARD TIMES ANYWAY

Unfortunately, nothing is recession proof, and Howard felt the effects the economic downturn. The beef company relocated to Oregon in 2010, and another company took over the facility for storage only. That same year, the uncertain future of the production tax credit caused the wind industry to slump, and Broadwind temporarily laid off a third of its workforce. The slump may have

been partly responsible for the closure of the conference center and hotel last year. "The industry didn't need workers, so there was less need for training," Klinkhammer pointed out.

As Howard slowly emerges from the recession along with the rest of the country, the utility's load appears not to have suffered any permanent contraction. Klinkhammer noted that growing load is still not as high a priority as infrastructure projects like burying overhead power lines.

### COST CONSCIOUS CUSTOMERS

Planning, too, takes a back seat to meeting the day-to-day power needs of residents. Like many small municipalities, Howard City Utilities submits its integrated resource plan through its power wholesaler, Heartland. "We provide them with our information and they do the projections," said Dawson.

Heartland also provides energy-efficiency options for Howard. Residents can get a high-efficiency Marathon water heater at half the city's cost through Heartland and participate in their load control program. "They appreciate the opportunity to manage their energy costs," Dawson acknowledged.

Like its residents, Howard, S.D., likes to control its energy costs, too. Hydropower from Western helps keep the city's electricity rates affordable, said Klinkhammer. In small towns on the prairie, even ones with big visions, like Howard, every little bit helps. ⚡

## ENERGY SERVICES BULLETIN

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For links to more resources,  
visit <http://ww2.wapa.gov/sites/western/es/pubs/esb/Pages/esb1.aspx>

# NEW ROOFTOP SOLAR PROJECT HERALDS LOS ANGELES FIT PROGRAM

Even with a billion square feet of rooftop space and more than 300 days of sunshine, Los Angelenos need some encouragement to turn that potential into power. Enter the Feed-in Tariff (FiT), Los Angeles Department of Water and Power's (LADWP) innovative program to accelerate the county's transition to the forefront of solar deployment.

LADWP launched the nation's largest rooftop solar program in February, and recently celebrated the completion of its first solar installation. City officials gathered at Oxnard Plaza Apartments on June 26 to flip the switch on a rooftop array that is expected to send about 141,600 kilowatt-hours (kWh) of clean electricity to the city's grid. The project was developed under the 2012 FiT pilot that solicited proposals for up to 10 megawatts (MW) of solar power capacity.

## TRY SOMETHING NEW

The ultimate goal of the FiT program is to build 150 MW of solar capacity—generation Los Angeles needs to meet its renewable energy mandate of 33 percent by 2020. The California legislature set the stage for the FiT with bills, including SB 32 and its successor 1332, requiring state utilities to offer 750 MW feed-in tariff programs. LADWP boldly doubled its proportionate share of 75 MW, showing how serious the city is about achieving its ambitious plan.

Simply put, a feed-in tariff accelerates investment in renewable technologies by paying homeowners and businesses top dollar for the entire output of the system the customer installs. This differs from net-metering, customers use the electricity their systems produce and receive an on-bill credit for excess generation, usually at a lower rate than the utility's cost of a kWh. Incentives and net-metering will still be available to customers through LADWP's traditional Solar Incentive Program (SIP).



Utility and city officials gathered on the roof of Oxnard Plaza apartment building to activate a 336-panel solar array. LADWP will be buying the output of the system, which is the first component of LADWP's Feed-in Tariff (FiT) Solar Program—and the largest of its kind in the nation. (Photo by Andy Holzman, staff photographer, DailyBreeze.com)

FiTs have contributed significantly to the growth of renewables in Europe, particularly solar power in Germany and wind power in Spain—and renewable development is not the only thing FiTs stimulate. Solar Provider Group, the company leading the Oxnard Plaza installation, has invested more than \$1 million in Los Angeles since the project launch, and anticipates investing up to \$50 million in the Los Angeles economy by 2016. Over the next several years, the city expects the program to create 4,300 jobs and generate \$500 million in private investments.

## PRICED TO SELL

The LADWP Board of Commissioners approved the 100 MW FiT Set Pricing Program in January as the first component of the 150 MW FiT Program. The remaining 50-MW allotment is reserved for ground-mounted projects on desert land LADWP owns in Owens Valley. The 100 MW portion

is being offered in 20-MW allocations every six months.

The price for the first allotment released in February was \$0.17 per kWh, based on the average accepted bid price in the pilot program. The contract includes adjustments for season of production and time of day that could increase the per kWh payment to approximately \$0.18 per kWh. The contract price will decrease automatically by \$.01 per kWh for each phase of the program, falling to \$0.13 per kWh for the final 20-MW phase. Owens Valley projects will receive \$.03/kWh less than projects in the L.A. Basin to account for delivery costs and losses.

In the first round, LADWP received 104 applications for projects within the City of Los Angeles for a total of 49 MW and several more applications for locations up in the Owens Valley. The program began accepting applications

*See FIT PROGRAM, page 7*

# SO MANY NEWSLETTERS, SO LITTLE TIME

**N**o matter what job you do at your utility, this rapidly changing industry demands that you keep up with the issues, stay current with technology and keep in touch with your peers. The good news is that the Internet is full of e-newsletters covering every topic from every perspective you can imagine.

Here are some top picks suggested by the Western Energy Services staff. Just make sure you don't oversubscribe and wind up deleting more than you are learning.

## FROM WESTERN AND PARTNERS

**ENERGY SERVICES BULLETIN** – Of course we recommend our own monthly publication because it is written with our customers in mind. The Bulletin covers the energy-efficiency programs, measures and policies utilities are using to improve customer service and plan for the future. Stories also highlight renewable energy options, new technologies and information resources to help our customers meet the challenges facing modern power providers. Subscribe to receive monthly announcements with links to the stories.

**BREAKING NEWS** – The companion blog to Energy Services Bulletin focuses on research and reports, legislation, new technologies, training opportunities and Western customer activities. Subscribe to the RSS feed.

**ENERGY EXPERTS eNEWS AND ENERGY NEWSBRIEFS** – The monthly Energy Experts eNews from Washington State University (WSU) Extension Energy Program brings you news and information for utility and energy stakeholders. It includes updates on the Energy Experts website, energy events, innovative utility programs (from the Utility Options Database) and energy questions and answers (Q&As from the Energy Solutions Database). Previous newsletters are downloadable from the archive. Also from WSU, Energy Newsbriefs rounds up articles from



E-newsletters bring all the latest developments in the utility industry straight to your desktop.

professional journals of potential interest to energy professionals. There is an archive for previous newsletters.

## DOE PUBLICATIONS

**EERE NETWORK NEWS** – The Energy Department's (DOE) Office of Energy Efficiency and Renewable Energy (EERE) sends out a free weekly newsletter that summarizes the latest news on its activities, as well as the latest national coverage of renewable energy and energy efficiency.

**EERE PROGRESS ALERTS** – Get an email every time EERE announces new technology advancements, funding opportunities, educational webinars and other news. The Alerts feature a short announcement and provide links to the full news story on the EERE website. Sign up to receive both publications, or subscribe to the RSS feeds.

**TRIBAL ENERGY PROGRAM UPDATES** – Subscribers receive periodic updates about the program's training opportunities and events, funding opportunities through the

program and other federal agencies and news and information related to tribal energy.

## MORE ENERGY MATTERS

**PUBLIC POWER DAILY AND PUBLIC POWER WEEKLY** – American Public Power Association (APPA) offers all employees of member utilities and associate members free subscriptions to these publications. Opinion pieces look at industry issues from the unique perspective of publicly owned utilities.

**ENERGY CENTRAL** publishes a suite of newsletters for electric power professionals covering a broad base of news, directories, events, databases, books, periodicals and reports focused on a single industry.

- **ENERGY BIZ VIEW FROM THE TOP** – This weekly companion to Energy Biz Magazine delivers interviews with industry leaders.
- **ENERGY BIZ INSIDERS** – The daily newsletter provides insights and news specifically for the power industry executive.

*See E-NEWS, page 8*



## TECHNOLOGY SPOTLIGHT:

# HIGH PERFORMANCE SCHOOL CLASSROOM LIGHTING

**C**lassroom lighting can dramatically affect students' ability to learn. But because lighting consumes as much as 50 percent of the electricity schools use, it may be tempting to let the need to save energy dictate lighting decisions. While researching energy-efficient lighting improvements to reduce a school's electricity use, don't forget the main purpose of lighting: to provide a good environment for learning. According to the Environmental Protection Agency's High Performance Schools Program, a well-designed classroom can actually enhance student performance and improve the educational experience.

Classroom lighting systems must support a wide variety of tasks in a single space. Utility providers should keep in mind that schools have many different reasons for seeking help to improve classroom lighting. They may include:

- Enhancing student learning
- Replacing worn-out lighting systems
- Changing the use or configuration of a space
- Reducing energy use
- Accommodating new classroom equipment, such as computers and projectors
- Qualifying for incentives or energy-efficiency programs

## COMPLEX EFFECTS OF LIGHTING

The spectrum of light we are exposed to, and the duration of exposure, affects our body's hormonal and physiological responses. About 85 percent of the school day is spent indoors, so it is necessary—and challenging—to determine how qualities of light affect health, productivity, behavior and mood of students and teachers.



A skylight brings in natural lighting to supplement the classroom's electric lighting system. (Photo by Mind, Brain, Health & Education)

A 2002 study by the Hescong Mahone Group credited daylighting with significantly improving student test scores, and led to efforts to increase daylight in classrooms. However, researchers at the Rensselaer Polytechnic Institute's Lighting Research Center later found that simply adding daylight can actually increase problems. A balance of daylight and

electric light is critical both for improving lighting efficacy and saving energy, and should provide even distribution and an expansive view while limiting glare and thermal heat gain. Help your school customers get the right lighting system for their needs by encouraging them to work with a professional lighting designer.

*See TECHNOLOGY SPOTLIGHT, page 7*



WEBSITE OF THE MONTH:

**GREENEXPO365** [www.greenexpo365.com](http://www.greenexpo365.com)

Imagine a green building conference and expo that offers educational sessions, a trade show where you can meet vendors and manufacturers and networking lounge where you could get advice and real-time updates on products and services. Now imagine that this is all free, you can visit anytime you like and you never have to leave your office. That's the idea behind GreenExpo365.

This "virtual home of the green building industry" primarily targets builders, architects, product manufacturers and service providers, but still has plenty offer utility professionals. In fact, program developers and member services representatives will find it a convenient and cost-effective way to learn about technologies and strategies to improve building efficiency.

Visitors must register to access the resources on GreenExpo365, but registration is free. Registered members receive email announcements about upcoming events.

### GET EDUCATED

The webinars may be the most valuable resource to utility professionals. Just a small sampling of topics includes new construction, retrofitting, net zero-energy homes, lighting, insulation, marketing to consumers and the effect of buildings on occupant health. Visitors don't need to pre-register for live webinars but attendance is limited to first come, first served.

Speakers are experts in their fields, and they are sometimes drawn from international, as well as national organizations. GreenExpo365 is a vendor-supported site, so you can expect

some webinars to feature speakers from sponsor companies. Webinars are recorded and archived, so you can access the events any time. Many offer continuing education credits from American Institute of Architects (AIA) or Passivhaus, an organization promoting energy performance standards.

OnCourse, the website's continuing education portal has more classes covering many aspects of commercial and residential building performance. Depending on the course, credit may be available from AIA, Passivhaus, the U.S. Green Building Institute or National Association of the Remodeling Industry. GreenExpo365, professional associations or vendors may sponsor the course.

### VIRTUAL EXHIBIT HALL

Those who are new to sustainable building may wonder what makes a building product green and how these materials and systems can help consumers control their energy bills. The interactive trade show floor gives visitors the chance to learn about these products and ask questions of the manufacturers.

Each booth has a briefcase that links visitors to the same resources that an exhibitor might hand out at a physical booth—but no paper to carry home! And if you want to talk to an expert, live chat is open to all visitors and available in every booth.

### MAKE A CONNECTION

The social networking component is another aspect that separates GreenExpo365 other physical or virtual trade shows. In addition to networking with exhibitors and other visitors, registered users can establish their own profile and share their opinions via blogs, forums and social media feeds like Twitter. Blogs penned by industry insiders like Ron Jones—one of the fathers of the green building movement—are also available on the site's online community center.

GreenExpo365 maintains a growing list of online green building resources to support building and designing better sustainable structures. These lists are always growing and changing, and users are urged to share new resources.

Those who like to connect through social media can visit GreenExpo365 on Facebook, follow the community on Twitter or join its LinkedIn Group. You can learn about upcoming events and blog entries faster by signing up for the GreenExpo365 RSS feeds. ⚡

For links to more resources,  
visit <http://ww2.wapa.gov/sites/western/es/pubs/esb/Pages/esb5.aspx>

## Technology Spotlight *from page 5*

### NEW LIGHTING OPTIONS

Like lighting technology, classroom activities, equipment and teaching methods are continually changing. The ubiquity of electronic equipment like computers and projectors has changed classroom lighting requirements. New products from lighting manufacturers address these concerns with:

- Better efficiency, claiming savings of 50 to 80 efficiency over traditional systems
- Classroom-specific features, such as preset light levels for various classroom activities

The Integrated Classroom Lighting System by Finelite is one of those products—the first system of its type to enter the marketplace. Limited studies, including one by the California Lighting Technology Center (CLTC) at the University of California, Davis; indicate that integrated lighting systems improve student performance and saves energy.

According to the CLTC report, the high quality lighting, increased flexibility, daylighting and energy efficiency of the Integrated Classroom Lighting System make it a single-source solution. Moreover, with fewer fixtures, lamps and ballasts than conventional classroom lighting, the system boasts lower operational and maintenance costs.

### FLUORESCENT LIGHTING, CONTROLS

Fluorescent lighting is now available in multiple color temperatures, and studies have increased our understanding of light color and human vision. Research shows that correlated color temperatures (CCT) of 5000 Kelvin (K) or higher improve visual acuity at lower light levels compared to commonly used 3500-4100K lamps.

Experiments using much bluer light (up to 17000K) to simulate daylight as part of classroom lighting or as an option in adjustable systems show promise for

improving student learning and reducing behavior problems. Philips' SchoolVision and Osram's "biologically optimized" lighting, two lighting systems designed specifically for classrooms, showed similar results in European studies, but more research is needed to verify the findings.

### THE LED REVOLUTION

Energy efficiency is probably the most attractive thing about LEDs, but other features may prove more valuable in classroom settings. Controllability and white color-tuning allow a single lamp to provide different color temperatures. The technology's dimming capabilities save even more energy.

### STAY TUNED

Lighting and daylighting technologies for classrooms can significantly impact energy use and student performance. Stay tuned for more products, and for studies that test their claims. ⚡

For links to more resources, visit <http://ww2.wapa.gov/sites/western/es/pubs/esb/Pages/esb4.aspx>

## FiT Program *from page 3*

for the second allotment July 8. LADWP considers applications on a first-come, first-served basis, but enters those received in the first five days into a lottery. This helps community-based and smaller projects compete against large developers with the in-house resources to dedicate to the paperwork.

### WATCHING AND WAITING

The utility and renewables industries, as well as policy makers, will be watching Los Angeles in the coming years with many questions in mind: Will the FiT program spur a solar development boom? How will it affect rates? Will it bring more green jobs to the city, and will economic development offset potential costs? Can it work in other

parts of the country?

For now, however, LADWP deserves to enjoy its moment in the sun for successfully launching a program that could become a model for other municipalities. The Feed-in Tariff program may be just beginning, but for the City of Los Angeles, it is only the latest pioneering step in its journey to transform its energy supply. ⚡

For links to more resources, visit <http://ww2.wapa.gov/sites/western/es/pubs/esb/Pages/esb2.aspx>

- **ENERGY CENTRAL DAILY**  
– Global electric and gas industries are the focus of this daily publication.
- **INTELLIGENT UTILITY DAILY**  
– This daily e-newsletter explores issues relating to building a smart grid, focusing on people, process and technology, economic models, finance and public policy.

### REPORTS, RESEARCH AND BEYOND

**ENERGY ANALYSIS AT NREL**  
– The National Renewable Energy Laboratory (NREL) distributes a monthly newsletter highlighting the lab's analysts and analysis activities in renewable energy and energy efficiency technologies addressing U.S. energy goals. Subscribe to learn about publications and websites, updates to NREL models and tools and staff activities.

**RENEWABLES BIZ DAILY** – Another daily newsletter from the Energy Central stable will be of interest to resource planners and green power program managers. Articles discuss renewable energy, with updates on hot topics such as wind, solar, marine, geothermal, biomass and more.

**RMI OUTLET** – This blog from Rocky Mountain Institute is a monthly recap of features on efficiency and renewable energy. The focus is on cutting-edge innovation rather than business-as-usual, but sometimes you need to swing for the fences just to get on base. Start the hunt for your next big idea with a subscription <http://www.rmi.org/Subscribe>.

The Weekly Advantage and Daily Insights – From Shelton Insights, these are outstanding publications for anyone involved with marketing energy efficiency programs (and the Energy Services Bulletin editor's personal favorite). The stories examine the challenges

of selling efficiency to different audiences, and the pros and cons of different solutions. Subscriptions are not free, but consider it an investment in your member services program.

**ITC (INFRARED TRAINING CENTER) NEWSLETTER** – Newsletters aren't all business and policy. For employees who use infrared (IR) cameras on the job, our Equipment Loan manager recommends this e-newsletter. It includes featured videos, new applications and a brainteaser to solve. You can also sign up to receive notices about upcoming conferences and training opportunities.

These newsletters just scratch the surface of what is available online. They may focus on a specific aspect of utility operation, or on a single region. Tell us about your favorite e-newsletter, and don't forget to let us know what your job is and where your utility is. ⚡

For links to more resources, visit <http://ww2.wapa.gov/sites/western/es/pubs/esb/Pages/esb3.aspx>