

BULLETIN

The energy and planning resource for Western utilities

'CO-OPS IN THE CLASSROOM' TEACHES KIDS ABOUT PUBLIC POWER, ENERGY USE

Electricity is as much a part of life as reading, writing and arithmetic, so it makes sense to teach about it in school, something East River Electric Power Cooperative Redirecting to a non-government site does with "Co-ops in the Classroom." Redirecting to a non-government site

Through its members, the generation and transmission co-op offers the program free to school districts in its service territory in eastern South Dakota and western Minnesota. The curriculum teaches students at every grade level about electrical safety, generation, energy efficiency and conservation. It also offers an opening to talk about cooperative business and the value of cooperation.

In the past year alone, Education and Outreach Specialist Jennifer Wolff has visited 79 schools and delivered 110 presentations. "A real testament to the program is how many teachers reach out and request to have us come back," Wolff observed.



East River Education and Outreach Specialist Jennifer Wolff (left) enlists the teacher to demonstrate electrical potential with a Van de Graff generator for the fifth-grade students at Groton Area School. East River member system Northern Electric Cooperative scheduled the presentation. (Photo by East River Electric Power Cooperative)

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FLEXIBLE LESSONS

Wolff created "Co-ops in Classrooms" five years ago to supplement "The Story Behind the Switch," a school program its wholesale power supplier, Basin Electric Power Cooperative Redirecting to a non-government site, provides to its members. The Basin program is tailored mainly to the fifth grade level, but "Co-ops in the Classroom" offers a more flexible curriculum that East River members can customize for any grade level.

In its first incarnation, "Co-ops in the Classroom" had four separate modules: safety, energy efficiency & conservation, generation and economics. Over time, the separate programs merged into one presentation, which Wolff varies depending on the audience and the school's needs. "With hundreds of presentations under my belt, I usually have a pretty good understanding of what will or won't work well for a particular audience," said Wolff.

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'Co-ops in the classroom' from page 1

"For example, with middle school students, I tend to present in more of a 'game show' type format. High school students do well with activities where they can be broken into smaller groups. Early elementary students require lots of 'ooh and ah' moments to hold their attention."

Wolff has presented the program to all age groups, but it seems to be most popular with the fourth- and fifth-grade crowd. "This is my favorite age group to present to," she admitted. "They are old enough to really understand the concepts, still easy to impress and eager to participate."

MEMBER SYSTEMS TAKE LEAD

The program was designed to be a relationship builder for its member systems, so Wolff likes to be accompanied by a co-op representative when she gives the presentations. The local representatives might talk a little bit about their job at the co-op and answer questions after the presentation. Linemen are particularly effective, she added, because they can show off safety equipment and tools, and have more "street cred" when talking about the dangers of electricity.

Requests for presentations that focus specifically on safety are

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A Montrose Elementary student pedals hard to light up a display for Jennifer Wolff during a presentation arranged by Southeastern Electric Cooperative. (Photo by East River Electric Power Cooperative)

common. Last year, FEM Electric Association Redirecting to a non-government site asked for a safety presentation aimed at high school students after some teenagers were involved in a couple of near-contact incidents while helping on a farm. FEM worked with Wolff to schedule the presentation at high schools throughout the system's service territory.

Each distribution cooperative works with local schools a little differently to schedule presentations. Wolff makes it easy by blocking off days in her calendar so the co-ops can offer the schools a choice of days. "Basin takes theirs to nine states so they require a longer lead time for scheduling," Wolff pointed out. "I do have periods that are scheduled quite tightly, but I can usually fit in a last-minute request for a presentation if one arises."

The member systems also take the lead on promoting the program to their customers with a little help from marketing letters and flyers provided by East River. Coverage in local publications has helped to spread the word about "Co-ops in the Classroom." In some cases, word of mouth is enough

to stir up interest among teachers who are always happy to have a state content-approved science lesson.

FOR COMMUNITY, FOR CHILDREN

As valuable as the energy and science lessons are, each presentation makes a point of emphasizing safety. There is no way to guess what incidents might have been avoided by showing students how electricity moves or explaining the dangers, not just of power lines, but substations, pad-mount transformers and even household electric outlets. "If even one life has been saved by safety education, that's a benefit you can't quantify," Wolff declared.

"Co-ops in Classrooms" is not about achieving measurable goals, after all. "The program is another way for our distribution systems to show their support and commitment to their communities," said Wolff. "Often, parents of students in the classes are members of the co-ops, and the schools may be members too. And, it is a great opportunity to educate the next generation of potential members and employees about cooperatives." ⚡

IDEAS WELCOMED AT 2014 ROCKY MOUNTAIN UTILITY EFFICIENCY EXCHANGE

With more than 110 utility and energy industry professionals already packing their brief cases for the Rocky Mountain Utility Efficiency Exchange Redirecting to a non-government site (RMUEE), you may want to take a look at the agenda to see what is attracting such a crowd to Aspen, Colo.

Admittedly, scheduling this popular conference for Sept. 24-26 puts it at the height of Colorado's fall color season, but the real magnet is the diverse and packed agenda.

Now in its eighth year, the RMUEE is the regional conference for the people who design and deliver energy-efficiency programs to residential and business consumers. Look for utility and government program managers to share the speaker's podium with trade allies who support those programs

with cutting-edge products and services. Experts in marketing, finance and technology will weigh in on best practices alongside the people who turn the practices into action—and results!

SOMETHING TO TALK ABOUT

Veterans of past RMUEEs are no doubt looking forward to lively discussions in which they are the "thought leaders." Newcomers are always welcomed and may only need a little introduction to prepare for sharing their experiences, expertise and opinions with colleagues. The roundtable discussions that open the RMUEE on Wednesday morning are just the thing to put everyone at ease. Representatives from City of Aspen Utilities Redirecting to a non-government site, City of Fort

Collins Utilities Redirecting to a non-government site, Platte River Power Authority Redirecting to a non-government site, Poudre Valley Electric Cooperative Redirecting to a non-government site and Colorado Springs Utilities Redirecting to a non-government site will stir up dialogue about the challenges that are most on attendees' minds.

The afternoon sessions highlight specific topics including energy efficiency education, program integration and financing. While these presentations are more structured than roundtable discussions, questions, answers and observations are always encouraged.

The dual-track sessions on Thursday morning break down barriers even more with smaller group presentations.

See 2014 UTILITY EFFICIENCY EXCHANGE, page 5



Western Administrator Mark Gabriel was a keynote speaker at the 2013 RMUEE. (Photo by RL Martin)

GET READY FOR THE 2014 GRC ANNUAL MEETING, GEA EXPO

GEAspoJoin the Geothermal Resources CouncilRedirecting to a non-government site (GRC) and the Geothermal Energy AssociationRedirecting to a non-government site (GEA) in Portland, Oregon, Sept. 28 to Oct. 1 for the geothermal energy industry's largest annual gathering.

The theme for the 38th GRC Annual Meeting & GEA Geothermal Energy Expo is Geothermal: A Global Solution. In keeping with the theme, internationally known geothermal energy experts will be among the scientists, producers, renewable energy industry stakeholders, regulators, utilities and business leaders participating in discussions and presentations.

The agenda will offer technical, policy and market conference sessions; educational seminars; tours of local geothermal and renewable energy projects; and numerous networking opportunities. The trade show brings together system and equipment vendors and other trade allies from around the world to share the latest in products, services, technologies and solutions. Entrance to the Expo Hall is included with registration for the annual meeting.

Randy Manion, Western's Renewable Resources Program manager, hopes Western customers will take the opportunity to learn more about this base-load resource. "Geothermal energy can help utilities



meet their environmental goals and mandates," he explained. "The earth's heat is available everywhere, and the diverse technologies for harnessing it are improving rapidly."

EXPLORE BEFORE EXPO

Newcomers to geothermal energy may want to arrive in Portland a few days early to take advantage of pre-meeting field trips. Discover how ancient volcanic activity created the fertile wine country of the Willamette Valley, or how the destructive force of Mount St. Helens is still shaping the region. Learn about the game-changing technology of enhanced geothermal systems (EGS) at Altarock Energy's Newberry Volcano Demonstration project. Or stay on to see geothermal energy in action at a post-meeting tour of the Klamath Falls campus of the Oregon Institute of Technology, home of the world famous Geo-Heat CenterRedirecting to a non-government site.

Attendees who are actively considering undertaking a geothermal project can delve into the nuts and bolts of development at pre-meeting workshops. Basic Introduction to Geothermal Systems and Exploration

Strategies, on Sept. 26-27, examines the basic dynamics of geothermal resources and how to explore for them. Also scheduled for Sept. 26-27 is Geothermal Leasing, Unitization and Water Use Legal Issues, and exploration of the laws and issues associated with permitting and developing geothermal projects.

CELEBRATING ACHIEVEMENT

The GRC Annual Meeting wraps up with the Awards Luncheon on Oct. 1, where the Geothermal Resources Council recognizes outstanding contributions to the industry. The GRC Awards honor distinguished colleagues in the geothermal community for achievements in advocacy, resource development, design, engineering and construction.

Moving from science to art, the 35th Annual Amateur Photo Contest is showcasing artistic pictures of geothermal energy in its many forms including energy production, EGS, direct use and geothermal heat pumps. Winning entries will be displayed before the Opening Session, posted during the GRC Annual Meeting and published in the GRC

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Geothermal meeting

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Bulletin, and will become part of the GRC photo library.

MORE WORK, PLAY

Technical sessions will cover financing, exploration, case studies, regulatory issues, power operations, direct use systems and utility and transmission issues—just to scratch

the surface. Check the meeting website for the full agenda.

Outside of the sessions, attendees will have the chance to unwind and network with other professionals while enjoying a unique and beautiful city. The popular Charity Golf Tournament, on Sunday, Sept. 28, and the GRC Annual Banquet on Sept. 29,

promise to make memorable use of Portland amenities.

If this sounds like a great way to find out how an abundant clean energy resource might fit into your energy portfolio, make plans to attend the 38th GRC Annual Meeting & GEA Geothermal Energy Expo. ⚡

2014 Utility Efficiency exchange

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Choose between the residential track and the commercial track, but don't be surprised to find yourself wishing you could be two places at once. Don't worry—you can ask your colleagues what you missed and fill them in on your session choices over lunch. In the afternoon, the whole group will reunite to talk about collaboration, system and building technology and program evaluation and evolution.

Friday brings a change of pace with the return of last year's popular and fast-paced Switch~Talks Redirecting to a non-government site. Speakers have five minutes and 20 slides to share their thoughts on energy efficiency, renewable resources, the latest technology or anything else that interests them. The RMUEE closes with a screening of the documentary "Watershed," Redirecting to a non-government site about the management of the Colorado River. This movie is a must-see for anyone who is involved in the delivery of electricity or water in the dry Rocky Mountain region.

AND THAT'S NOT ALL

You will undoubtedly hear comments during the sessions that call for

more discussion, but proceedings have to move along. Hold those thoughts for the leisurely meals, refreshment breaks and social hours scattered liberally throughout the RMUEE. Any past attendee will tell you that the networking opportunities are just as educational—and sometimes more so—than the formal presentations.

The poster session on Wednesday evening will introduce some new ideas in tasty, bite-sized portions, along with tasty, bite-sized hors d'oeuvres. Grab a beverage and a snack and quiz your colleagues about their mini-presentations on subjects ranging from heat pumps and building-manager training to social media and what it means to be an energy services provider.

Thursday night attendees repair to downtown Aspen to enjoy more socializing. Many a partnership and project have been hatched over a beer or a good meal at one of the city's fine drinking and dining establishments.

SPECIAL GUEST STARS

As usual, exciting keynote speakers will be contributing fresh insights and provocative points of view to the mix. Suzanne Shelton of The

Shelton Group Redirecting to a non-government site sustainability marketing firm returns as opening keynote speaker on Wednesday. Learn what Americans really think about energy efficiency and how those lessons applied to the firm's recent campaigns, Avoid the Energy Drama Redirecting to a non-government site and Fiveworx Redirecting to a non-government site.

James Mandel of the Rocky Mountain Institute Redirecting to a non-government site will speak on Thursday about the institute's partnership with the city of Fort Collins to reduce carbon emissions on a community-wide level. The groundbreaking project is yielding, among other things, a new business model for utilities of the future.

Clearly, the program committee, which includes several Western customers as well as Energy Services Manager Ron Horstman, is not afraid to lay the ideas on thick. The RMUEE is where program managers can take a break from the daily challenge of keeping the lights on to imagine their utility's future. We hope to see you, and your ideas, in Aspen. ⚡

CONSTRUCTION GUIDEBOOK POINTS WAY TO EFFICIENT NEW BUILDINGS

Building energy efficiency into new construction is easier than teaching an old building (or building owner) new tricks. But many designers and builders still need schooling in energy-efficient construction—lessons that can be found in the New Construction Guide Redirecting to a non-government site.

The latest offering from the New Building Institute's Redirecting to a non-government site (NBI) Advanced Buildings tool suite is a whole-building, step-by-step approach to new commercial construction projects that result in efficiencies up to 40 percent higher than conventional buildings. Building design and construction professionals can reference the New Construction Guide to define high performance in building envelope, lighting, HVAC, power systems and controls.

LEARN FROM EXPERTS

The people behind the guide know how to achieve efficiencies without adding costs. The primary authors include NBI's Technical Director Mark Frankel, Program Manager Sean Denniston and Project Manager Mark Lyles. Collectively, they bring decades of experience in improving building performance and strengthening building codes nationwide.

Technical contributions came from experts across the construction and building systems industry. The fields of energy efficiency and resource conservation, design, research and policy are well represented along with specific systems such as lighting, heating and cooling and building controls. The ASHRAE 90.1 standard Redirecting to a non-government site, the International Energy Conservation Code Redirecting to a non-government site and the Consortium for Energy Efficiency Redirecting to a non-government site were referenced for lighting and mechanical equip-

ment performance levels. The guide also ties the measures to utility energy efficiency programs.

MODELING METHODOLOGY

Underpinning the New Construction Guide is an extensive energy modeling protocol. The authors evaluated energy-efficiency measures using eQuest building energy use analysis software to conduct more than 100,000 modeling runs on prototype buildings.

They applied three to five measures to each building prototype and ran energy use analysis in ASHRAE's eight identified climate zones represented by 16 US cities. Measures were only included if they offered savings beyond the baseline buildings in most scenarios, or significant savings in specialized cases. Once the most effective individual measures were identified, they were all applied as a package to each building prototype in each climate scenario to get predicted savings for the program as a whole.

POWER PROVIDERS GET INVOLVED

The New Construction Guide has several utility sponsors who independently modeled the measures and validated the approach and methodology.

Ralph DiNola, NBI executive director, would like to see utilities incorporate the guide into commercial building incentive programs. "For example, some of our utility partners are offering builders dollars per square foot for implementing the guide," he said. "Those programs have delivered cost-effective energy savings at a lower cost than other utility incentive programs."

Utilities including ComEd Redirecting to a non-government site and NSTAR Electric and Gas Redirecting to a non-government site have worked with builders in



The New Construction Guide from the New Building Institute offers a whole-building approach to achieving deep energy efficiencies in new building projects. (Art by New Building Institute)

their territory to implement measures from the Core Performance Guide, the previous edition of the new guide, in local projects. Energy program administrator Efficiency Maine Redirecting to a non-government site and the transmission and distribution network National Grid Redirecting to a non-government site both have building projects in the pipeline that implement the New Construction Guide.

Municipalities that have LEED [Leadership in Energy Efficient Design] requirements for new public buildings will find yet another use for the guide. The United States Green Building Council Redirecting to a non-government site allows the program to be used to achieve energy prerequisites and credits for LEED certification, on the version of LEED.

ABOUT NBI

Established in 1997, the New Building Institute is dedicated to improving the energy performance of commercial buildings by providing policy and program direction, and

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promoting best design practices and available technologies. NBI's board of directors comprises leaders in the energy efficiency and green building industries, including representatives from utilities like Pacific Gas

and Electric Redirecting to a non-government site.

The Advanced Building program promotes high performance buildings with technical tools and educational resources such as case studies, webinars, reference guides and research findings. Sponsors and supporters include the Department of Energy, Energy Center of Wisconsin Redirecting to a non-

government site and New York State Energy Research and Development Authority Redirecting to a non-government site.

NBI welcomes involvement from utilities. To learn more, contact NBI at 360-567-0950, or visit the speakers bureau for links to presentations. ⚡

CONGRATULATIONS TO INTELLIGENT UTILITY MOUNTAIN VIEW ELECTRIC ASSOCIATION

We in Energy Services like to spread the word about our customers' innovative programs and best practices, but we like it even more when others in the industry take notice. The online news site Intelligent Utility Redirecting to a non-government site recently interviewed Mountain View Electric Association Redirecting to a non-government site about the cooperative's new TextPower system for communicating about outages.

MVEA customers are able to opt in to receive text

updates about power outages in their area, and to report outages. MVEA also texts status updates to employees, so they have the latest information to give customers who contact the utility by phone. Read the interview to find out how MVEA is using smart communications technology to improve customer service.

Learn more about what mobile communication can do for customer relations and field service at Utility Mobile Enterprise Systems, Redirecting to a non-government site Sept. 15-16, in Phoenix, AZ. ⚡

REPORT: SMART MANUFACTURING TO TRANSFORM U.S. INDUSTRY

The American Council for an Energy Efficient Economy Redirecting to a non-government site (ACEEE) has released a new report, The Energy Savings Potential of Smart Manufacturing, to show businesses leaders, utility program administrators and energy managers how to make U.S. manufacturing more energy efficient, productive and competitive. Picking up where the report Intelligent Efficiency: Opportunities, Barriers, and Solutions left off, the study identifies the components of smart manufacturing and defines terms, connecting them with new and innovative ways to manage and save energy.

According to ACEEE, smart manufacturing is set to transform the industrial sector and its use of energy, raw materials and labor over the next twenty years. Information and communication technologies that integrate all facets of the manufacturing process will give everyone in a company the information to make informed, data-driven decisions in real-time. Executives will have a panoramic view of productivity and

managers will have an in-depth view of production costs, including energy.

An integrated network of devices and systems will be able to predict and anticipate energy needs to produce new savings from manufacturing equipment, systems, processes and facilities. These analytical capabilities could potentially simplify and automate evaluation, measurement, and validation of energy savings for utility energy-efficiency programs, as well. Firms that understand what smart manufacturing means to energy management will find new opportunities to realize value from utility demand response and energy-efficiency programs.

ACEEE offers recommendations to bring down the cost of the technology, to improve data security and to prepare the workforce to use smart manufacturing tools. Partnerships between industry and government will be critical to enabling easier and broader adoption of smart manufacturing. Read the blog post. (Source: American Council for an Energy Efficient Economy, 7/30/14) ⚡