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Energy Services BULLETIN

Western's monthly energy efficiency and renewable energy newsletter dedicated to customer activities and sharing information on energy services.

Report, utilities find energy efficiency a major resource

The United States could cut its growth in energy use by at least half with energy efficiency alone, according to a new report from the National Action Plan for Energy Efficiency.

"Vision for 2025: Developing a Framework for Change" sets a goal of achieving all cost-effective energy-efficiency improvements throughout the country by 2025. If that goal is achieved, Americans will spend $100 billion less for energy in 2025 than they would otherwise and will avoid emitting 500 million metric tons of carbon dioxide per year. The nation will also achieve $500 billion in net savings from its energy efficiency investments.

The report outlines 10 implementation goals to achieve those savings. They include policies, incentives, delivery mechanisms, metrics and utility billing systems that would encourage energy efficiency, measure its effectiveness and reward utilities for successful energy-efficiency programs.

What's inside

Overcoming barriers

Launched in 2006, the National Action Plan for Energy Efficiency is a framework to help states, municipalities and utilities develop energy efficiency strategies. The Environmental Protection Agency and the Department of Energy facilitate the program, but a diverse leadership group is responsible for developing the Action Plan. More than 60 investor- and publicly-owned utilities (including several Western customers), state agencies, businesses, consumer advocates and environmental and industry organizations participate.

In its "Vision for 2025," the National Action Plan for Energy Efficiency describes how Americans could save billions of dollars by implementing energy-efficiency improvements. (Artwork by the National Action Plan for Energy Efficiency)

In its first year, the leadership group identified obstacles to adopting energy efficiency and developed five recommendations for overcoming them:

1. Recognize energy efficiency as a high-priority energy resource.
2. Make a strong, long-term commitment to implement cost-effective energy efficiency as a resource.
3. Broadly communicate the benefits of and opportunities for energy efficiency.
4. Promote sufficient, timely, stable program funding to deliver energy efficiency where cost-effective.
5. Review and adopt policies to align utility incentives with the delivery of cost-effective energy efficiency and modify ratemaking practices to promote energy efficiency investments.

"Vision for 2025" continues the discussion on how to implement the recommendations. Along with the 10 implementation goals, the report describes what 2025 might look like if the vision is achieved and offers an initial strawman approach for measuring progress.

Differing views

The American Public Power Association has endorsed "Vision for 2025" and pledges to continue its own efforts to promote energy efficiency. "Energy efficiency is, in most cases, the least-cost option for meeting load growth," said APPA Environmental Services Engineer J.P. Blackford. "The Action Plan serves to remind utilities

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of this inexpensive resource."

John Holt, senior manager of Generation and Fuel for the National Rural Electric Cooperative Association, is a member of the leadership group. NRECA, he said, endorsed most of the recommendations and offered several comments that were incorporated into the most recent report. "We wanted the plan to reflect the best interests of our members," he recalled. "With so many stakeholders at the table, everyone had to compromise on some point."

Another member of the leadership group, Mark McGahey of Tri-State Generation and Transmission Association, agreed. "It was a compromise all the way, but the surprising thing was how much consensus there was," he said. The leadership group offered him the opportunity to hear different perspectives, McGahey added.

"One of the best aspects of the Action Plan is the wide collaboration and cooperation among very different stakeholders," said Jan Schori, general manager of Sacramento Municipal Utility District. "We were all moving toward a critically important goal with life-changing impacts."

Utilities take action

Western customers in the leadership group illustrate the different phases of utility energy-efficiency initiatives. Tri-State is ramping up energy-efficiency and demand-side management efforts after years of focusing on other issues. "Now, with rising energy costs, growing demand and tighter environmental regulations on new generation, some sort of energy-efficiency plan is a necessity," McGahey explained.

Many Tri-State members are developing or have already launched energy-efficiency programs, while others are just coming around to the value of efficiency, he said. "I believe the Action Plan will serve as a guide to those utilities on what energy efficiency measures might be worth pursuing in their circumstances."

SMUD and Great River Energy, have long-standing successful DSM and energy-efficiency programs. "If there is a DSM expert among cooperatives, Great River is it," McGahey said.

Leaders in efficiency

Great River's programs show what can be accomplished through energy efficiency and load control. Out of 330,000 residential members that have central air conditioners, more than 130,000 participate in the cooperative's cycled air-conditioning program, reducing critical summer peaks by about 125 MW. The Energy Star partner also offers a menu of grants and rebates for energy efficiency improvements, awarding over $5 million in 2006. On January 1, 2008, GRE will also be rolling out its new wholesale rate structure that includes a critical peak pricing component that is designed to change consumption habits.

One reason Great River has such well-established efficiency programs, admits Member Services Manager Gary Connett, is that many of the Action Plan's goals are already in Minnesota policy. "For example, Minnesota has an energy-efficiency goal requiring electric and gas utilities to save 1.5 percent of their annual energy sales," said Connett who serves in the leadership group. "Utilities must integrate energy efficiency into their resource plans, and standards are being developed for measuring and verifying energy savings – all of which are in the National Action Plan."

SMUD, another long-time leader in energy efficiency, has implemented three Action Plan recommendations—placing high priority on energy efficiency as a resource, making a long-term commitment to implementing cost-effective measures and educating end-users on its value. The board set an aggressive goal of reducing energy consumption by 15 percent by 2018. A new SMUD initiative, Compact with the Customer, is evaluating advanced meters as a tool to encourage customers to shift use to off-peak hours.

The board is laying the groundwork to provide stable funding for energy-efficiency improvements—recommendation No. 4—by approving a 10-year budget to accomplish its 10-year energy-efficiency plan. A proposed plan to redesign rates and provide customers with automated price signal technology to

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Energy Services Bulletin

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take advantage of the different rate schedules would address the fifth recommendation.

Resources for all

While large utilities pioneer energy efficiency strategies, smaller power providers seldom have the resources to develop such programs, let alone evaluate them. That is where the Action Plan can help, Holt said. "Basically, it should function as a collection place for best practices and case studies," he said.

NRECA and APPA offer extensive tools to help members improve efficiency, but a central resource dedicated to energy efficiency would be useful to professional associations as well. "The Action Plan will help APPA to identify new products to aid members in adopting energy-efficiency measures," said Blackford. "We're already adding new courses and publications, including the "Easy Steps to Energy Efficiency: What Works for Public Power," a guide to successful programs and strategies."

NRECA has summarized the findings of "Vision for 2025" and distributed it to members through its environmental bulletin. The summary will also be posted on NRECA's public Web site.

Metrics needed

The leadership group will focus next on refining the strawman approach to measuring progress, an essential task, but one that Holt hopes won't overshadow implementation. "There are already some mechanisms in place, such as in the Clean Air Act, that could provide a good starting point," he said.

Whatever basis the leadership group uses, everyone agrees that a measurement system will have to resolve the difference between IOUs and cooperatives. Schori said that an effective system must be able to account for individual stakeholders' efforts, as well as for common efforts, such as regulatory policymaking. "And it has to be fair and easily-interpreted," she said. "Those are tall orders, but the leadership group is up to the task."

Blackford agreed that smaller utilities need a user-friendly way to measure progress for the staff person who is already doing two or three jobs. "Without a benchmarking method, utilities with fewer resources have a hard time justifying the investment in energy efficiency programs," he noted.

Regional variables also need to be accounted for, McGahey stated. "Tri-State has tried to develop customized energy-efficiency and demand-management programs because Wyoming doesn't work in the same way as Nebraska," he said. "We've finally reached a point where decision-makers are realizing that programs—and results—don't have to be perfectly equal. That's a critical shift in thinking."

More supporters

Perhaps the most critical shift in thinking has taken place already, driven by the Action Plan and utility interest. Many states have, or are considering adopting energy efficiency plans, a process that could speed up when measurements are completed and published, said Connett. "State agencies and utilities will be able to see what others are doing, and how they stack up to those efforts. I suspect that the state of Minnesota and its utilities will measure up very well," he added proudly.

Electric Power Research Institute and Edison Electric Institute recently launched separate energy efficiency research initiatives. Tri-State is one of 70 utilities funding EPRI's Dynamic Energy Efficiency Initiative. McGahey hopes that the Action Plan will eventually incorporate technologies coming out of the two initiatives.

When the National Action Plan for Energy Efficiency is finalized, public power providers will have played a strong role in shaping it. Blackford said he is proud of that participation for more than one reason. "We have to lead by example," he declared. "Ultimately, the success of any energy efficiency plan requires consumer buy-in. If power providers don't practice what they preach, neither will end-users."

Want to know more?
Visit www.wapa.gov/es/pubs/esb/2008/jan/jan081.htm

***Energy Services Bulletin* is starting the new year with a new look. The new design features the same up-to-date and in-depth stories in a user-friendly format that is easy on the eyes. Improving our publication, however, is an ongoing process, so let us know what you think. Contact the *Energy Services Bulletin* editor with your comments.**

MRES taps demand-side management for 85 MW

If demand-side management is a resource, then Missouri River Energy Services' Bright Energy Solutions DSM program is going to be an 85-megawatt powerplant—built without permitting, siting or breaking ground.

Targeting large customers

MRES begins phasing in the program this year aimed at saving approximately 85 MW and 233 GWhs from 2008 to 2020. Initial efforts will target commercial and industrial loads, with residential programs rolling out in 2009. "With larger loads, it is easier to make a big impact quickly," explained Energy Services Manager Joni Livingston. "It won't take long for our member utilities to see the reduction in their peak load growth."

The program will offer C & I customers incentives for:

- Energy efficient lighting
- Energy efficient motors, pumps and variable-frequency drives
- Energy efficient air conditioning, chillers and other cooling technologies
- A custom program for improvements to process equipment or other customer-specific equipment that result in reduced demand.

Similar load management programs will be available to residential customers beginning in 2009. MRES will continue to look at other technologies for future programs.

IRP begins process

An agency-level strategy to save 85 MW is an ambitious goal—one that began with integrated resource planning. MRES conducts an integrated resource planning study on a regular basis to determine the optimum way to supply energy. Livingston said, "It's a valuable tool to help the agency meet its obligations to our member communities in a reliable, cost-effective manner."

DSM activities have long been part of the IRP process at the municipal utility level. In 2006, MRES included an evaluation of DSM activities at the agency level and let DSM compete against supply-side resources. The evaluation included a potential study to determine how much demand reduction might potentially be accomplished, in addition to what MRES members were already doing. The analysis showed DSM to be the least cost-resource for MRES, with potential savings of 85 MW over 12 years. As a result of those findings, MRES set out to implement a coordinated DSM program across its member systems.

Teamwork, new tools

So instead of building a new generator, MRES sought the guidance of their members by forming a Demand-side Management Task Force. Launched in May 2006, the task force brought together 16 representatives from MRES member utilities in each of the four states MRES serves. The members represent a cross-section of large and small utilities, utilities with heavy commercial and industrial load, and those with mostly residential load.

"Everyone we invited to participate was enthusiastic about the project," recalled Livingston. "Most of the utilities had some kind of DSM experience, so they brought their expertise to the table and they recognized the initiative was another opportunity to enhance customer relationships."

In seven meetings over 18 months, the task force has examined market potential for DSM measures, economic impacts of DSM, barriers to achieving goals, new technologies, marketing strategies and implementation strategies. They used several tools to help with their analysis, including the market potential conducted by Summit Blue, the consulting services of Morgan Marketing Partners and DSMore evaluation software. The software compares the potential impacts of options such as energy efficiency, demand reduction and load control programs to other typical types of approaches and technologies.

The DSM Task Force determined that MRES should start with programs targeting large commercial accounts. The measures that Bright Energy Solutions is focusing on yield the most immediate and significant results, not only for utilities but also for the customers. "The difference large businesses see in their energy bills is an incentive on its own," commented Livingston.

Rolling out program

MRES is working on application forms and marketing materials to begin implementing the programs. Placing the initiatives under the umbrella brand, "Bright Energy Solutions" will help participating MRES systems and their member-consumers identify the program. Branding will also provide MRES members with ready-made outreach materials and opportunities for joint promotions.

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Standard approach makes Corn Belt's good program better

Home energy audits can help consumers use less energy, and standardization makes a task more efficient, so Corn Belt Power Cooperative has applied one to the other to expand its energy-efficiency program.

Free residential energy audits are a popular service Corn Belt member cooperatives have provided to their members for several years. The north Iowa generation and transmission cooperative recently updated the program to make it even more effective. The end result will give everyone involved—power providers and end-users—better tools to improve energy efficiency.

Jean Eells, The E Resources Group, left, discusses features of a home energy audit with (l. to r.) Norm Fandel, Midland Power Cooperative; Dan Huffman, Grundy County REC; and Larry Beilke, Humboldt County REC, during recent training sponsored by Corn Belt Power Cooperative. (Photo by Corn Belt Power Cooperative)

For distribution co-ops

As Corn Belt Marketing Director Jim Sayers explains it, standardizing the auditing process ensures that energy efficiency measures are provided in a consistent way. "Corn Belt and its members will have a better set of data to calculate kilowatt and kilowatt-hour savings and program cost effectiveness," Sayers said.

The changes will also make it easier for member systems to report on their programs. The Iowa Utility Board requires cooperatives to file reports on energy efficiency programs and activities every two years. Information from home energy audits will go into a computer database that Corn Belt members use in compiling the reports.

Sayers is working on a standard form for members to use when performing audits. That won't mean homeowners receive a cookie-cutter service; rather it ensures that the results of the audit will be measurable. "Auditors will leave a copy of the form and a list of recommended improvements with homeowners," said Sayers.

Changes help consumers, too

Developing a consistent package of resources for members is an important component of Corn Belt's expanded energy-efficiency program. "We have a lot of brochures on energy-efficiency," Sayers observed. "We are compiling a resource list, so homeowners can pick and choose according to their needs."

The list will include the member co-op's contact information and the Web site address to Corn Belt's REC InfoCenter. Corn Belt sponsors the Web site, a library of energy-saving tips, product profiles and energy-efficiency calculators. "All our members use content from the REC Info Center on their own Web sites," said Sayers, "but it never hurts to remind consumers that a useful—and free—tool for saving energy is right at their fingertips."

Auditors will also leave behind a set of easy-to-implement efficiency upgrades to get homeowners started. Corn Belt's Efficient Energy Advisory Committee is in the process of testing such items as reduced-flow showerheads, sink aerators, compact fluorescent light bulbs, water heater wrap and water heater pipe insulation for recommendation.

The advisory committee is made up of Corn Belt member representatives, many of whom conduct home energy audits. "We rely heavily on them because they're the ones meeting the consumers," said Sayers. "Those representatives are our eyes in the field, and the face of the REC to consumer members."

Training for consistency

As part of the new energy-efficiency program, Corn Belt hosted a one-day workshop on home energy audits. Every member co-op sent a staff person, even though the auditors really know their business, Sayers said. Whether it is helping a member choose a new furnace or finding those pesky Energy Hogs that are running up bills, he stated, "They are very experienced, not just at walk-through audits, but doing diagnostic tests, too."

E Resources, a local energy-efficiency contractor, conducted the training. The company has provided blower-door and HERS testing services to Corn Belt in the past. The training included a walk-through audit of a test house, giving auditors the chance to see how their counterparts worked. "That's going to help to refine

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IRP assistance earns KMEA's Turner Administrator's Award

With understaffed utilities, aging populations and shrinking loads, small rural towns pose a special challenge to resource planners. The way Tony Turner of Kansas Municipal Energy Agency meets that challenge has earned the finance and accounting director Western's prestigious Administrator's Award for Energy Efficiency & Renewable Energy.

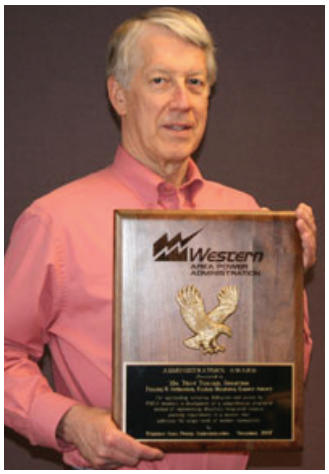
Power Operations Manager Ron Steinbach of Western's Rocky Mountain Region presented the award at the KMEA annual board of directors' meeting on Nov. 15. KMEA General Manager Jim Widener accepted the award on behalf of Turner who was unable to attend. "Western created the Administrator's Award to recognize the kind of outstanding initiative and dedication Tony has shown in his career," said Steinbach. "We are proud to honor his service to KMEA members."

The personal touch

KMEA, a municipal joint action agency serving 72 members, first began receiving allocations from the Loveland Area Projects in 1989. Turner joined the agency about the same time. One of his duties was to help KMEA members perform the integrated resource plans required under the Western contract.

For some of the small utilities that KMEA serves, meeting this requirement is a struggle. Cawker City, Kan., for example, has only 391 meters, said Turner, "And one city administrator, one assistant and two field staff to handle the electric utility and all other city functions. Towns like that just don't have the expertise or time to do extensive planning," he observed.

Yet, appropriate system planning and maintenance, along with conservation and energy efficiency measures, can protect these municipalities' financial and energy resources. Turner grasped from the start that member systems were going to need more resources if they were to effectively plan for their customers' current and future energy needs.



Tony Turner displays the Administrator's Award from Western honoring his dedication to helping KMEA member cities complete their integrated resource plans. (Photo by Kansas Municipal Energy Agency)

Developing a thoughtful resource plan for member utilities requires Turner to gain a thorough understanding of their communities. He has spent countless hours traveling the roadways of Kansas, meeting with KMEA members' staff and learning about each town's unique needs. That includes accommodating the busy schedules of city officials who wear more than one hat. On one occasion, with laptop in hand, Turner met with an administrator who was working at the county fair in order to finalize his community's resource plan.

Changing times

Many of the cities in KMEA's service territory have decreasing loads, Turner noted. "The resource plan has to strike a delicate balance between keeping a town economically viable and saving energy," he said.

Energy-efficiency programs can be difficult to implement where the customer base is older. "Many residents are on fixed incomes and some expect to leave the area to be closer to healthcare services," Turner explained. "They simply don't feel that energy-efficiency improvements are worth the investment in their situation."

In recent years, however, KMEA member utilities have been doing more customer education on energy efficiency, said Turner. He's seen a bigger change in internal operations, however. "Towns are weatherizing municipal buildings and replacing streetlights with more LEDs. It helps them keep their budgets under control."

Rate design is another area that undergoes change. Taking a close look at the member utility's rate schedule is an important part of the IRP process. "I help the city make sure that its tariff structure is providing the proper price signal," he said.

Turner's effort to support KMEA members has ensured that the small rural utilities get the full benefit of resource planning. Western congratulates Tony Turner and Kansas Municipal Energy Agency on receiving the 2007 Administrator's Award, and on giving new meaning to the phrase "customer service."

Want to know more?
Visit www.wapa.gov/es/pubs/esb/2008/jan/jan084.htm

Web site of the month:

REC InfoCenter

Regional Web sites have a lot to offer users outside the region, as the CEC Consumer Energy Center showed last month and the REC InfoCenter further confirms.

Corn Belt Power Cooperative and its local rural electric cooperatives sponsor the REC InfoCenter to provide their members with information and tools to manage their energy consumption. Some sections, such as System Peak, Community, Employment and Videos, are relevant only to Corn Belt members or Iowa residents. However, there are many pages of resources that will help anyone looking for ways to save energy.

General resources

Safety and Education, for example, are subjects of universal concern. The links on this page are not only for consumers and teachers, but will also be valuable for utilities, contractors and other professionals. Agricultural customers will appreciate the links to information on siting grain bins to ensure proper clearance for power lines.

Many stories posted on the News page have an Iowa focus, but there is plenty to interest visitors from elsewhere. Some, like "Hate Junk Mail?", include links to nationwide resources. Energy tips, the monthly Energy Myth, and stories about Energy Star appliances, energy-efficiency tax incentives, and Whole Foods local growers program are national in scope.

Products and services spotlights efficient water heaters and electric heating and cooling systems. The information sticks to describing product features and does not mention incentive programs, so it applies to anyone interested in learning more about the equipment.

Self-auditing tools

The centerpiece of the REC InfoCenter is the Energy-efficiency Calculators page. This roundup of online tools is an excellent place for consumers to start taking control of their energy use.

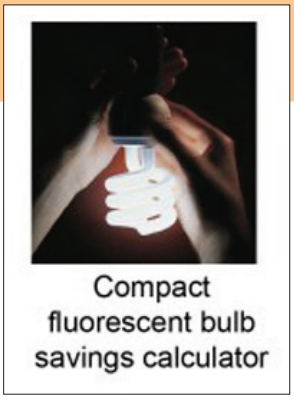
Iowa cooperatives are probably aware of the calculators on UseElectricityWisely.com, since the site is sponsored by public power utilities in the state. But there are many more options available to users everywhere. The Heating and Cooling and Home Energy Calculators also include online tools from Touchstone, Energy Star and Western.

The Department of Energy provides a calculator for the energy cost of faucets and showerheads and another for insulation improvements. Calculators for appliances and lights cover refrigerators, compact fluorescent lights, televisions and phantom loads.

Web sites for kids

The page includes calculators to get young consumers involved in saving energy, too. Cornbelt's own Kids' Korner lets kids figure out how much energy common household appliances use and then asks them questions about what they have learned.

In addition to energy-saving and safety tips, the Touchstone Energy Kids Zone features educational games and coloring books. The Renewable Energy interactive animation is brief, but entertaining enough to get children to ask more questions about renewable resources.



Corn Belt Power Cooperative's REC InfoCenter features a variety of energy-efficiency calculators that visitors in any part of the country can use. (Artwork by Corn Belt Power Cooperative)

The Energy Saver Calculator shows users how much energy they can save by simple measures such as unplugging idle electronics or turning down a water heater. The site also has resources for parents and teachers.

The calculator is part of a larger site, Energy Efficiency World. Although it is designed for children, the site has resources for adults. A glossary link, located at the bottom of the Parents page, provides definitions of energy terms that help consumers become more energy literate.

Energy literacy is the central concept of the REC InfoCenter, and critical to the success of utility energy-efficiency programs in any state. The REC InfoCenter is a reminder that, while the energy-management challenges each utility faces are local, help can come from any part of the country, and it is just a mouse click away.

Want to know more?
Visit www.wapa.gov/es/pubs/esb/2008/jan/jan085.htm

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To introduce member utilities to the new DSM programs, MRES is planning "DSM Technology Days," a two-day event in January. The first day of the event will focus on load management technologies and programs, and the following day will highlight cash incentive programs for the end-use customers of MRES members. After the introduction to members, MRES will offer marketing materials; presentations to governing boards, customers, and trade allies; and personal assistance as needed to get the DSM programs going in each member community.

"Our message is that DSM is good for customers, the local utility and for MRES," said Livingston. "Customers will get an incentive to offset the capital cost of making efficiency improvements that will reduce their peak demand and their utility bill. For the local utility and for MRES, we will be acquiring a least-cost resource, which will help us hold down everyone's rates."

Livingston added that today's customers are more knowledgeable about the value of energy efficiency, how it will affect their utility bill and their bottom line, and of the benefits to the environment. "Working with customers to help them use energy more efficiently is what public power utilities do best," she said "The Bright Energy Solutions programs will give customers more tools to work with," she said.

Want to know more?
Visit www.wapa.gov/es/pubs/esb/2007/jan/jan082.htm

Standard approach
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the process and create a more coordinated service," explained Sayers. "Auditors also used the opportunity to give their input on the new form."

Sayers said that Corn Belt is now working with the National Rural Electric Cooperative Association to develop a more extensive, standardized training curriculum. Along with Gen~Sys Energy wholesale cooperative, the utility plans to sponsor two workshops based on that curriculum this spring, one in Iowa and one in Wisconsin.

Anticipating new regulations

Usually, when a utility invests this much effort to improve a program, there is a legislative mandate behind it. That is not the case for Corn Belt, said Sayers—not exactly, anyway.

Early in 2007, the Iowa State Legislature was debating whether to include publicly-owned utilities under state energy efficiency requirements that currently apply to only to investor-owned utilities. "Ultimately, they decided against it for now, but it got us thinking about the benefits of making our program delivery more systematic," said Sayers.

If—some might say, when—the state decides in the future to require municipal and cooperative utilities to demonstrate the results from energy-efficiency programs, Corn Belt Power Cooperative will be ready. In the meantime, its member utilities will have an efficient system for promoting efficiency, and member consumers will have more efficient homes. And in the end, "The whole purpose of an energy-efficiency program is to help your consumers," Sayers asserted.

Want to know more?
Visit www.wapa.gov/es/pubs/esb/2008/jan/jan083.htm

Western is sponsoring a Wind Interconnection Workshop Jan. 23-25 at the Electric Power Training Center in Golden, Colo. Visit *http://www.repartners.org/pdf/WindInterconn08.pdf* for more information.

Check out Western's regularly updated Energy Events Calendar for a complete list of seminars, workshops and conferences. *http://www.energyexperts.org/calendar/*.