



Fargo wins energy prize, Fort Collins takes second place

Accepting the prize on Dec. 18, from left: eFargo Fellow Dylan Neururer; Fargo Mayor Tim Mahoney; NDSU assistant professor of architecture Malini Srivastava; Cass County Electric Cooperative CEO Marshal Albright; Technical Lead Peter Atwood and Uwe Brandes, executive director of the Georgetown University Energy Prize. (Photo by Kim Hyatt / Forum News Service)

After nearly three years of competition, the Georgetown University Energy Prize (GUEP) announced the winners, and the top honors go to cities served by WAPA customers. Fargo, North Dakota, took first place, receiving a prize package that includes support toward \$5 million in financing for an energy efficiency dream project. Fort Collins, the only Colorado city to advance to the final round, came in second.

Over the course of the competition, Fargo reduced its overall energy consumption by more than 172 billion Btu, to rank fourth among the 50

semifinalists' overall energy scores. In the final round, the judges evaluated the 10 top-performing cities and

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counties on their energy-saving approach, performance and prospects for nationwide replicability and scalability.

"Lose-A-Watt," as Fort Collins dubbed its two-year energy reduction campaign, saved the community more than 160 billion BTUs of energy and reduced carbon emissions by 34,436 metric tons. The contest targeted electricity and natural gas use by residential and municipal and K-12 sectors.

Multi-faceted competition

The beauty of GUEP is that it gave America's small- to medium-sized towns, cities and counties a way to rethink how they use energy. To reduce their energy consumption, the communities:

- Implemented bold new local policies on energy-transparency, energy-savings and clean energy technology.
- Conducted deep data mining of their energy use and community infrastructure.
- Focused on increasing energy efficiency in neighborhoods with high energy use in all income brackets.
- Created novel financing mechanisms to enable their residents to invest in new energy upgrades.
- Used radically unique approaches to change behavior and help communities rethink their energy-use habits, including gamification and the latest methods in social science research.

Starting in April 2014, communities across the country applied to participate and filed detailed long-term plans once accepted into the competition. From January 2015 to December 2016, semifinalists competed to reduce their utility-supplied energy consumption in a way that might yield continuing improvements in their own communities and could be replicated by others.

Judges selected the finalist communities in 2017, based on energy saved during the two-year period. The winner was selected by combining those results with scores in weighted categories, including innovation, potential for replication, likely future performance, equitable access, community and stakeholder engagement, education and overall quality and success.

Teamwork creates success

Fargo's program was built on a partnership between the city, North Dakota State University (NDSU) and the utilities Xcel Energy and Cass County Electric Cooperative (CCEC). Putting together a team where each party brings a particular expertise to the table was critical to Fargo's success, said Malini Srivastava, an assistant architecture professor at NDSU. "The university researched and designed the projects to lower energy use, the utilities supplied data for benchmarking and the city provided the communication network to engage the citizens," she explained.

CCEC had recently installed an automated metering infrastructure that collects data in up to 15-minute intervals. Having a clear picture of electricity use by homes, apartments, schools, park districts and municipal buildings proved to be very beneficial in moving the project forward. "The meter data definitely increased the likelihood of Fargo winning the Georgetown University Energy Prize," said CCEC President and CEO Marshal Albright.

Engaging online, in person

Srivastava, the project lead for NDSU, created another important piece of the city's strategy, eFargo. The web portal engaged the community with games and a narrative. "Gaming made saving energy fun and easy to understand," said Fargo Planning Director Nicole Crutchfield. "eFargo



was a great way to educate students and the general public about energy efficiency."

The website attracted more than 300 participants to play the open game during eight weeks. The school game was even more successful, with more than 1,500—mostly students—participating over a six-week period. "We challenged local schools to defeat the Waste-a-Watt character by using their knowledge about energy and creativity," Albright said. "The schools competed to reduce energy consumption over six weeks. Fargo's Roosevelt Elementary won the challenge, reducing the school's energy consumption by 29 percent."

Getting school children involved was the most effective outreach, Crutchfield noted, but engaging citizens at libraries, public events, churches and other faith-based groups also paid off. Local experts in energy production and distribution joined the advocacy effort, forming the Citizens' Local Energy Action Network—CLEAN—to advocate for renewable energy and evolving technologies in transportation.

Upping their building game

Another project that helped secure the top honor was designing affordable "passive houses" Fargo hopes to develop in partnership with a builder. NDSU architecture students researched and designed four high-performance homes. "The students did professional-level work, and I think it was educational for them to watch the city work through the permitting process," Crutchfield said.

Other initiatives included providing financial assistance to low-income homeowners for weatherization and

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Volunteers for the Lose-a-Watt Porchlight Campaign went door to door, offering to replace incandescent bulbs in porch lights with a free LED bulb. (Photo by city of Fort Collins)

to preserve existing housing stock in the city's older neighborhoods. Fargo also adopted and is actively enforcing the 2015 International Energy Conservation Code. The city hopes to keep working with NDSU on coming up with creative ways to reinforce our housing stock. "That is one possible use for the prize," Crutchfield said.

Words matter

The city of Fort Collins, a long-time leader in municipal sustainability, used the GUEP competition as an opportunity to hone some existing programs and strategies and to test new ones. Fort Collins Utilities (FCU) and the city's Environmental Services led a campaign built on climate action goals that are already reducing the community's environmental impact.

One particular area of success, according to Fort Collins Sr. Environmental Planner Katy McLaren, was in tightening up and lightening up the language in outreach material. "We built our messaging around specific actions and limited seasonal campaigns to three actions," McLaren said.

Social science-based marketing approaches informed the Lose-a-Watt campaign but the website avoided utility jargon to engage visitors with lighter, more fun language. Those lessons will be incorporated into the city's future marketing and outreach campaigns, noted McLaren. "I think

other utilities could benefit from looking at how we framed the efficiency actions, as well as the use of lighter language in messaging," she added.

Many ways to save

The Lose-a-Watt website provided Fort Collins residents with a variety of options for taking action to reduce their energy use, some established and some launched for the competition. Homeowners could make home performance upgrades with Efficiency Works Neighborhood, a pilot program that streamlined the utility's rebate process for efficiency improvements. "FCU moved it to full program status and will continue to refine it going forward," McLaren said.

Residents who were inspired to volunteer could join the Porchlight Campaign. Volunteers visit neighborhoods around the city to see what type of light bulbs homes have in their porch light fixture. If a home's porch light has an incandescent bulb, volunteers offer to replace it with a free LED bulb.

The Workwise Challenge got the business community involved in the competition by giving businesses free home conservation kits to hand out to their employees. The business with the most employees installing kits received prizes and recognition. Utility representatives used the challenge as an opening to introduce commercial customers to ClimateWise, the city's free, voluntary program to help Fort Collins businesses reduce their environmental impact.

Some things work, some don't

As with Fargo, Fort Collins found engaging students to be the "biggest bang for the buck." Poudre School District worked with the city to present the Voltbusters education program for K-3 grades. "The kids take the information home to share with their parents, and the parents are much more interested because their kids are into it," McLaren echoed Crutchfield's observation.



The Voltbuster Challenge enlisted Poudre Valley students to save energy. Both GUEP winners said that getting children involved in a program is an effective way to reach parents. (Photo by city of Fort Collins)

Gaming—specifically a gaming app created by Joulebug—was less of a success for Fort Collins. "It would probably have been more effective if we ran it for one year, instead of two," McLaren said.

Overall, maintaining the community's level of engagement for the duration of the competition proved challenging, McLaren acknowledged. The fact that Georgetown University struggled to keep its dashboard updated with progress reports did not help, she said.

Worth effort

Both cities saw the competition as a positive experience that gave them permission to experiment with new ideas and pushed them to communicate more with residents about energy use.

Srivastava agreed with Albright about the importance of having detailed energy-use data to measure programs. She is currently preparing a report on the competition to present at a conference in the spring, and is looking forward to sharing Fargo's lessons with other cities. Perhaps the greatest lesson the Georgetown University Energy Prize winners learned, said Srivastava, is that, "Small cities shouldn't be afraid of trying new ideas."

WAPA congratulates Fargo and Fort Collins on their creativity and initiative, and we look forward to seeing how they build on their success. ■

OPPD program harnesses smart thermostats for savings

Wi-Fi-enabled thermostats give homeowners unprecedented opportunity to control their energy use, and Omaha Public Power District (OPPD) has now created a program that rewards customers for sharing that control with the utility.

Different kind of demand response

Residential customers who have installed, or who plan to install, Nest thermostats™ are eligible to enroll in “Nest Rush Hour Rewards.” They receive a \$100 credit on their electric bill for enrolling in the program and an additional \$20 credit annually.

On certain days in May through October, when demand for electricity is high, OPPD may declare a Rush Hour event during which Nest adjusts participants’ air conditioning through their thermostats. This can occur for up to four hours, between noon and 9 p.m. Participants generally have two hours’ notice before the event, giving Nest time to pre-cool the home. OPPD may schedule critical Rush Hour events in an emergency, where customers would receive a 10-minute notice.

Customers don’t need to be home to turn down their heating or cooling and if they get uncomfortable during the Rush Hour, they are able to adjust their home temperature remotely.

Automation makes it easy

Nest Rush Hour Rewards is a partnership between the smart-thermostat manufacturer and energy providers. By teaming up with Nest, utilities gain a tool for lowering demand while helping consumers get the most value from their investment.

The OPPD request for proposals (RFP) for a smart-thermostat program called for a cost-effective, easy-to-use unit that had high acceptance in the marketplace. Jay Anderson, project director for OPPD’s Power Forward Initiative, noted that Nest best matched the RFP’s criteria. “We will consider other thermostats as we learn from operating the program,” he said.

Nest is among the most popular interactive thermostats on the market today. It can learn homeowners’ behaviors, keep the house comfortable and save money on energy bills. Homeowners can adjust their heating and cooling systems remotely and allow their power providers to do the same.

Part of big picture

The Thermostat Program is part of a broader initiative OPPD launched with the goal of reducing demand by 300 megawatts (MW) by 2023. “Reducing our need for electricity, when demand is at its highest, helps reduce our need to purchase electricity or build a new power plant,” said Anderson. “And that helps keep costs down for all of OPPD’s customers.”

OPPD is not relying on smart thermostats alone to achieve such an ambitious goal. The initiative encom-



Nest thermostats™ can learn homeowners’ behaviors, keep the house comfortable and save money on energy bills. (Photo by Nest)

passes programs that tackle commercial and industrial, as well as residential loads. The utility’s Cool Smart program currently controls 60 MW of residential air conditioning, not including the Nest thermostat™ program. Cool Smart participants must cancel their enrollment in that program before signing up for Nest Rush Hour Rewards. “The two programs use different strategies to curtail the same load, so there are no additional savings to be gained from participating in both,” Anderson explained.

The Thermostat Program and Cool Smart are the only residential demand response programs that OPPD offers at this time. But the “bring-your-own-device” model for Rush Hour may prove to be a way OPPD can adapt to a rapidly changing marketplace. “This allows us to see what customers are interested in and add new technology to our efficiency programs as it makes sense,” said Anderson.

Smart technology offers many potential benefits to the consumer who is willing to try something new. Omaha Public Power District, a smart utility, is discovering it can share in those benefits by rewarding its customers’ pioneering spirit. ■

Schedule announced for 2018 DOE Tribal Webinar Series

The U.S. Department of Energy Office of Indian Energy Policy and Programs and WAPA are once again co-sponsoring the Tribal Energy Webinar Series. The 2018 series of 11 webinars focuses on *Tribal Sovereignty and Self-Determination through Community Energy Development*. The free webinars are held from 11 a.m. to 1 p.m. Mountain Time the last Wednesday of each month, beginning in January and concluding in November.

Roughly two million American Indians and Alaska Natives from 567 federally recognized tribes live on or near 56.2 million acres of Indian land. These lands are also rich in energy resources that offer the tribes the opportunity for economic development and greater self-determination. The 2018 webinar series provides these diverse communities with the information and knowledge required to evaluate and prioritize their energy options.

Topics will cover establishing tribal consensus on energy goals and objectives; instituting short and long-range actions; and making informed technical, financial, market, policy, and regulatory decisions. Speakers will present tribal case studies highlighting proven energy development best practices. Attendees will discover tools and resources to facilitate and accelerate community energy and infrastructure development in Indian Country.

Action-oriented program

The series begins on Jan. 31 with Office of Indian Energy: Advancing Future Leaders through STEM. This webinar will highlight the college student internship program for Native students interested in energy project planning and development activities.

Former interns will talk about their experience with experts in the field and at DOE's national laboratories, and how the program helped them make a positive impact in Indian Country. Applications are now being accepted through February 19 for the summer 2018 internship opportunity.

The rest of the schedule builds on past series with an emphasis on process, action and community-wide engagement:

- **Feb. 28** – Steps Toward Your Tribal Community Energy Future

- **March 28** – Energy Opportunities in Tribal Housing
- **April 25** – Best Practices in Tribal Energy Business Models
- **May 30** – Understanding the Power Grid and Organized Markets
- **June 27** – Evaluating Tribal Utility Authority Opportunities
- **July 25** – Request For Proposal (RFP) Strategies for Tribal Community Energy Projects
- **Aug. 29** – Utility-Scale Energy Development
- **Sept. 26** – Facility- and Community-Scale Project Development
- **Oct. 31** – Distributed Energy Technology Trends and Costs
- **Nov. 30** – Tribal Microgrid Case Studies

There is no charge to attend, but registration is required. Attendees must have Internet access, computer compatibility with GoToMeeting software, and a phone line. ■



STEM interns, here at the Acoma Pueblo, assist with Office of Indian Energy-funded projects. Former interns will talk about their experiences with the program at the Jan. 31 Tribal Energy Webinar. (Photo by DOE Office of Indian Energy)



This year's Utility Energy Forum will take place at the Doubletree Hotel in Rohnert Park, California, near the Sonoma Wine Country. (Photo by Doubletree Hotels)

UEF opens with round table for utility, government professionals

April 25-27

Doubletree Hotel
Rohnert Park, CA

The 38th annual Utility Energy Forum (UEF) will begin as it has for the past several years with a Pre-Forum Workshop just for the people who keep the lights on—staff from utilities and government agencies.

The session gives power providers and government representatives their own time to candidly discuss issues that concern them, strictly from their own point of view. "The UEF attracts a lot of trade allies and representatives from related field, but it is first and foremost for utilities," explained WAPA Energy Services Manager Ron Horstman. "Giving utilities a chance to 'talk amongst themselves' first sets the tone for the meeting. They go into the forum with a clear idea of their shared challenges and what they hope to learn."

Join us!

The UEF is a California-centric event, but don't let that stop you from attending. You may have more common ground with West Coast utilities than you realize.

It is a great opportunity to network with energy services colleagues and learn about their customer programs related to energy efficiency, renewable energy, key account management and other customer services. This year's theme, *Preparing for the New Energy Future*, asks us to challenge our traditional thinking to be ready for the rapidly changing energy utility industry.

The Double Tree Hotel in Rohnert Park, California, will host the UEF this year. The registration rate includes not only your conference registration, but your lodging and all your meals. The views of the Sonoma Wine Country are free.

Horstman will be attending the UEF and moderating the Pre-Forum Workshop along with Paul Reid of Azusa Light and Power, so attendees will get to share their thoughts and concerns about WAPA as well. Your *Energy Services Bulletin* editor (me) will also be on hand to hear your stories and pick your brain about services you would like us to offer. We look forward to meeting WAPA customers and learning all about your challenges—and your innovative solutions—April 25-27. ■

ACEEE video series links energy efficiency, public health

Oh, energy efficiency! Is there anything you can't do? As if saving consumers money and managing our loads isn't enough, a video series by the American Council for an Energy Efficient Economy (ACEEE) makes the argument that more efficient buildings play a role in keeping us healthy.

Utilities across the nation are greening their portfolios by adding more renewables and distributed generators as the technologies become more affordable. However, just as the kilowatt-hour you don't use is the cheapest, it is also the cleanest. The ACEEE series highlights a benefit of energy efficiency that often gets little attention, especially on the personal scale.

Each video presents a case study on how weatherization has helped to improve the health of homeowners and their families. The series launched in December 2017 with a video about a senior citizen living in a trailer in rural West Virginia. After a local anti-poverty program weatherized her home, the woman's chronic breathing problems eased and her utility bills decreased.

Part two, released this month, shows how better insulation and air sealing have improved a child's asthma condition in Baltimore. The series will conclude in February with a look at how weatherization is mitigating the effects of outdoor pollution in Pittsburgh. All videos will be available on ACEEE's website.

In March, ACEEE will release *The Next Nexus: Exemplary Programs That Save Energy and Improve Health*, a report detailing programs nationwide that work to improve public health by improving building health. These programs represent potential partners for utilities and municipalities seeking to promote weatherization and other building efficiency initiatives. The report also highlights the non-energy benefits of weatherization—such as improved comfort and indoor air quality—helping utility program managers build a stronger case for efficiency upgrades.



An efficient home is a comfortable home. (Photo by DOE Weatherization Program)

If the report whets your appetite to learn more about the intersection of energy efficiency and public health, ACEEE is hosting its first Conference on Health, Environment and Energy in New Orleans in December. The event will offer many opportunities to network and brainstorm with other professionals in these fields. It is time to share the news that reducing energy waste is not only good for your bottom line, it is good for your community. ■



New clothes washer efficiency standards take effect in 2018

Newly-manufactured clothes washers for homes, multi-family buildings and laundromats are good candidates for customer incentive programs aimed at saving energy and water.

Efficiency standards taking effect Jan. 1, 2018, will reduce energy use in residential top-loading clothes washers by 18 percent and water use by 23 percent. The standards for the generally more efficient front-loading washers were increased in 2015 and will remain unchanged in 2018.

Combined, the changes in the 2015 and 2018 standards will eliminate the need for 1.3 gigawatts of electricity generating capacity over 30 years, according to a Department of Energy estimate. That is roughly the output of two average-sized coal plants. For water utilities, the new appliances will save 3 trillion gallons of water over the same period of time, and consumers can net up to \$30 billion in savings.

Commercial washers, of the type used in multi-family buildings and laundromats, will see energy use reductions of 15 percent for top-loading models and 18 percent for front-loaders. The standards will also cut the water consumption of front-loaders by 20 percent, while the water use of top-loaders will remain essentially unchanged.

A blog post by the Appliance Standards Awareness Project goes into depths on the history of standards for clothes washers, along with the benefits to consumers and the potential for more savings. Electricity and water providers stand to gain new tools to meet their load management goals and build stronger customer relationships, making strong efficiency standards a win for everyone. ■



Clothes washers meeting the new standards provide not only significant energy and water bill savings, but also better cleaning performance and more features than older washers.

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