

DEED Digest

NEWSLETTER OF THE APPA PROGRAM: DEMONSTRATION OF ENERGY & EFFICIENCY DEVELOPMENTS | VOL. 34, NO. 3 | FALL-WINTER 2016

INNOVATION SPOTLIGHT: GIS & FIELD DATA APP

Engineering Tools on iPhones Improve Access and Save Money

We pick up our phones for everything these days — it's the app age. But for many utility workers, using a smartphone in the field still isn't possible. Greenville Utilities Commission in North Carolina became acutely of this problem when its new technology investments were being underused. Workers couldn't access the platforms remotely.

GUC in 2013 was recognized with state and international awards for establishing an organization-wide mobile computing strategy that implemented a framework for using Apple devices integrated with the utility's geographic information system.

In a new DEED project completed in November, GUC built on its earlier work with mobile apps to support engineering and design, construction work management and asset management — project areas that are best-suited to be completed onsite, not in the office. For engineers in the field, GUC developed an engineering calculator, an underground damage prevention agreement, and a services quote app. For work management efficiencies, GUC developed a field data app and a GIS mobile app.

The initial framework allowed GUC to vastly improve process efficiencies. The mobile apps were a game-changer, GUC said, especially for GIS use. While most field employees already carry iPhones, GUC said it has issued hundreds of iOS devices to employees, from the CEO all the way to maintenance crews.

The application file repositories from the project are available for app developers at other utilities. GUC said the methodology resulting from its project could save millions of dollars for public power utilities.

Learn more in the [DEED Project Database](#) — search for project G-349.

OPPORTUNITIES

Win National Recognition: Nominate for DEED 2017 Awards

Nominate your own or another DEED member utility for the 2017 ACE and EIA awards. Nominations are due to the American Public Power Association by Jan. 31, 2017.

DEED presents two awards each year to recognize outstanding contributions to public power research and innovation. Over the years, winners of the Award of Continued Excellence and Energy Innovator Award have earned national recognition and an elevated profile with customers, policymakers, and other local community stakeholders.

Award of Continued Excellence:

The ACE recognizes a utility that has demonstrated continued commitment to the DEED program and its ideals — support for research, development and demonstration projects; commitment to energy efficiency; investigation/use of renewable resources; and support of public power. The 2017 ACE will be presented during the American Public Power Association's Engineering & Operations Technical Conference, May 7-10, 2017, in San Antonio, Texas. DEED members in good standing for the last five years are eligible for nomination for the ACE.

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Award Winning DEED Projects

Award of Continued Excellence: 2016 Winner

River Falls Municipal Utilities in Wisconsin was recognized for making tremendous strides in promoting renewable power and energy efficiency considering its small size — just over 6,000 total customers. The utility was chosen as one of two communities in Wisconsin to pilot a strategic community solar garden with WPPI Energy. The results will help community solar owners in the Midwest to better understand what to plant in community solar gardens. River Falls has also provided two scholarships through the DEED program. In 2012 the utility worked with a student to study the implications of land use change on soil. In 2016, River Falls worked with a student to investigate the effectiveness of sustainable housing models (see page 5). River Falls is quick to share the results of its innovation with other public power utilities.

Energy Innovator Awards: 2016 Winners **Solar for All in San Antonio**

CPS Energy's Simply Solar program offers options for every customer interested in solar power, regardless of socio-economic or roof-ownership status. Simply Solar relies on power purchase agreements to finance the solar installations, which allows CPS Energy to recover its fixed and variable costs. The program is popular with low-income customers, as well as local government, school districts, hospitals, and non-profits.

Home Energy Loans in Missouri

Independence Power and Light in Missouri developed its Home Energy Loan Program to help homeowners access funds to make energy efficiency improvements to their homes. The city has a large population of retirees and blue-collar workers who are homeowners but may not have the resources to make such improvements on their own. The utility-funded improvements will result in substantial savings for customers over time.

Capturing the Sun in Minnesota

Moorhead Public Service in Minnesota developed its Capture the Sun community solar garden after it identified that many homeowners, who want to meet some of their energy needs with solar, do not have good resources at their locations. MPS created a community solar garden. The solar power is pro-rated annually in the form of bill credits to participating customers.

Reducing Emissions on Rikers Island

New York Power Authority's new 15-MW microgrid includes a new combined-heat-and-power plant at the Rikers Island Correctional Facility in Queens. The plant can cover the majority of the steam load of the island throughout the year and replaces the older, inefficient boiler plant that served the island. The project reduces greenhouse gas emissions by 22,000 tons a year by displacing generation from centralized power plants. Rikers can run independently of the grid and has the electricity and steam to operate in the event of a grid blackout.

Hire an Intern with Support from DEED

Have you ever considered hiring an intern at your utility? If not, now is the time. The spring application cycle for DEED-funded internships is open until Feb. 15. Learn more at PublicPower.org/DEED under Funding. Then email DEED@PublicPower.org to request your log-in credentials to the online application portal.

Here are five reasons to consider bringing in an intern.

- 1. Find future employees** – An internship program is a great year-round recruiting tool that creates an ongoing pipeline of potential interns.
- 2. Test-drive talent** – Internships are an effective way to evaluate an individual for a full-time job without the pitfall of hiring and training someone new only to find they're not a good fit for your organization — or that they don't like the work.
- 3. Try a low-cost hiring option** – Interns are an inexpensive resource. Their salaries are significantly lower than that of staff, but they're among the most highly motivated members of the workforce.
- 4. Increase your employee retention rate** – A 2009 National Association of Colleges and Employers survey reported that almost 40 percent of employers had a higher five-year retention rate among employees they'd hired via their internship programs.
- 5. Give back to the community** – Sponsoring interns encourages local jobs and helps students in your community gain experience, develop skills, make connections, strengthen their resumes, learn about a field, and assess their interests and abilities.

INNOVATION SPOTLIGHT: CENTRALIZED ENERGY STORAGE

Shining the Light on Solar + Storage

An innovative public power demonstration project is making headlines with two awards. The 7-megawatt battery storage project attached to a solar array in Minster, Ohio, was recognized as the Energy Storage Association's 2016 Centralized Storage Project Award winner.

"The individuals and organizations who received this year's ESNA Awards have each played a key role in advancing energy storage through impactful programs, projects, technologies or policies," said Janice Lin, Energy Storage North America conference chair. "Their work is transforming the energy storage ecosystem by opening up brand new markets and solving real world problems for customers and the grid."

The project also won the Smart Electric Power Alliance's Public Power Utility of the Year designation in September.

Minster is touted as the first public power utility to develop a project of this kind. The 7-MW of battery storage supports a 4.2-MW solar array. The developer, American Renewable Energy, worked with Minster and S&C Electric, as well as other project partners. S&C provided the storage system. The project is the largest solar-plus-storage project owned by a public power utility in the U.S., S&C said.

The solar-plus-storage system has four revenue streams, according to developers. S&C said this makes it a particularly innovative project. The

frequency regulation sold on the PJM Interconnection market has been the project's top-performing asset, S&C said. The revenue streams offset the cost of the project and improve the quality and reliability of power delivered by the public power utility. The system is expected to save the utility \$350,000 on deferred transmission and distribution costs.

Village administrator Don Harrod called the day a milestone for Minster's community when the project came online in May. The system's launch assured that the village would continue to provide affordable, reliable and sustainable power for residents, Harrod said in a news release.

OPPORTUNITIES

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Fund Your Innovation: Apply for DEED Grants & Scholarships by Feb. 15

Your utility's innovative ideas could receive up to \$125,000 from DEED. This grant and scholarship program offered to members by the American Public Power Association encourages and promotes energy innovation. DEED grants support the development and demonstration of new technologies and techniques that are taking public power into the next generation of energy service.

Grants can be used for projects that improve utility performance, reduce operating costs, investigate new technologies, offer new services, or improve processes to better serve customers. Grants are typically awarded in increments of \$25,000-\$50,000. Utilities and their partners are expected to match at least 50 percent of the total project costs.

Successful DEED project applications are well-researched. Make sure your project idea is not routinely executed elsewhere. Reach out to DEED staff who are ready to provide advice on creating a successful proposal. Be sure to check the DEED Project Database for previous

and current DEED-funded research and learn what other members have accomplished. Log in with your PublicPower.org username and password.

If you think you'll need subcontractor assistance for your project, but have no leads, the [Innovative Idea Exchange](#) can help you find potential project partners. Share your innovative project idea and contact information and we'll pass it on to Association corporate members who will contact you directly if they offer the services you seek.

For help, check the [Grant Application Quick Start Guide & FAQs](#), [Top 10 tips for writing a successful grant application](#), and the [Project Reporting Requirements](#).

Email DEED@PublicPower.org to obtain log-in credentials to apply for a grant via our grant application portal. **Applications are due Feb. 15.** Applicants will be notified of the board's decision by May 25.


PROJECT NOTES

DEED 2016 Completed Grant Projects

Calculating Energy Savings in Happier Environments

Diverting sunlight from windows toward the ceiling of a room results in better natural light and less electricity use. The diffused light not only increases efficiency but can lead to happier environments with higher productivity and overall satisfaction for occupants.

But calculating the energy efficiency savings from these devices can be tricky. The **Sacramento Municipal Utility District** sought to remedy this by creating a method for calculating savings and adding that calculation to an existing tool.

The Advanced Lighting Control Systems Energy Estimation Tool is an Excel-based energy calculator that allows users to reliably quantify energy savings from devices like daylight redirecting window films. SMUD used DEED funding to support its investment in the tool. SMUD's investment added the ability to estimate savings from window films to the existing calculator.

The original tool was developed with funding from Pacific Gas & Electric Co. and the Northeast Energy Efficiency Partnership. Once the SMUD calculator is incorporated into the original tool, it will be shared with DEED members.

Learn more in the [DEED Project Database](#) — search for project G-343.

Developing the Manual for Building Community

Public power communities are made richer by their utilities — both in overall quality of life and financial coffers. But utilities are not typically actively involved in the local economic development process. **Greenville Utilities Commission** used this DEED grant to support the development of an economic development manual for public power utilities.

The project involved three major stages — creating a survey, surveying American Public Power Association member utilities, and following up to create case studies of unique economic development programs. The majority of survey respondents reported a highly competitive environment in which electricity prices are the most important factor for attracting businesses. Individual interviews indicated that involving utilities as early as possible is best, but more than half of respondents said they are not typically contacted until businesses are in the site-evaluation phase.

Case studies feature Austin Energy, Central Lincoln People's Utility District, Fayetteville Public Works Commission, Grand River Dam Authority, Loup River Power District, McPherson Board of Public Utilities, Orland Utilities Commission, and Santee Cooper. The published manual is available at www.PublicPower.org/Store.

Learn more in the [DEED Project Database](#) — search for project G-344.

Getting Hands-On with Solar

Students, residents, and city employees in **Hudson, Ohio**, can view real-time data collected from a 69-panel, 18-kilowatt solar array at the Barlow Community Center Solar Training Facility. The training facility was supported by city funding and a DEED grant.

The education center features a labeled photovoltaic system that explains the utility's net metering and interconnection program. It also allows the city's fire department to train on solar generation components that can create specific hazards for emergency responders. Utility employees can also get hands-on training in solar interconnection. The city plans to share electric usage data from the

facility with schools and open the facility for field trips.

The array is located at the Barlow Community Center, a multi-purpose community facility that also houses a theatre company and community meeting rooms.

Learn more in the [DEED Project Database](#) — search for project G-345.

Smart Customers Want Smart Devices, Even Renters

Renters and homeowners alike are interested in getting to know their energy use through smart devices and the smart grid, according to results of a study in Burlington, Vermont. **Burlington Electric Department** used DEED funding to study how the city's large renter population would use smart, in-home devices to manage their energy use.

Burlington has a high population of college students who live in rental properties because of the University of Vermont's location within the utility's service territory. Burlington also has high smart meter deployment in the service territory. Because the college students rent their homes, however, it was difficult to engage them in energy efficiency improvements. Instead, Burlington decided to provide smart devices to the renters and measure the impact.

After an initial survey, Burlington deployed about 200 devices to a pilot group. The utility said the pilot was a success. However, the upfront costs of smart energy devices might not appeal to renters — they were grant-funded in the pilot. Burlington said it's important to weigh these costs to a customer in comparison to the benefits.

Learn more in the [DEED Project Database](#) — search for project G-348.


PROJECT NOTES
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DEED 2016 Completed Scholarships**Google Street View for Smart Meters: Benson's Golf Cart Intern**

The Town of **Benson, North Carolina**, serving less than 2,000 electric customers, needed help learning and mapping its new smart meter system. Benson, with support from Electricities of North Carolina and a DEED scholarship, hired an intern to gather the GPS locations of poles and transformers. Greg Flinn, a North Carolina State University graduate student, gathered the data by driving a golf cart from point to point throughout the town. Victory Lane Golf Carts provided the cart at no cost to the town. Flinn inventoried 1,034 poles and 538 transformers and created two printed maps.

Learn more in the [DEED Project Database](#) — search for project S-207.

Net-Zero Residents Save \$1,000 Annually

River Falls Municipal Utility in Wisconsin sought data to settle the debate about the benefits of living in sustainably built homes. The utility partnered with St. Croix Valley Habitat for Humanity, St. Croix Gas, and the University of Wisconsin to compare sustainably built homes in an eco-village with conventionally built homes. A University of Wisconsin River Falls student conducted the research. The study revealed that the average kilowatt-hour energy usage in the eco-village was significantly less compared to residents in conventional homes. Residents saved about \$1,000 annually.

Learn more in the [DEED Project Database](#) — search for project S-208.

Capitalizing on College Grads

Heartland communities located near major universities and colleges have lower median ages in their populations, according to data collected by a DEED intern for Heartland Consumers Power District. This means students are graduating and staying in these public power communities. The research concluded that these communities could be capitalizing on the flow of young people and keeping them in the area. The research gathered economic data in Heartland's 29 customer communities and more than 80 other communities in the region and developed a manual for economic strategy.

Learn more in the [DEED Project Database](#) — search for project S-209.

Clearing the Skies for Residential Solar

Georgetown Utility Systems in Texas is working toward 100 percent renewable power, which means its residential rooftop solar offerings are already significant. The utility employed a DEED intern to analyze the existing programs and find ways to enhance them as well as determine the financial viability of incentives. The Texas Tech University intern developed a simplified consumer information packet based on a clear methodology for assessing rooftop solar suitability for consumers, which other public power utilities can apply to develop their own solar programs.

Learn more in the [DEED Project Database](#) — search for project S-210.



DEED Grants Awarded Fall 2016

Developing the Demand Response Playbook

\$49,000 to Central Lincoln People's Utility District

Central Lincoln PUD in Oregon plans to partner with Oregon State University to jointly develop a demand response playbook — an essential how-to guide to assist utilities in developing their own demand response programs. Central Lincoln will use its smart grid systems, including smart meters and load control devices, to support demand-response strategies. The playbook will be used for a demand response pilot project in the utility's district.

Measuring the Benefits of Contact Voltage Testing

\$12,609 to City Utilities of Springfield

City Utilities of Springfield in Missouri plans to measure the benefits associated with testing its underground system. The city's system was installed and replaced over a period of decades, leading to a mixture of vintages and types of cable. When secondary cables fail, fault currents are often too low to operate protective devices. This means the faults persist almost indefinitely. These failures can lead to what's called contact voltage — when street-level objects become energized at potentially hazardous voltages.

Accurately Assessing Smart Grid Load

\$15,000 to ElectriCities of North Carolina

Using the smart grid, **ElectriCities of North Carolina** will measure the kilowatt demand savings from measures such as controlling water heaters, air conditioners, and heat strips. The data will be used to more accurately reflect the load of modern appliances in economic models that evaluate load management investments. The data will demonstrate to other public power utilities that they, too, can use the smart grid to more accurately assess the impact of their load management programs. The project will create a video to share the information.

Educating the Public About EVs

\$40,000 to Elk River Municipal Utilities

Public education is key to market transformation. **Elk River Municipal Utilities** in Minnesota plans to answer questions and relieve anxiety about electric vehicles, as well as promote electric vehicle infrastructure and vehicle purchasing for its customers. The utility will partner with the city and the local Ford dealership to promote electric vehicle adoption that will increase the utility's load while creating load control and providing value to customers. The utility plans to provide rebates for customers installing chargers at home.

Drafting Drone Best Practices

\$31,700 to Huntsville Utilities

Huntsville Utilities in Alabama plans to field test unmanned aircraft systems and compare the data to standard procedures using typical equipment. The utility will use the data it collects to develop best practices for utilities and power companies that want to use drones. The manual can serve as an operation guide to reduce risks associated with drone programs and set a standard for the utility industry.

A Dashboard for Reducing Load

\$50,000 to New River Light & Power

New River Light & Power in North Carolina will build an online dashboard to automate peak power predictions and focus the utility's efforts on finding the best way to reach customers by segmenting them based on the characteristics of their home and power use. Data-driven segmentation will allow the utility to experiment with the most successful messaging strategies to encourage peak power use reduction.

Steadying Voltage with Heat Pumps

\$10,000 to Public Utility District No. 1 of Lewis County

Flickering lights and voltage drops are common challenges facing utility design engineers. **Public Utility District No. 1 of Lewis County** in Washington will use this grant to determine if heat pump soft starters can change engineering designs to save the utility and the customer money while providing quality electric service.

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DEED Scholarships Awarded Fall 2016

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Simulating Savings with Window Coverings

\$50,000 to Silicon Valley Power

Window coverings can save significant energy for residential customers. **Silicon Valley Power** in Santa Clara, California, plans to use this grant to quantify the annual energy savings and demand reduction for different window covering options available for single-family homes.

Replacing Passive Cooling with Liquid Solutions

\$63,000 to Silicon Valley Power

Liquid cooling can be widely used by small- and medium-sized data centers to reduce electricity demand by 25 percent. Where better to test this than Silicon Valley? **Silicon Valley Power** plans to test an innovative micro-pump design and new accelerated life to directly replace passive cooling solutions and still meet the server industry's requirements for reliability, availability and serviceability. Data collected from the project will set optimum performance requirements.

Human-Centric Lighting: More Savings, Better Health

\$10,000 to Stoughton Utilities

Tunable LED lighting in classrooms can provide 50 percent more energy savings than conventional fluorescent lighting. **Stoughton Utilities** in Wisconsin will use this grant to demonstrate how the technology, also known as human-centric lighting, can be used to improve learning environments and provide health benefits. The study will examine the effects of human-centric lighting on the students.

Educational Scholarships

- \$2,000; Nathan Byrne, City of Tallahassee, Florida
- \$2,000; Arnold Sullivan, Gainesville Regional Utilities, Florida
- \$2,000; Derrick Wood, NC State University, North Carolina
- \$2,000; Christen Pische, NC State University, North Carolina
- \$2,000; Asia Dillard, NC State University, North Carolina

Student Internships

- \$5,000; Summer Internship, Public Utility District No. 1 of Lewis County, Washington
- \$5,000; Electrical Engineering Intern, Central Lincoln People's Utility District, Nebraska
- \$5,000; Renewable Energy Engineering Intern, Austin Energy, Texas
- \$5,000; Energy Efficiency and Renewable Energy Analyst, Columbia Water & Light, Missouri
- \$5,000; Cybersecurity Intern, Northern California Power Agency, California

Student Research Grants

- \$5,000; Improve High Temperature Reliability of Gallium Nitride and Trap Density in Novel Gallium Oxide, Faisal Azam, NC State University, North Carolina
- \$5,000; Optimization of the Thermal Energy Storage System, Zahra Razzaghpanah, University of North Carolina – Charlotte, North Carolina
- \$5,000; Controlled Growth and Property Study of Two-Dimensional Molybdenum Oxide Nanostructures, Soheil Razmyar, University of North Carolina – Charlotte, North Carolina

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Energy Efficiency Earns Most Interest, DEED Survey Shows

Results of the 2016 DEED member survey indicate that program participants are most interested in energy efficiency, followed closely by distributed generation, reliability, demand response and the smart grid.

The American Public Power Association conducted the survey in the summer of 2016 and received 98 responses from employees in utilities located in all 10 major regions of the country and from utilities of different sizes. Answers at small and large utilities varied slightly — both ranked energy efficiency No. 1.

Respondents said the top three DEED benefits were grants, webinars, and scholarships and internships.

The survey also asked respondents to share ideas on new resources for DEED. Respondents suggested the creation of a learning and networking environment for public power utility grant professionals and others interested in sharing strategies to get and manage grants.



Win National Recognition: Nominate for DEED 2017 Awards

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Energy Innovator Awards: The EIAs honor utilities that have developed or applied creative, energy-efficient techniques and technologies. Awards recognize creativity, resource efficiency, benefits to consumers, transferability, and project scope in relation to utility size. Up to three awards are presented each year. The 2017 EIAs will be presented during the American Public Power Association's National Conference and Expo, June 16-21, 2017, in Orlando, FL. Utilities that are currently DEED members and were members in 2016 are eligible for nomination for an EIA award.

Nominate online at www.PublicPower.org/DEED and choose Awards. You'll receive an email confirmation when you complete and submit the nomination form.

Questions? Refer to the DEED Policy Manual at www.PublicPower.org/DEED or email us at DEED@PublicPower.org

Webinar Live

Jan. 10: LED Street Lighting Analysis. Relatively new LED lighting technology used for street lighting offers many advantages over conventional lighting technologies. This webinar explores a Microsoft Excel-based calculation tool that was developed by DSTAR to independently assess lifecycle costs associated with LED street lighting installations.

To register for this webinar, visit PublicPower.org/DEED and look under Webinars. This webinar is worth 1.2 CPE/.1 CE U/1 PHD credits and is offered at no charge to DEED members and \$99 for American Public Power Association members. DSTAR webinars are not available for Association nonmembers or corporate associate members.

Webinar Recordings

DSTAR, like the DEED program, leverages funding for innovative utility distribution focused research. The following three webinars reviewed DEED co-funded projects about solar PV impacts on feeder voltage, LED street lighting, and distribution reliability improvements.

Analysis of Solar PV Impacts on Feeder Voltage and Hosting Capacity. Speakers investigated the impacts of PV on primary voltage and discussed how much PV generation can be hosted on a feeder before voltage violates the bounds specified by the applicable standard.

Best Practices for Distribution Reliability Improvement. This webinar reviewed a white paper on reliability best practices based on a comprehensive survey of DSTAR member utilities. The paper summarizes DSTAR member activities for improving distribution reliability, and

presents data and information from a variety of utilities, as well as from a review of relevant literature.

To access the recordings of these webinars, visit PublicPower.org/DEED and look under Webinars. These webinars are each worth 1.2 CPE/.1 CE U/1 PHD credits and are offered at no charge to DEED members and \$99 for American Public Power Association members. DSTAR webinars are not available for Association nonmembers or corporate associate members.

Publications

NEW Evaluating Your Utility's Energy Services Programs: Market Research and Evaluation for Energy Efficiency Professionals. This comprehensive guidebook provides a step-by-step plan for evaluating energy efficiency and demand-response programs. The guide is geared toward small utilities with limited staff who can tackle these evaluations, but often outsource them to contractors or get help from joint action agencies. Find tips on conducting an evaluation with limited resources and learn the clearly defined steps in the evaluation process, including budgeting, data collection, stakeholder engagement and overall analysis.

NEW Physical Security Essentials: A Public Power Primer. Find guidance for developing physical security programs, proven best practices and case studies for protective measure, and essential considerations for conducting a security assessment and gap analysis.

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INNOVATION SPOTLIGHT: HIGH SCHOOL ENERGY EDUCATION

ElectriCities Education Program Demonstrates DEED Staying Power

A 2013 DEED project is continuing to engage and educate high school students in North Carolina about energy use and efficiency.

The City of New Bern and ElectriCities of North Carolina recently partnered with New Bern High School to deploy the energy conservation awareness program called E-Tracker Initiative. The E-Tracker was created in 2013 by Phil Bisesi, ElectriCities supervisor for residential energy services, and supported by DEED funding.

In New Bern, the city, the utility, and Bisesi worked with students to analyze energy data with the tracker. Through the program, students learn about energy use and its correlation to weather conditions like outdoor

temperature. Students measure 120-Volt appliances through a “Kill-A-Watt” meter and document their daily meter readings in a journal for 30 days. They take the information back to school and analyze the data using linear regression to learn the connection between variables.

ElectriCities previously deployed the E-Tracker Initiative at eight pilot schools in its first year. ElectriCities is working with New Bern toward offering it on regular rotation at schools within the utility’s service area. The utility said the city recognizes the importance of educating the community — especially the future generation of customers.

Energy efficiency

starts young.

Educating our future

customers is key.

DEED Board

The DEED Board met for its fall meeting at the National Renewable Energy Laboratory in Golden, Colorado. Jeff Feldt, general manager of Kaukauna Utilities, finished his tenure as chairman in 2016.



Pictured above are Ivonne Pena of the National Renewable Energy Laboratory, Kenneth Roberts of Huntsville Utilities in Alabama, Allen Johnson of Bountiful City Light & Power in Utah, Robert Jagusch of the Minnesota Municipal Utilities Commission, Jeff Feldt of Kaukauna Utilities in Wisconsin, Brian Coate of the Tullahoma Utilities Association in Tennessee, Christopher Roy of Concord Municipal Light Plant in Massachusetts, Daniel Kay of Public Utility District No. 1 of Lewis County, Michael Ingram of NREL, Efran Ibrahim of NREL, Maurice Martin of NREL, Vicky Zavattero of the Sacramento Municipal Utility District, Tami Reynolds of NREL, DEED Director Michele Suddleson, DEED Coordinator Richelle Dodds, Mary Medeiros McEnroe of Silicon Valley Power in California, Judy Visscher of the Holland Board of Public Works in Michigan, and Liz Jambor of Austin Energy in Texas.