American Public Power Association

DEEDdigest

MARCH 2019 EDITION

Improving Economics, Sustainability, and Reliability in the Building Energy Sector with a Thermal Microgrid

What do you get when you overlay a smart, sustainable microgrid onto a downtown area or campus? The smartest, clean energy solution available for multi-building complexes, and an innovative approach to electrification that compounds savings and improves reliability. *Thermal microgrid technology* is essentially a microgrid that uses thermal services. Striving to provide an in-depth understanding of this technology, the City of Palo Alto Utilities (CPAU) partnered with Stanford University and EDF Innovation Lab to create tools to support municipal utilities in evaluating the feasibility of deploying thermal microgrids in their communities.

This webinar will educate you on the thermal microgrid technology, its benefits, and run through the tool suite for feasibility assessment. City sustainability managers and utility employees in generation and fuels, energy services, economic development, resource managers, key accounts, and customer programs will find the information provided during this webinar most valuable.

Join us **THIS AFTERNOON, Wednesday, March 13th at 2:00 PM EST** to hear from staff at CPAU, EDF Innovation Lab, and Stanford University, who planned and executed this project.

Register Now

DEED Webinars

A chronological listing of DEED webinars is posted for DEED member only access **here**.

DEED webinars are provided free to DEED members. To find out if you are a DEED member, **click here**.

Algona Municipal Utility's AMI Toolkit now available on the DEED Project Database

If you attended last month's webinar, *Managing Your AMI Data*, you got a glimpse of Algona Municipal Utility and Iowa State University's AMI management toolkit, made possible by their DEED grant. The toolkit is officially available for use on AMU's DEED Project Database project page, **A Tool for Mining AMI Data to Model Customer Loads for Small Public Power Utilities** under "Results to Date." You may have to work with your IT Department to install the Matlab extension tool.

A recent APPA article, **DEED grant utilized for tool to manage flood of AMI data,** highlights AMU's work and how the team has continued to develop the tool with their second DEED grant, **Customer Clustering Using AMI Tool for Small Public Power Utilities**.

Call for Submissions: DEED Scholarship Contacts

In 2018, DEED awarded over $140,000 in scholarships to college undergraduates, Masters and Ph.D. students, and students in technical, vocational, and lineworker schools. Over the years, DEED's scholarship program has expanded and students all over the country have had the opportunity to learn more about public power.

DEED utility mentors provide opportunities for students to learn about public power careers.

Help us connect students with the correct person at DEED member utilities regarding sponsorship for their DEED scholarship application. Email **DEED@PublicPower.org** to let us know you're interested in becoming a sponsor and a mentor for a potential DEED scholarship recipient.

Similarly, please send us any university, community college, or technical/vocational/lineworker accredited school contacts you may have, as we work to market DEED's scholarships at the community level.

Dig Deeper with DEED: Electric Vehicles

A recent APPA article, **AMP develops EV toolkit for public power with DEED funding,** showcases American Municipal Power's current work on their current DEED grant, **Public Power EV Planning Toolkit and Guidebook.** Partnering with SEPA, AMP hopes to help mitigate challenges related to the evergrowing impact EVs are having on the market and business of electric utilities.

Planning on submitting a DEED grant or internship application on EVs for the next cycle? Other current EV related grants and scholarships include:

- Comanche Public Works Authority's **EV Police Car**
- Lincoln Electric System's **EV Data Collection in a Midsized, Midwestern City**
- Elk River Municipal Utilities' **EV Charging as Part of Green Step Cities Initiative**
- Burbank Water and Power's **Electric Vehicle Load Prediction and Charging Scheduling for Grid Services and Cost Reduction**

Curious for more? Check out some of our **completed EV projects**:

- Sacramento Municipal Utility District's **Field Measurement of Plug-in EV Grid Impacts**
- North Carolina State University's **Integrated Vehicle Energy Storage and Solar Project**
- City of Water, Light & Power's **Assessing the Impact of Plug-In Electric Vehicle Charging on Transformer Loading**

DOE's National Renewable Energy Laboratory Initiatives

NREL is seeking public power utilities' participation in two initiatives, as shown below.

New Dataset and Tool to Estimate Electric Vehicle (EV) Charging Loads & Profiles
The NREL has developed a dataset of standardized EV charging load profiles. The dataset and interactive user interface enables utilites, cities, and researchers to explore the impact of different EV charging scenarios on electricity demand. Users can input customized assumptions on the number and types of vehicles, climate and driver charging preferences and behaviors. The annual demand profiles can inform decisions around rate structure design, grid impacts, solar synergies and more.

Tool for Exploring Solar and Storage Impacts on Distribution Systems

The NREL is also developing a regional distribution system tool for utilities that want to increase levels of solar and storage to their network over time, or to integrate customer-owned rooftop solar and electric vehicles.

The Distribution Generation on Distribution Systems - aka (DG)2 platform informs technical and operational decisions by allowing utilities to:

- Compare alternative distributed energy resources (DER) deployment scenarios and technology options across a regional network
- Identify opportunities to postpone major infrastrcture upgrades
- Identify options to ensure grid reliability and increase energy resiliency
- Model the economic value of DERs through peak shaving, load balancing and reduced transmission costs.
- Optimize DER operation based on market prices, system loads, and network conditions
- Plan the deployment of broadband and smart meter technology in conjuunction with DERs.

If you would like to learn more about the standard EV load profiles and/or the (DG)2 platform, are willing to participate in a brief interview to define user preferences, or would be interested in attending a workshop to learn how to use the tools upon release, please contact **Joyce.McLaren@NREL.gov** to have your name added to their contact list.

Putting the 'G' back in Engineering

February 18-22 marked another Engineering Week in the books at the American Public Power Association and across the country. To celebrate, APPA's women in engineering, one of which is our very own DEED Assistant, Janet Araque, wrote a short blog, ***Girls in Engineering: Being Ourselves*** to help inspire the next generations of women going into STEM.

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information is important to you. Questions? Email subscriptions@publicpower.org.