Welcome to the Spring 2016 edition of the AESP Midwest Chapter Newsletter. Inside this edition you will find timely energy service information as well as current energy news.

Join us at Great River Energy where we’ll learn about CIP best practices, successes and failures, what works and what doesn’t from industry leaders and utility professionals from GRE, Xcel and SMMPA.

Next

**What’s New….**

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**Next Meeting**

Wednesday February 9th, 2016
10am - 2 pm
Registration & networking at 10:00 am

**Where:** Great River Energy
12300 Elm Creek Blvd N
Maple Grove, MN
(763)445-5000

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**Jeff Haase : GRE**
CIP program design and best practices

**John O’Neil : SMMPA**
CIP program design and best practices

**Drew Quirk : Xcel Energy**
Efficiency program design process

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Please RSVP to:
Paul Twite
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(612)269-9160 cell/text
Energy in the News...

**Tesla’s Newest Electric Monster**

Our friends at Tesla have done it again, they have created a 2.5 ton, 4x4 show-stopper praised by environmentalists and vegans alike. It’s sleek and seductive, with luxury, performance (and price tag) beyond any electric vehicle on sale today.

The Model X is the safest, fastest and most capable sport utility vehicle in history. With a 90 kWh battery providing snap to all four wheels giving 257 miles of range, Model X has ample seating for seven adults and all of their gear. With a nod to Space Balls, it’s ludicrously fast, accelerating from zero to 60 miles per hour in as quick as 3.2 seconds. Model X is the SUV uncompromised.

**Nifty features...**

Aside from the space age falcon wing doors, the doors will open automatically as you approach the vehicle, and close once you're inside with a foot on the brake. Driver safety and convenience features include forward collision warning and automatic emergency braking, blind spot monitoring and parking assist, and a near hospital-grade cabin air filtration system. The leather-like interior is actually a synthetic material—the vehicle is free of any animal-based products. It also comes standard with a trailer towing package—presumably used for pulling a trailer loaded with extra batteries for extended range.

**Price? $132,000—$155,000**

Elon Musk must be on to something however, Porsche, Audi, Lexus and BMW will all be showing electric 4x4 sport-utes this spring at the Detroit Auto Show.

...and on the flipside... falling oil process affect more than my gas tank

At its peak, oil traded at nearly 60x the price of natural gas and, over the past few decades, the number was about 10x the price. In 2014, it settled into a trend of trading approximately 23x the price of natural gas - more than double the historical average.*

*EIA 2015

The U.S. shale oil boom of the past five years - with its associated natural gas production - has worked in concert with the U.S. gas booms to dramatically upset the historical price trend. Domestic natural gas supplies have grown so significantly that liquid natural gas import terminals have become export terminals. In shale oil regions such as the Bakken formation, infrastructure investment to collect associated gas and natural gas liquids has been unable to keep up with production, and companies have been scrambling to deploy resources to collect, process and deliver those products to market.

Recently, oil prices have fallen to nearly 50% of their 2014 average, resulting in announcements from Big Oil about pulling back from the exploration and production business. While the oil industry busts the natural gas turbine market booms; the gas turbine has quickly become the belle of the ball in planning for new generation capacity.

System wide almost all generation fuel prices are also falling. The coal industry is beset with its own disastrous business plans but none-the-less, production and delivery costs for coal are falling. New EPA regulations are throwing the capacity dispatch market into turmoil. As gas-fired generation improves, coal-fired dispatch will reduce, forcing the increased costs from re-investment to be recovered over fewer dispatch hours. These forces may begin to bring expensive resources, such as battery storage, closer to economic competitiveness.
Grid-connected battery storage technologies are poised to experience cost and efficiency improvements on par with what solar panels experienced in the past several years. As battery storage approaches economic feasibility and market structures produce price signals that value the responsiveness that battery storage can offer, the inherent flexibility of natural gas resources may become a less-valued commodity. Once again all eyes are on Elon musk and the Tesla Gigafactory and the promise of sub-station scale batteries.

Distributed generation has the potential to offer reliable, responsive generation inside of transmission-constrained or congested areas but the utility industry needs to look closely at how the incorporation of renewable mandates, rooftop solar and a gradual downward trend of electricity demand will forever change the electric utility business model. The falling cost of energy production is great news for customers, but it can be bad news for utilities who use historical trends to forecast and budget operating expenses and capital planning.

Many utilities are facing a budget shortfall in 2016 because so much of the power cost adjustment (PCA) component has been passed through directly to the customer and not withheld in reserve for a rainy day. As many utilities across Minnesota are forced to raise base rates to cover cash shortfalls, others grapple with legislation and rules which make it challenging to cover costs.

**EPA Clean Power Plan**

The Clean Power Plan (CPP) rule was finalized by the U.S. Environmental Protection Agency in 2015. The rule reduces carbon dioxide pollution from existing coal, oil, and gas-fired power plants in the U.S. by setting state-specific CO2 emission targets that each state is required to meet, beginning in 2022.

States have considerable flexibility in determining how they will meet EPA’s targets, and are encouraged to consider increasing their use of renewable and lower-carbon energy and making more energy efficiency measures available to consumers as well as regulated power plants.

The Clean Power Plan is one of several EPA strategies to address climate change by targeting greenhouse gas pollution that threatens the health and welfare of Americans. Carbon dioxide is the primary greenhouse gas emitted through human activities, and fossil fuel-fired power plants are the largest source of CO2 emissions in the U.S. The Clean Power Plan is expected to help cut carbon pollution from the power sector by 32% from 2005 levels.

The CPP has some interesting side-effects which will re-shape the way we generate, distribute and sell electricity. Small municipal utilities who run reciprocating engines will be required to upgrade and re-invest millions into meeting emissions standards. Utilities lucky enough to operate compliant equipment will reap big rewards in the “clean capacity” market. Renewable capacity is expected to hit historic sales levels.

More to come..
The Clean Energy Resource Teams (CERTs) work alongside utilities and service providers to help Minnesotans build a clean energy future. Check out their latest resources below.

The following announcements are all about available grants, financing & awarded projects!

**USDA Rural Energy for America Program (REAP)**

The Rural Energy for America Program (REAP) from USDA Rural Development is a great opportunity for Minnesota farmers and rural businesses to save energy with efficiency work and add renewable energy systems. Grants can cover up to 25% of eligible project costs, and loans can cover up to 75% of eligible project costs.

There is one application deadline approaching for grants: May 2, 2016.


**Commercial Property-Assessed Clean Energy (PACE) Program**

Property-Assessed Clean Energy (PACE) is a new way to finance energy efficiency and renewable energy upgrades to commercial property owners' buildings.

Energy-saving measures pursued by the owners receive project financing and are repaid as a separate item on their property tax assessment for a set period. PACE eliminates the burden of upfront costs by providing low-cost, long-term financing.

CERTs has created a new webpage dedicated to the most up-to-date information on PACE programs in Minnesota, including stories about companies across Minnesota who have already taken advantage of PACE, and a map of participating cities and counties.

Visit [http://mncerts.org/pace](http://mncerts.org/pace) to learn more!

**CERTs Seed Grant Awards Announced for 2016**

CERTs awarded Seed Grants to 39 innovative renewable energy and energy efficiency projects. The 39 projects received funding across a broad spectrum of energy efficiency and renewable energy technologies. Many projects also include components of education, outreach, community building, and research. These awards mark the eighth round of Seed Grants from the group, totalling over $1 million to 269 projects since 2006.

To learn more, visit: [http://mncerts.org/2016grants](http://mncerts.org/2016grants).
News about clean energy projects and opportunities happening across the state. Subscribe at mncerts.org/get-updates

Holiday Station in Worthington, MN uses PACE for energy-saving retrofits
If you’re in Worthington, stop by Bob & Steve’s Holiday gas station sometime and check out the energy efficiency work they have done. The recent projects funded by PACE included LED lights, new coolers and compressors, and new HVAC.
Read case study: http://mncerts.org/pace-holiday

Major energy action in City of Red Wing: Partnering on efficiency and solar
The City of Red Wing, a town of 17,000 people, has been very busy in the last couple years saving energy with efficiency measures and adding solar PV to city facilities. Red Wing’s Jay McCleary shares all of the sunny details!
Find out how they did it: http://mncerts.org/redwing-action

How will a community solar subscription impact your electricity bill?
There has been a lot of interest in Community Solar Gardens, especially in Xcel Energy’s service territory. But lots of people wonder how the financials will work out, and rightly so! New decision-making tools from CERTs are just the answer.
Go crunch some numbers: http://mncerts.org/csg-numbers

Largest brownfield solar project in Minnesota installed in City of Hutchinson
On December 2, the City of Hutchinson switched on the largest solar installation on a brownfield site in Minnesota. Built on a 1970s era dump, the 400 kW array powers the energy-hungry wastewater treatment plant next door.
See recap and photos: http://mncerts.org/hutch-solar

Year-long study of LED greenhouse lighting yields illuminating results
Two groups, Outsourced Innovations, a lighting consulting firm, and Tangletown Gardens, a greenhouse nursery and garden business, recently finished a one-year study aimed to show reductions in energy use from greenhouse-specific LED lamps.
Get results & watch video: http://mncerts.org/greenhouse-led
Register to attend the premier energy industry conference that draws the top program managers, policy makers, implementers, marketers, evaluators, consultants and vendors in energy efficiency. Highly regarded experts in their respective fields will lead over 60 sessions that will cover the range of current topics in program design, implementation, pricing, marketing, research, evaluation and more.

Whether learning or networking is your priority, you’ll get to experience the best of both with an agenda that balances top notch educational sessions and pre-conference training courses with valuable networking events.

AESP will kick-off our National Conference with optional pre-conference training courses*, utility-only discussions, an evening reception and a new professionals event all on the first day! Following will be three days of speaker presentations, panel discussions, interactive roundtables, fast track learning spots and networking events.

Register today for the conference that equips you with all the latest information and connections to be effective and successful.

**Conference Schedule:**

**Monday, February 1**
- UtilitiesConnect 4:00 - 5:30 PM
- Evening Reception 5:30 - 7:00 PM
- New Professionals Event 7:15 - 8:15 PM

**Tuesday, February 2**
- Sessions 8:30 AM - 5:00 PM
- Evening Reception 5:00 - 6:30 PM

**Wednesday, February 3**
- Sessions 8:30 AM - 5:00 PM
- Special Evening Reception 5:30 - 7:30 PM at the AZ Science Center

**Thursday, February 4**
- Sessions 8:45 - 11:45 AM
- Closing Plenary and Lunch 11:45 AM - 1:30 PM
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AESP Winter Meeting

If you didn’t make the winter meeting, here’s a snapshot of what you missed.

Plugin Connect and Zef Energy gave us an update of recent developments and programs for EV charging stations in and around the metro area. Several community-based programs have risen which aim to help communities and businesses plan, design and install charging logistics for electric vehicles.

Chris Baker from the Weidt Group gave us an overview and logistical updates on Buildings, Benchmarking and Beyond (B3) software and database. The B3 software is used by cities and municipalities to benchmark and track energy usage and new construction projects for public buildings. Once your building data is entered, you can easily model and forecast energy, water and gas consumption.

The winter meeting concluded with a tour and tasting at Surly Brewery in St Paul. Everyone had a miserable time!

Cheers.