Top Story: Powering Possibilities—The Electric Power Industry Outlook

EEI President Tom Kuhn and four EEI officers briefed Wall Street analysts, bankers, and investors on the state of the U.S. electric power industry on February 11. They shared their vision for the rapidly unfolding future of the industry—one that is focused on technology, innovation, and customer choice.

“Not only is electricity essential to the everyday lives of more than 300 million Americans, but our industry is an integral and robust component of our nation’s economy,” said Kuhn. “We are investing more than $90 billion each year, on average, to transition to a cleaner generating fleet and to enhance the electric grid. The grid itself is an amazing technology that drives innovation—and powers possibilities.”

Kuhn also highlighted the industry’s substantial efforts to improve reliability and to better protect the grid from cyber and physical security threats. “Mitigating today’s threats requires a risk-based, multi-pronged industry approach, as well as close coordination and collaboration with the government to prepare for, prevent, respond to, and recover from national-level incidents or threats to critical infrastructure,” he said.

Regulatory Outlook and Evolving Distribution System

David Owens, EEI’s executive vice president, business operations group and regulatory affairs, discussed the
regulatory outlook facing utilities in Washington and at the state level, as well as the future of the electric grid.

Owens highlighted how the industry is leading the charge when it comes to investing in renewables, particularly solar. "In fact, around 50 percent of the new generation capacity added over the past few years uses renewable energy sources. And, preliminary numbers show that a record-breaking 3.5 gigawatts of utility-scale solar capacity, including community solar, were installed last year alone," he said.

Owens also addressed the evolution of the grid and how customers’ expectations for choice and the integration of new technologies, such as rooftop solar, will only continue to grow.

**Transportation Electrification**

Brian Wolff, EEI’s executive vice president, public policy and external affairs, highlighted EEI’s work in advancing transportation electrification. "EEI released a report last June showing that electrification of the transportation sector is a potential ‘quadruple win’ for electric utilities and consumers. It enables utilities to support environmental goals, builds customer satisfaction, reduces operating costs, and enhances national security by using more of our national energy resources."

Wolff pointed to the electric vehicle (EV) market as an area for significant growth. "EV sales finished strong in 2014, totaling nearly 120,000—an increase of about 23 percent over 2013 sales. The total number of EVs on the road—plug-in electric and pure electric vehicles—is now more than 290,000," he said.

**Financial and Energy Supply Outlook**

Richard McMahon, EEI’s vice president, energy supply and finance, recapped the 2014 financial results, highlighting that the EEI Index posted a higher average return than the Dow Jones Industrial Average and the S&P 500 last year.

McMahon also discussed the industry’s significant infrastructure investment. "In 2014, our industry was projected to spend $103.3 billion in total capital expenditures, which would set another record," he said. "With renewed focus on infrastructure, it is not surprising that transmission and distribution are incrementally more important to overall investment."

Additionally, McMahon emphasized the importance of fuel diversity. "As energy markets change, and with them our generation fleet, maintaining fuel diversity and flexibility remains at the forefront of our industry’s priorities," he added. "This is the only way to preserve the reliable and affordable electricity that our customers expect."

**Environmental Outlook**

Quin Shea, EEI’s vice president, environment, outlined the tremendous progress the industry has made in reducing emissions. "Nitrogen oxides and sulfur dioxide emissions from power plants have been reduced by around 75 percent from 1990 levels, during a period when electricity use grew by 35 percent. Additionally, utilities have reduced carbon dioxide emissions by 15 percent below 2005 levels as of the end of 2013," Shea said.

Shea discussed the Environmental Protection Agency’s (EPA’s) proposed guidelines to regulate greenhouse gas emissions from existing electric generation units under section 111(d) of the Clean Air Act. "Of greatest concern is the fact that EPA has not taken into account the amount of time, infrastructure development, and planning that the transition to a cleaner generating fleet will require."

Shea also addressed additional EPA rulemakings impacting the industry, including the final 316(b) cooling water intake structures rule, the final coal ash rule, proposed ozone standards, and the proposed "Waters of the U.S." rule, among others. "Ultimately, EEI and our member companies continue to support achieving the nation’s environmental goals in a manner that preserves fuel diversity, ensures electric reliability, and minimizes costs to customers," he said.

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**Industry in Action: Partnerships to Combat Cybersecurity**

The White House convened a Summit on Cybersecurity and Consumer Protection at Stanford University in mid-February, bringing together industry and technology leaders, law enforcement personnel, consumer and privacy advocates, academics, and students to collaborate and discuss the best ways to bolster U.S. cybersecurity.

Anthony F. “Tony” Earley, Jr., chairman, CEO, and president of PG&E Corporation, represented the Electricity Subsector Coordinating Council (ESCC) and highlighted the strong partnership between government and industry in addressing cyber threats.

"Through the ESCC, electric utilities are coordinating with each other and
with the government to strengthen the security posture of the industry and, by extension, the nation,” Earley said.

The ESCC serves as the principal liaison between the federal government and the electric power sector, with the mission of coordinating efforts to prepare for, and respond to, national-level disasters or threats to critical infrastructure. It includes utility CEOs and trade association leaders representing all segments of the industry. The industry’s counterparts include senior Administration officials from the White House, relevant Cabinet agencies, federal law enforcement, and national security organizations.

“On behalf of the ESCC, I want to thank President Obama and his Administration for the opportunity to participate in this important summit and for their leadership in working with the industry to protect the electric power grid,” added Earley.

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News from the Hill: Upcoming Energy Legislation

This year is shaping up to be a busy one on electricity issues. As part of the Keystone XL pipeline bill, the Senate considered several electricity-related proposals. During that debate, the Senate rejected several amendments of concern to the electric power industry.

The Senate also intends to consider cybersecurity legislation in the coming weeks. And, chairmen of both the House and Senate energy committees plan to produce energy bills this spring that would focus on energy infrastructure and grid security.

Senate Majority Leader Mitch McConnell (R-KY) has directed several committees to develop cybersecurity legislation for the Senate to consider during this work period. EEI's member companies support congressional passage of information-sharing legislation, along with liability protection for those who engage in information sharing with the federal government. The electric power industry is partnering with federal agencies, including the Department of Homeland Security, Department of Energy, and Federal Energy Regulatory Commission, to improve the resiliency of the grid against potential threats.

Both House Energy and Commerce Committee Chairman Fred Upton (R-MI) and Senate Energy and Natural Resources Committee Chairman Lisa Murkowski (R-AK) have announced plans to develop energy legislation focusing on a number of issues, including energy infrastructure development and grid stability. Both chairmen intend to put together legislative proposals on a wide range of issues that will affect electric utilities.

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In Depth: EEI Welcomes FERC Technical Conference on Clean Power Plan

The Federal Energy Regulatory Commission (FERC) convened a technical conference on February 19 to address the compliance implications of the Environmental Protection Agency's (EPA's) proposed Clean Power Plan.

DTE Energy Chairman and CEO Gerry Anderson spoke on behalf of DTE and EEI about how the Clean Power Plan, as proposed, could impact the reliability of the nation’s electric grid.

“The electric utility industry has a strong track record when it comes to reducing emissions associated with electric generation,” Anderson said. “We are committed to finding a workable path to achieving the Plan’s proposed reductions, while also ensuring the continued reliable, affordable delivery of electricity.”

Anderson also submitted a written statement that focuses on the Plan’s stringent 2020 interim targets. “At first glance, it may appear that EPA’s proposed guidelines give states until 2030 to achieve compliance. Because of the way the interim targets are designed, 80 percent of states must achieve more than half of their 2030 emission rate goals by
2020. Eleven states must achieve 75 percent or more of their 2030 goals by 2020,” Anderson said. View Anderson’s written statement here.

Anderson cautioned that there is not enough time to accomplish the substantial changes in the generation resource mix, energy infrastructure, and market mechanisms required to make the proposed reductions by the interim 2020 compliance date. “The bulk of the emission reductions will require closing coal-based power plants and, at the same time, building new natural gas power plants, natural gas pipelines, renewable generation, and electric transmission,” he said.

Anderson also suggested that EPA’s understanding of the electric system could be enhanced by working more closely with FERC. “EPA’s final guidelines must respect how the electric system works and provide adequate time to make the necessary changes to achieve carbon emission reductions that ensure the continued reliable operation of our nation’s electric grid for the benefit of all customers.”

Read more from Anderson in The Hill.

In Case You Missed It: Ted Craver on the Grid of the Future

“We see the grid of the future as a platform, a network, which connects all homes and businesses with a uniform system and facilitates the use of any customer device, whether solar panels, batteries, electric vehicles, or technologies we can’t even imagine today,” EEI Chairman and Edison International Chairman, President, and CEO Ted Craver recently wrote in EEI's Electric Perspectives.

“We refer to it as a ‘plug-and-play’ network. It won’t matter what customers plug into it, we just need to make sure that we can maintain that 99.99 percent or better reliability.

“Let’s look at some examples of how this grid of the future could enable innovations and efficiencies. Think about traffic control. Sitting at a red light with the engine idling when there are no cars going in the other direction can be a waste of time and fuel. If digital monitoring and control devices are installed along roads, it is possible to identify traffic flows and adjust the traffic lights accordingly. We could have a dynamically dispatched traffic system just like we already have a dynamically dispatched electric system. The same could be done with municipal trash collection or any physical inventory system.

“Many innovations of this sort could make our cities smarter. Optimizing activities and dynamic dispatch requires sensing through digital devices, analyzing their data, and then activating control devices. The technologies required to do this are advancing rapidly. It also requires modernizing and integrating electric, communications, and computing systems. The grid of the future is what will power this new, less resource-intensive, more energy-efficient world.”

Read more from Ted Craver here.

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Powering the People: Connected Conversations

On March 19 at the Newseum in Washington, DC, the Edison Foundation Institute for Electric Innovation (IEI) will host Powering the People: Connected Conversations, IEI’s annual celebration of innovation in the power sector.

Electric utility executives, technology company executives, policymakers, regulators, and other thought leaders will join together for a day of dialogue
Grid Talk: systems integration, operational efficiency, grid reliability, resiliency, and big data analytics.

All Things Connected: distributed generation, electric vehicles, smart-home technologies, microgrids, and other resources.

Evolving Power Grid: how today’s electric grid is evolving into a “plug-and-play” platform for new services and technologies, and the implications for the evolving roles and relationships among utilities, technology companies, and policymakers.

For more information, please contact TD Smith at tsmith@edisonfoundation.net.

Innovation: KCP&L Leads the Charge on EV Infrastructure

Kansas City Power & Light Company (KCP&L), a subsidiary of Great Plains Energy Incorporated, will install and operate more than 1,000 electric vehicle (EV) charging stations throughout the Greater Kansas City region, making it the largest EV charging station installation by an electric utility in the United States. This network of stations will be capable of supporting more than 10,000 EVs.

Through partnerships with companies at host locations and with Nissan Motor Company, KCP&L’s Clean Charge Network will offer free charging on every station to all drivers for the first two years. The stations are manufactured by ChargePoint and will be part of the ChargePoint network of more than 20,000 charging spots in North America.

Installation of the charging stations began in late 2014 and will be completed this summer. The first stations deployed on the network will include 15 fast charging stations provided by Nissan and KCP&L, which will charge any EV model on the market. An EV like the Nissan LEAF will charge from empty to approximately 80 percent in about 30 minutes. In addition, the Clean Charge Network will have more than 1,000 standard charging stations, which will give most EVs a 25-mile charge for every hour they are plugged into the station.

“The number of stations allows EV owners to change their habits, charging as they go about their day, and giving them the freedom to drive that much further. It makes it easier for current EV owners and hopefully will remove the perceived barriers for potential electric vehicle owners,” said Great Plains Energy and KCP&L President and CEO Terry Bassham.

“EEI commends KCP&L for its leadership in undertaking the Clean Charge Network and making a significant investment in electrification. Promoting plug-in EVs and technologies is a key industry priority, and investing in charging stations helps advance the continued development and increased adoption of EVs. These investments will benefit all consumers by making the grid more efficient,” said EEI President Tom Kuhn.

“We know our customers want more choice when it comes to their energy solutions, and we are committed to providing them with affordable, long-term energy solutions that offer them greater control of their energy use,” said Bassham.

To utilize the stations, drivers just have to sign up for a ChargePoint membership.

Electrification: EV Sales Remain Strong

While January has consistently been the lowest sales month of the year for EVs since they first hit the market, EV sales for January 2015 increased 7 percent over the same period last year, with almost 6,000 vehicles sold in the month.

Meanwhile, average gasoline prices remain low—the regular retail price in January was $2.05 per gallon (the lowest it has been since April 2009).
Renewables: PSE&G's Solar Project Takes Top Honors

PSE&G's innovative pole-attached solar initiative is the renewable grid integration project of the year, according to Powergrid International magazine. By utilizing specially designed solar units and more than 174,000 utility poles, PSE&G was able to install 40 megawatts (MW) of solar capacity in New Jersey and save more than 170 acres of open space.

"By using the vertical space on utility poles, PSE&G has installed enough solar capacity to power about 6,500 homes a year," said Joe Forline, vice president–customer solutions at PSE&G. "The pole-attached solar project also helped New Jersey reach its renewable energy goals, created jobs and saved open space, so it is a great honor for Powergrid International magazine to recognize our efforts with this award."

The pole-attached solar units comprise a solar panel, micro-inverter, and communication module mounted on a patented racking system. A two-person crew installs the solar units, which connect directly into the PSE&G power grid that serves homes and businesses. The pole-attached initiative also includes a communications system that monitors the performance of each unit using a self-correcting mesh network. PSE&G uses this system data for reporting energy production and for identifying under-performing units requiring maintenance.

The pole-attached solar initiative is a major part of PSE&G's 125-MW Solar 4 All™ program, which utilizes rooftops, parking lots, solar farms, utility poles, and landfills/brownfields for large-scale, grid-connected solar projects. In addition to the pole-attached solar units, the Solar 4 All™ program has 26 grid-connected, centralized solar projects in service, including seven solar farms built on reclaimed landfills and brownfields. More than 101 MW of solar capacity are in service through the program, which is enough to power more than 16,000 homes annually.

Workforce: FIRST® Robotics Super Regionals Take Place in March

Throughout the month of March, FIRST® Robotics Super Regional Championships will take place across the United States, and electric utilities will be there for all the action.

State and regional robotics team champions advance to the Super Regionals tournament (north, south, east, and west) before winning teams progress to the FIRST World Championship, which will be held April 22-25, in St. Louis.

This year, 11 electric utilities are sponsoring FIRST® Robotics competitions through the Center for Energy Workforce Development's "Get Into Energy, Get Into STEM," initiative. Through this first-of-its-kind industry sponsorship of FIRST Robotics, utilities will provide robot doctors at every Super Regional event, charging stations at the World event, registration fees for more than 180 new First Tech teams, and hands-on support at each competition level—
engineering assistance to congratulatory high-fives.


Like all FIRST events, Super Regionals are free to attend and open to the public. For more information, click here.

EEI in the Community: Feeding the Homeless

Each month, EEI employees and family members volunteer to serve lunch to poor and homeless individuals in Washington, DC, at So Others Might Eat (SOME).

In December, employees also took part in a holiday sharing program and adopted two families who were experiencing serious economic distress, providing clothing, household goods, and toys requested on the family’s holiday wish lists.

SOME is an interfaith, community-based organization that exists to help the poor and homeless with food, clothing, and health care. SOME offers services such as affordable housing, job training, addiction treatment, and counseling to the poor, the elderly, and individuals with mental illness.

On Twitter: #BlackHistoryMonth