Thought Leaders Speak Out

By Lisa V. Wood, executive director of the Institute for Electric Innovation and vice president of The Edison Foundation.

Driven by technological innovation, electric utilities are redefining and modernizing the electric grid, making it more secure, reliable, resilient, efficient, interactive, and clean. This profound transformation, invisible to most customers who simply plug-in to power their everyday lives, will likely be the most important investment in U.S. infrastructure in the 21st century.

Given the changes underway, the Institute for Electric Innovation has launched "Thought Leaders Speak Out: Key Trends Driving Change in the Electric Power Industry," a new book series that brings into focus 10 trends that are shaping the future utility landscape. The first volume, released in December 2015, identifies three key trends: the transition to a clean energy future; an increasingly digital and distributed grid; and individualized customer services.

Transition to a Clean Energy Future

In just 10 years, the nation's power generation mix has changed dramatically to add significant amounts of natural gas, wind, and solar. The electric power industry has reduced carbon dioxide emissions by 15 percent below 2005 levels. Modernization and digitization of the grid are enabling the integration of more carbon-free generation. Today, the industry is the largest investor in renewable energy in the United States. And, in 2014, electric utilities spent more than $7 billion on energy-efficiency programs.

As Southern Company Chairman, President, and CEO Tom Fanning writes in his essay, "Customers' energy needs are best met by a balanced portfolio of electricity generation resources, each of which offers its own distinct advantages...If we can produce and deliver electricity more efficiently and help customers use it wisely, we can do more to harness energy's great potential to grow the economy and improve people's standard of living."

Digital and Distributed Grid

The first step in the transition to a more digital and distributed power grid is engaging with customers so that the more than $20 billion annual investment in the grid best aligns with the technology adoptions made by utilities and their customers. Many of these devices will interact with the grid, resulting in more efficient grid operations.

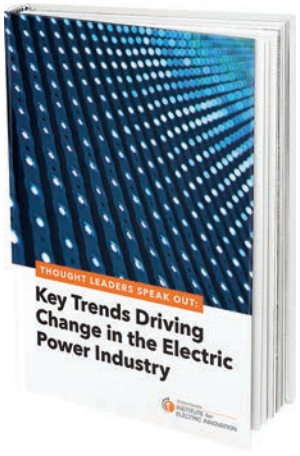
Taking it one step further, enabling the connection of distributed energy resources as well as devices in our homes and businesses will necessitate new business models and cost recovery and pricing mechanisms.

Individualized Customer Service

As the grid becomes increasingly digital and distributed, customization of services for electricity customers will continue to grow. Large commercial customers want renewable energy to meet their corporate sustainability goals. Cities and towns are requesting customized services, such as help with microgrids, smart city services, and renewable energy. Residential customers want to manage their energy use with their iPhones or Nest learning thermostats.

"People don't just buy our thermostats when their old ones break," writes Nest Labs Founder and CEO Tony Fadell in his essay. "They get excited about them, give them as gifts, perform the installation themselves, and check on them through a mobile app multiple times a week. And, every month, we send a Home Report with data about how much energy they used. For a utility, that opens up a whole world of possibilities."

The evolution in making, moving, and managing electricity is exciting. The essays in the book are excellent examples of how traditional least-cost, least-risk supply side decisions are being improved by new forms of technology, partnerships, and collaboration among utilities and a new wave of innovators. The path toward the future energy landscape is beginning to take shape. EP



The Institute for Electric Innovation focuses on advancing the adoption and application of new technologies that will strengthen and transform the power grid. The Institute's members are investor-owned electric utilities that represent about 70 percent of the U.S. electric power industry and are committed to an affordable, reliable, secure, and clean energy future.

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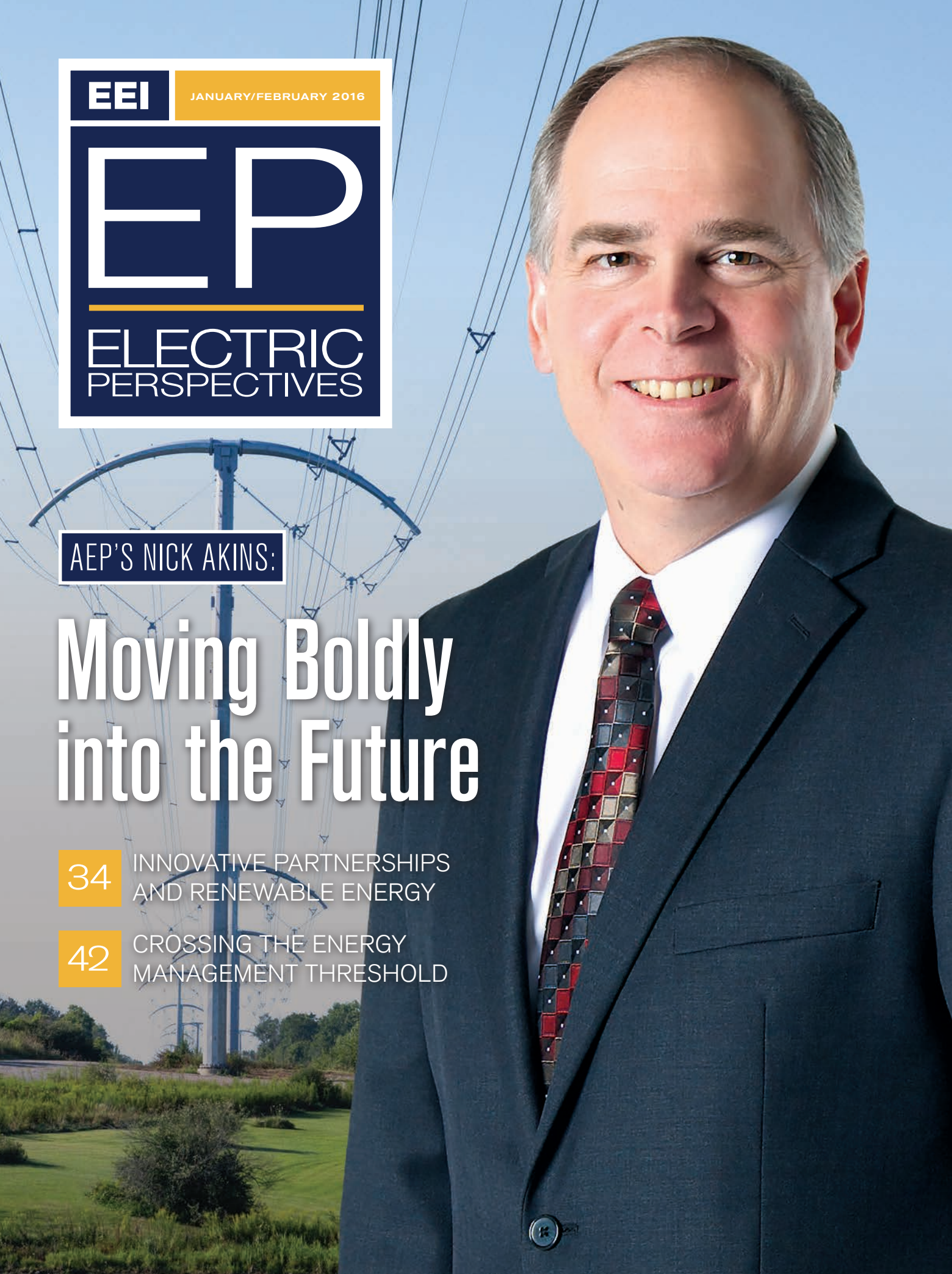

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