



# Predicting the Utility of the Future

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

**A**merica’s electric companies are at the beginning of a profound transformation driven by policies, technology, and customers. By investing in renewable energy, transitioning from coal to natural gas, and pursuing energy efficiency, the U.S. electric power industry has already reduced carbon dioxide emissions 15 percent below 2005 levels. The electric power industry is the largest investor in clean energy in the United States. The industry also is investing more than \$20 billion per year in the distribution grid—creating a more digital, more distributed, and more connected grid.

## Trends Driving the Transition

The transition of the power industry has three connected and inter-related parts—the evolving grid; evolving customer needs; and evolving regulation. What is happening in these areas today will drive where we are in 2025. What are the key trends in these areas?

### Evolving grid:

1. A more distributed grid with widespread distributed energy resources and numerous connected devices—A Grid of Things™.
2. Additional renewable energy on the grid (both large- and small-scale) and increased storage to help manage the renewable energy.
3. A digital grid that is a multi-way network of power and information flows and that utilizes data analytics for grid management and optimization from end-to-end.

### Evolving customer needs:

1. Safe, reliable, affordable electricity will continue as the basic service option for many customers.
2. Expanded customization of services. For example: large commercial customers increasingly want green energy to meet their corporate sustainability goals and want the utility to provide this service; federal and state agencies, as well as cities and towns, are requesting customized services; and more residential customers want distributed generation.
3. Residential customers increasingly manage their energy using cool devices like iPhones and NEST thermostats.

### Evolving regulation:

1. Flexible rates and pricing so utilities can provide different customers with different services or even individualized services such as more reliable power, more affordable power, or 100-percent renewable power.
2. A longer glide path for utilities to achieve goals, and setting incentives and penalties for utilities based on meeting agreed-upon performance objectives.
3. And, one “like to see” is increased collaboration and conversation among stakeholders and fewer adversarial rate proceedings and political campaigns. We have an opportunity to make the transition of the electric power industry affordable!

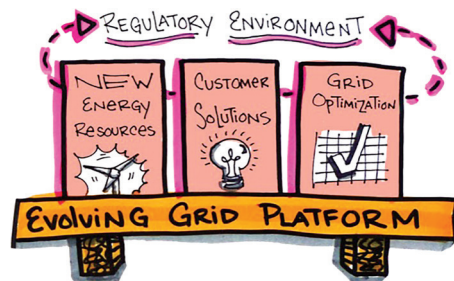
## The Next Decade

What will the U.S. electric power industry and energy services look like in 2025? These are my predictions:

- A cleaner electricity generation mix with lower carbon emissions;
- A hybrid grid with a mix of central and distributed energy sources;
- A more digital and connected grid—A Grid of Things;
- A mix of players (utilities and others) providing distributed energy resources on both the supply side and the demand side; and
- A wide range of individualized and customized services for customers.

Ultimately, as the transition unfolds, it is about balancing affordability, reliability, sustainability, and individualized services. And, that is the job of regulators.

Our biggest challenge today is how to evolve regulation to align with the changing roles of utilities, the accelerating pace of technology, the increasing numbers of providers, and ever-increasing customer expectations—while also providing reliable, safe, affordable, and increasingly clean electricity to everyone. **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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