



The Edison Foundation

INSTITUTE for
ELECTRIC INNOVATION

IEI National Dialogue

Clean Energy Future Through Partnerships

Key Takeaways

November 2016

IEI National Dialogue Series Meeting – Clean Energy Future Through Partnerships

Key Takeaways

IEI HELD ITS THIRD (AND FINAL FOR 2016) NATIONAL DIALOGUE SERIES MEETING at Pacific Gas & Electric Company's Pacific Energy Center, in San Francisco, CA on November 10, 2016. Roughly thirty electric and technology company executives met to discuss trends in distribution grid management and clean energy integration, as well as the business of energy storage – both behind-the-meter, and grid-scale.

Integrating distributed energy resources (DERs) onto the grid, while maintaining reliability and affordability, presents unique challenges, and requires rethinking regulation, developing new business models, and ongoing partnerships with technology providers. Energy storage is one approach to meeting some of these challenges.

The November 10th dialogue focused on the diverse experiences electric companies have in thinking about, and integrating these resources, and how technology companies can and are helping provide solutions. Participating industry executives shared their experiences from the field, and addressed how to best move forward.

The dialogue also included the perspectives of venture capitalists (VCs), who offered their take on the conversation, and how they see the transformation of the electric power industry unfolding. Increasingly, electric companies are looking to VCs, investment funds, and the startup community to gain a better window into the future, and be more proactive about innovation and technology development.

Overwhelmingly, each participant shared the belief that we will only realize the full promise of a clean energy future with all stakeholders, including regulators, working together toward a unified vision.

Based on the discussion, IEI identified 10 key takeaways, which are summarized next.

Top 10 Key Takeaways

1. *Develop and articulate an action-oriented vision for the future in which DERs play an important role.* Electric companies need to “dip their toes in the water” and be a bigger part of the current energy innovation cycle – not acting risks being left behind.
2. *Is “moving at the speed of value” enough?* While electric companies have legitimate concerns, like buying the beta version of a technology (too nascent, too expensive), and stranded costs, moving early to capture the benefits of emerging technologies is critically important. Being cautious is not an excuse. While pilots remain important, they may not be fast enough. It is also critical that electric companies are nimble enough to attract next generation talent, which will help accelerate innovation and further partnerships with technology companies as employees with experience on both sides of the fence will be an asset to innovation.
3. *Experience and great design drive technology adoption.* Customers care about the experience of using products and services, and value the option to choose, even when they don’t exercise that choice. A co-branded experience is more valued by customers than a vendor- or utility-only product or service. Great design can help give customers something they didn’t know that they wanted.
4. *DERs are being used today to defer or replace traditional investment in substations and power plants.* This is already underway in California and New York. As DERs grow, there is a growing recognition that developing integrated distribution plans is becoming the new normal. This requires cultural change.
5. *Flexible energy grid platforms are the future.* Electric companies need a flexible grid platform to accommodate the future – to integrate DERs, to provide customer solutions, to deploy new technologies, and to enhance reliability and resiliency. Energy grid platforms will enable new markets and business models, and getting the details right is critical but complicated.
6. *A flexible software platform is needed to enable battery and grid optimization.* The primary driver of behind-the-meter storage for C&I customers is backup power, energy cost control, and the ability to potentially bid into wholesale markets. For electric companies, battery energy storage is a resource, and one primary use today is reliability. Storage integrators and electric companies are partners in providing utility-facing storage solutions.
7. *Storage is here and now, it is being used today – it is not a future technology.* But, electric companies must still work to help technology providers better understand their needs. Regulators need to hear a simple story around battery storage and the multiple benefits it

offers including reliability benefits, ancillary services, and both energy and capacity. Electric and technology companies need to tell this story together.

8. *Many indicators suggest that storage will scale faster than solar.* This is in part due to the ability of storage to meet the resiliency and reliability needs of the grid and customers. While the value proposition of storage is complex, electric companies are actively and primarily working with storage integrators (not manufacturers) to aggregate and utilize storage for grid and capacity needs.
9. *The electric company's role is to facilitate the best solution.* However, current business models and regulatory approaches are not flexible enough to ensure the “best” solutions. Technology, regulation, and business models inform one another, and the best solutions will result when all three focus on value to customers.
10. *It is important to identify long-term policy goals and a vision for regulatory reform.* Many stakeholders – on all sides – agree that today’s regulatory process needs to change. Electric companies and others have the ability to provide services well beyond commodity electricity – services that some customers are demanding. Focusing solely on low-cost solutions is not the answer. Reforms are needed to allow companies to customize services to some customers and provide basic commodity electricity to others.

Questions for the Future

- What regulatory reforms are needed and what next steps can we agree on?
- What does “dipping your toe in the waters” of innovation look like for an electric company?
- How can electric companies accelerate their understanding of the products and services that customers want, and provide experiences that delight the customer?
- Are technology mandates (e.g., CA and HI storage mandates) a necessary first step to jumpstart a market? What are the downsides to overly prescriptive regulation?

Meeting Participants	
<p><i>Electric Companies</i></p> <p>Ameren Corporation</p> <p>Avista</p> <p>Commonwealth Edison</p> <p>NorthWestern Energy</p> <p>Pacific Gas & Electric Company</p> <p>Southern California Edison</p> <p>Southern Company</p> <p>Xcel Energy</p> <p><i>Venture Capital</i></p> <p>DBL Partners</p> <p>Energy Impact Partners</p> <p>1776</p> <hr/> <p>Edison Electric Institute</p> <p>Institute for Electric Innovation</p>	<p><i>Technology Companies</i></p> <p>Advanced Microgrid Solutions</p> <p>AES Energy Storage</p> <p>Clean Energy Collective</p> <p>Ecoisme</p> <p>Enbala Power Networks</p> <p>Gridco Systems</p> <p>IBM Corporation</p> <p>Nest Labs</p> <p>Oracle Utilities</p> <p>Stem</p> <p>Sunverge</p>

About the Institute for Electric Innovation

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

IEI promotes the sharing of information, ideas, and experiences among regulators, policy makers, technology companies, thought leaders, and the electric power industry. IEI also identifies policies that support the business case for the adoption of cost-effective technologies.

IEI is governed by a Management Committee of electric industry Chief Executive Officers. In addition, IEI has a Strategy Committee made up of senior electric industry executives and a select group of technology companies on its Technology Partner Roundtable.

About the Edison Foundation

The Edison Foundation is a 501(c)(3) charitable organization dedicated to bringing the benefits of electricity to families, businesses, and industries worldwide. Furthering Thomas Alva Edison's spirit of invention, the Foundation works to encourage a greater understanding of the production, delivery, and use of electric power to foster economic progress; to ensure a safe and clean environment; and to improve the quality of life for all people. The Edison Foundation provides knowledge, insight, and leadership to achieve its goals through research, conferences, grants, and other outreach activities.



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