



THOUGHT LEADERS SPEAK OUT:

Key Trends Driving Change in the Electric Power Industry

VOLUME II

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– PEDRO J. PIZARRO

Foreword

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President, Edison International

If you didn't know it already, *Thought Leaders Speak Out: Key Trends Driving Change in the Electric Power Industry, Volume II* will confirm for you that the electric power industry has begun a remarkable era of self-reinvention. Our industry hasn't seen an opportunity to chart our forward course like this since the early 20th century.

There are few certainties about the transitions ahead, but I believe that Southern California Edison's (SCE's) central mission—shared by utilities all over the world—to safely deliver reliable, affordable, and clean energy to our customers will last well into the future.¹ The issues surrounding just how that will be accomplished, in partnership with whom, and what needs to happen next, are what this collection of essays examines in thought-provoking detail.

Here's another certainty: All of us in the energy arena—utilities, regulators, technology providers, distributed energy resource (DER) advocates, customer representatives, and a range of committed stakeholders—need to work together as never before to build a system that benefits all customers. It's imperative

that together we “get this right” in terms of technology, regulatory policies, market models, fair and equitable cost allocation, and more. To borrow a phrase from Commissioner Bob Stump's essay in these pages, we're all “attached for life” and learning how to live together productively and beneficially.

In California, the facts on the ground tell a compelling story. Our state hosts more than 50 percent of the nation's distributed solar generation capacity, and more than 40 percent of U.S. plug-in electric vehicle sales. These numbers attest to how rapid technology advancement, the state's ambitious environmental policy goals, and the need to satisfy customers' growing appetite for choices—of energy sources, rate structures, and service offerings—act as powerful forces for change in the energy landscape.

The expected growth of DERs is particularly exciting as they are able to provide significant value to their owners, the utility, and society as a whole. At the same time, this growth introduces its own complexity into the energy system.

At the time of this writing, the role of utilities in a DER-filled future figures prominently in multiple proceedings at the California Public Utilities Commission. Our Commission is considering a number of critical topics, including the utility's role in DER integration and adoption, future utility business models and incentives, DER benefits and costs, and DER compensation mechanisms, among others.

A common thread weaving through these proceedings is the utility's transition, over time, from centralized system planner to the new model of managing and supporting a modernized grid that enables greater customer choice. Traditionally, central generation and the bulk power transmission system were considered the core of the electric power universe. Yet, with public policy tilting toward greater DER deployment, SCE sees that proverbial center of gravity shifting to the distribution side, as the interplay between distributed and centralized resources continues to evolve.

SCE envisions a future where we play a key role in supporting widespread deployment of DERs, incorporating the following key elements:

- **System planning** for future grid needs, incorporating DERs into the system planning toolkit as an alternative to traditional distribution solutions;
- **Grid operations** to maintain safe, reliable, and affordable service for all our customers, as well as building out, operating, and maintaining a modernized "plug and play" grid into which customers can plug in any technology—electric vehicles, solar panels, battery storage—and have it work seamlessly;
- **DER procurement** through competitive solicitations to defer or avoid costly system upgrades; and,
- **Market operations** where customers can provide grid services and be compensated fairly.

This future role of the utility serving as the Distribution System Operator (DSO) is a natural and logical progression, since all but the last of the above functions are thoroughly integrated into SCE's current operating model. Further, a utility DSO will be well-suited to bringing "smart cities" off the drawing board and into reality. As Itron's Russell Vanos says in his essay, "Electric utilities need to be principal players in implementing what we might call the next generation power grid, an active and intuitive grid that responds to system changes and makes decisions in real-time at the edges of the distribution network."

This represents not only a shift in technology and grid architecture but also a *cultural* shift. For companies to navigate successfully through this

transformational era, being operationally agile and nimble will be essential to meeting customers' rising expectations. Letha Tawney of the World Resources Institute says it best in her thought piece, stating that customers can be "open to exploring solutions with their utility-provided that utility is nimble, solution-oriented, and customer-centric."

The successful transition to the next generation electric power system requires thinking about our industry in entirely new ways. The perspectives provided by Bob Stump, Russell Vanos, Letha Tawney, and the other contributors to this volume represent the kind of creative and forward thinking needed at this critical time. I was inspired by their essays, and I think you will be too.

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1. SCE, one of the nation's largest investor-owned electric utilities, delivers power to more than 14 million people in a 50,000-square-mile service area in southern California.