Did You Miss the 2017 California Emerging Technologies Summit? We’ve Got Your Top Takeaways

By Bryan Jungers, Essie Snell, Andrea Salazar
May 4, 2017

The California Emerging Technologies Summit is a technology-focused conference that brings together utilities and industry experts to talk about where energy technology is headed. Happening once every two years, the summit helps utilities decide where they should focus their demand-side management (DSM) efforts going forward. Didn’t get a chance to attend? Never fear! E Sourcers Bryan Jungers, Essie Snell, and Andrea Salazar were there and are ready to fill you in. Here are some of our top takeaways.

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We Can’t Do It Alone!

It may come as a surprise, but the conference wasn’t about just technologies. Nor were the attendees all technology geeks. There were communications specialists, market researchers, and behavior scientists (speakers included people like Marilyn Cornelius, PhD, behavioral scientist with AZENTIVE; Sophia Francois, marketing analyst with DTE Energy; Karen Ehrhardt-Martinez, social science expert with Navigant Consulting; and Jessica Lim, digital and direct-to-customer marketing executive at Southern California Edison [SCE]). Why, you ask? Well, it turns out that many of the newest gizmos and gadgets will only save energy if humans—who have distinct emotions, behaviors, likes, and dislikes—use them. And that depends on market acceptance, product usability, human behavior, and other “soft-science” aspects. If we want emerging technologies to be adopted, we engineers, technologists, and program managers will need the help of our social scientists.

The Smart Home Still Looks Promising

A number of sessions and talks centered around the evolving smart home landscape and potential opportunities for utilities. The topic was timely, given California’s recent state initiative forcing the investor-owned utilities to incent energy management technologies. Lesher Shen, PhD, director of innovative technologies at the Center for Energy and Environment talked about the need for utilities to take a more robust design-thinking approach to creating customer value using the Internet of Things (this

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subject will be a key focus of E Source’s upcoming E Design 2020 conference). SCE’s Mauro Dresti discussed the utility’s bring-your-own-device demand-response program that can take advantage of any Open ADR–compliant device capable of reducing demand, not just smart thermostats. Several vendors spoke about sophisticated new home energy management systems that can help customers better understand how they use energy and manage their consumption. Our very own Essie Snell provided an overview of the market landscape, opportunities for utilities, and recent E Source market research looking at customer opinions and desires around the smart home. One particularly interesting takeaway was that the level of competition happening in this space, combined with the variety of continually emerging new technologies, is pushing major players to create more open systems that can talk with devices from other manufacturers. This development may help solve some of the interconnectivity challenges that have plagued smart home initiatives.

The Cutting Edge: Microgrids and Transactive Energy

We attended a provocative session at this year’s summit focused on the evolution of “peer-to-peer grids” and the adoption of transactive-energy technologies. Lawrence Orsini, the founder and CEO of LO3 Energy, described his company’s power-to-the-people mission and the disruptive potential of transactive microgrids, a scenario the company is currently demonstrating with a community microgrid in Brooklyn. Ron Ambrosio, cofounder and chief scientist at Utopus Insights—a seven-week-old start-up that spun out of IBM—provided a more grounded perspective on transactive energy, highlighting some of the existing technical challenges and limitations of solutions such as blockchains. A distributed, virtual ledger for tracking all transactions for a given item, a blockchain was originally used to track Bitcoin (cryptocurrency) transactions. Now blockchains are being transferred to other applications, chief among them the peer-to-peer energy economy. Ambrosio pointed to the collaborative work of the GridWise Architecture Council and the value of such efforts in developing standards for transactive energy products and systems.
The Phaseout of Widgets Brings the Age of Integrated Solutions

If the Emerging Technologies Summit agenda is any indicator, California utilities are doubling down on putting the concept of “integrated demand-side management” (iDSM) into action. Though only a few sessions specifically focused on more-efficient widgets for end uses like cooling and lighting, a whopping five sessions discussed the definition, design, development, deployment, and marketing of integrated solutions. This shift involves a move toward integrated systems, whole-building performance metrics, real-time measurement and evaluation, integrated efficiency and demand management solutions, and a continued dismantling of silos that prevent iDSM from penetrating further into overall utility operations and customer service. This is an industry trend that we will be keeping our eyes on, so stay tuned for updates on this topic!

Emerging Technologies Programs Continue to Evolve

Jim Parks, program manager for energy research and development at SMUD, led a session about helping emerging technologies programs tunnel through red tape and get viable technologies into customers’ hands. Our social scientist friends, as mentioned above, will help us understand how and to whom to market technologies, as well as which technologies are truly market-ready. Some of this help could also show up as greater collaboration among utilities and across regions to ensure that research performed in one jurisdiction can be accepted in another. Stay tuned in the next few months for a new research report by Bryan Jungers that explores how utility technologists are rethinking technology transfer in this age of silo deconstruction; shrinking DSM and R&D programs; and the move toward integrated solutions.

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