

MEGATRENDS ON MIKE'S MIND

Even as power delivery undergoes radical evolution, its changes are rooted in the industry's core values — and follow a few immutable megatrends. Mike Beehler, a vice president at Burns & McDonnell, keeps a keen eye on those developments.

Q *What is the single biggest megatrend you see reshaping the power industry over the next five years? Twenty years?*

A The industry will modernize the legacy grid to maintain outstanding reliability and enhance resiliency, in preparation for a strong competitive effort to electrify transportation and heating of space and water.

In the longer term, artificial intelligence and human machine learning will convert vast amounts of system data into usable information that supports action, leading to operational excellence, better returns on investment and sustainable options for customers.

Q *What demographic shifts are having the biggest impact on emerging megatrends?*

A The commercial internet was available in 1995. People born around then, sometimes referred to as the “digital natives,” are in their early 20s and have grown up with technology. They embrace it and expect experiences with their electric utility to be similar to those with their bank, Amazon and Netflix.

Q *What is the most significant shift you've witnessed in your 37 years in power delivery?*

A Similar to other industries, it's the consumer's access to information. Our information age informs opinions about the environment, land rights, buying options and so much more. We can compare value, share experiences and research facts. This has changed the way electric utilities engage their customers and stakeholders.

Q *How is electrification changing the way power infrastructure is planned?*

A The addition of distributed generation and storage resources — including electric vehicles — on a legacy electric grid that was never designed for such integration has made planning incredibly complex. New and emerging technologies placed onto a 20th-century design while maintaining safety, high reliability and great value will be the challenge — and we will meet it.

Q *Is cybersecurity becoming a bigger or smaller risk?*

A We are a single cyberevent on the grid away from legislation that would require minimum cybersecurity standards. In the long run, however, high penetration of distributed energy resources and some strategically placed microgrids should serve us well.

Q *How has energy storage transformed in recent years?*

A Energy storage has moved from pumped storage hydroelectric to batteries. Battery technology is a function of material science, and I believe the next breakthrough in batteries will be there.

Q *What most impresses you about current smart city initiatives, and in what ways do they need to be bolder?*

A Smart cities offer so much potential for basic infrastructure collaboration to deliver great value to utilities, investors and customers. The technology exists now, but the political will seems to languish. I strongly believe electric utilities should lead the way in the development of smart cities — and think big, start small and move fast with innovation neighborhoods that build smart cities. ●



To read more of Mike Beehler's insights into the immutable megatrends emerging from fundamental industry values, visit burnsmcd.com/MoreMegatrends.

