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A Day (Two Really) at the Georgia PSC



Does Europe Have a Handle on Its Energy Future?

Leaders or Laggards

BY TANUJ DEORA AND JOHN PANG

“The fight against climate change will not be won or lost in diplomatic discussions in Brussels or in Paris. It will be won or lost on the ground and in the cities where most Europeans live, work and use about eighty percent of all the energy produced in Europe.”
 – Jean-Claude Juncker, President, European Commission, September 2015.



Sitting in The Edge, the building in Amsterdam that has been called the smartest office space ever constructed, it appears that Europe has a leg up on the rest of world in the transition toward a cleaner, more efficient electric-power sector.

Not only do the solar panels for this building create more electricity than it consumes. But the building’s computer systems can recognize your car, assign you a workspace for the day, and remember how you like your coffee prepared.

Although the technologies in the building are interesting, it appears that the structure’s underlying motivation was more than pure technology advancement. Rather, Europe is driving these advancements because of its underlying commitment to action on climate change.

Europe has been implementing climate and energy policies for a long time. In 2005, the European Union set up the EU Emission Trading System as a cornerstone strategy to reduce greenhouse-gas emissions. The system regulates roughly forty-five percent of the EU’s greenhouse-gas emissions with a cap-and-trade system, which accounts for over seventy-five percent of international carbon trading.

The EU expanded its climate efforts further in 2007, with the Europe 2020 strategy, which includes the “20-20-20 by 2020” targets:

To reduce greenhouse-gas emissions by at least twenty percent in comparison to 1990 levels.

To increase renewable energy to twenty percent of final energy consumption.

To increase energy-efficiency savings to twenty percent of projected EU final energy consumption.

Based on the data from the European Commission, it appears the EU is firing on all clean-energy cylinders. It already has achieved the greenhouse-gas emissions and energy-efficiency targets in the Europe 2020 strategy and is on track to meet the renewable-energy target.

In addition, smart city and sustainability projects are in

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vogue in the very cities where Europeans live and work. For example, The Edge in Amsterdam uses twenty-eight thousand sensors to track the comings and goings of employees.

We came to Europe with two-dozen utility executives from the United States, seeking to understand how this progress is unfolding. During a fact-finding mission through Belgium and Netherlands, we

explored energy and smart-city developments and spoke with industry and government officials.

We expected to find that the Europeans had figured out a pathway to a clean-energy future, but to our surprise, this was not the case. Instead, we found Europeans tackling many of the same challenges we face in the United States.

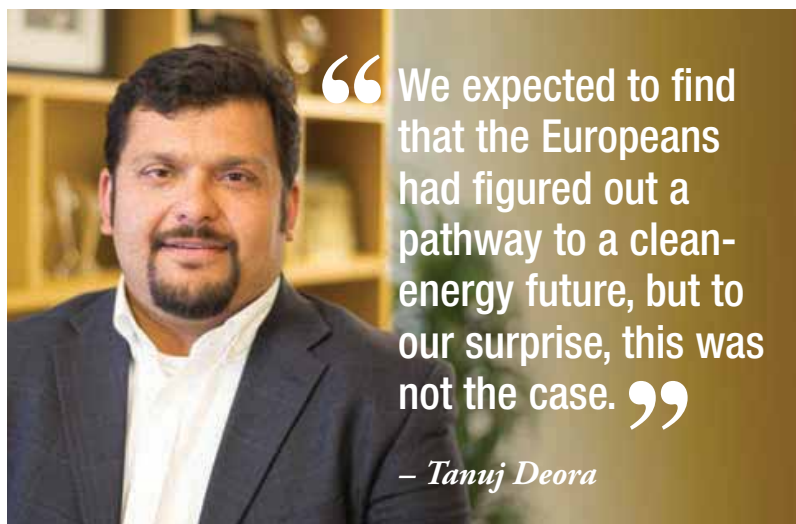
Long-Term Vision: Key Behind the Success Story

After a week on the ground, we understood the main strength driving European utilities is alignment around a long-term commitment to decarbonization, decentralization and digitization. They are collectively known as the three Ds.

The carbon initiatives, which are the most visible of the efforts, require considerable alignment across the region. Unlike the United States, the EU does not have a strong executive decision-making body. Therefore, widespread agreement within the European Parliament is needed to make any significant policy changes. For example, efforts to implement a carbon and energy tax failed in the early 1990s due to objections from member states.

While such consensus-building takes longer than a single, strong executive, it means these policies, once approved, provide more long-term certainty and clear alignment among key stakeholders. Even more important, energy companies and electric utilities have an opportunity to align their business strategies to a clear, long-term vision.

We expected this alignment to provide clarity in the business case for investments. Surely, with all the progress utilities in Europe are making, there are business cases that would make sense in the United States. Instead, we found that the European utilities making the most progress were changing their culture to invest in the long-term, even if the short-term business case was not clear.



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The common approach was to make small bets, fail fast and learn from the experience. One memorable example we heard about during the trip was the research and development group of an electric utility, which developed a mobile application for residential customers. The tool has not bolstered revenue for the company at this time, but it is providing the utility valuable lessons on communicating with customers in new formats.

Of course, those from product development or software engineering backgrounds will recognize this approach as a part of design thinking or agile approaches to innovation. These methodologies are now increasingly discussed in conversations about innovation and strategy within the U.S. power sector. But the challenge for many has been maintaining momentum through multiple failures in the hope of eventual success.

It was our observation that, in fact, the approach is likely impossible without an organization-wide commitment to a long-term vision. This allows clear alignment with business strategies.

Such an organizational focus should include shifting culture to long-term investments. And a deep understanding that the risk of not developing and implementing value-added change is much greater than the risk of short-term failure.

Lurking Challenge: Distributed-Energy Resource Integration

Despite its apparent progress, we learned that the EU doesn't have all the answers. We expected to see next-generation technologies as a component of progress but found technologies like those being deployed and tested in the United States.

The surprise was finding the Europeans still working to move distributed-energy resources from pilots to scale. We recognized that the integration of distributed-energy resources requires changes to market rules, data management, and business models, and that the Europeans were still working, as we are in the United States, to make this a reality.

The Europeans appeared to still be addressing market rules and even the role of key stakeholders. We were told they were trying to determine who should set the standards and ultimately manage distributed-energy resources.

Should the rules and responsibilities reside with the transmission-system operator or distribution-system operator? It was interesting to see challenges there that closely parallel conversations occurring in New York's Reforming the Energy Vision. In both settings, the market construct, including execution roles and rules, is critical in order to expand and scale.

Like their U.S. counterparts, European utilities are also struggling with data management. While getting a handle on this issue is ubiquitously cited as essential to success, the Europeans did not have

ground-breaking approaches to dealing with huge volumes of data.

We heard about stakeholders overwhelmed and struggling to pull valuable insights from otherwise useless data points. For example, data analytics allows more people to sit in The Edge. But if having more people per square meter wasn't a business challenge prior to construction, the data is not improving efficiency.

A laundry list of worries from data privacy to cybersecurity provides further complications. We found one utility had disabled the remote disconnect of its advanced meters due to cyber concerns. With all these issues, it turns out the Europeans are looking to the United States for possible models for data management.

We also saw challenges related to developing new business models. Distribution-system operators in Europe have developed innovative technologies, such as vehicle-to-grid technology aggregating electric-vehicle batteries for use on the electric grid. But despite the excitement around these technologies and a conceptual business model, business plans with near-term sources of compensation seemed elusive.

The darker side of the same culture that allows for long-term thinking in the power sector may be a lack of urgency to find the near-term value proposition. As a result, what drives

innovation is the very thing that limits its scalability and business sustainability.

Key Lessons: Develop Vision, Shift Culture, Continue the Hard Work

The European electric-power sector may not be as rosy as it appears on the surface. But it does provide clear lessons that are applicable for electric utilities in the United States.

For one, a long-term vision driving strategic and business planning is critical. In the United States, the reality is that we simply cannot expect a top-down vision like the one found in Europe.

Instead, U.S. utilities themselves must ask, what is our purpose, and build a culture with a bias for action toward advancing those goals. To be truly successful, they must look beyond their own fence lines and take the lead in aligning all stakeholders around that long-term-vision. A traditional, passive approach, in which a utility waits for direction from external forces, may likely leave the organization flat-footed.

The practical value of a long-term vision is that it enables utilities to shift corporate culture toward long-term investments. When developing business cases, the utilities in the United States cannot demand, or rely on, the tenth decimal place for analytical surety before committing to action.

Instead, they must learn to trust their long-term vision and unleash their available resources accordingly. This will mean taking a leap of faith, managing risks through steady and increasingly significant bets, and learning along the way from the experience. This approach can ensure that uncomfortable uncertainty does not become intolerable risk.

Steve Goodman

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eliminate the marketplace distortions and help stabilize the USF. However, when the FCC recently faced the issue of distortive treatment because some smaller telephone companies offer broadband service as a telecommunications service subject to the USF tax (so as to participate in the NECA pools) – consistent with original offerings of DSL separate from broadband Internet access service – the FCC solved the disparity problem by forbearing from collecting USF charges from these smaller telephone companies.

Finally, we must continue the hard work of deploying, interconnecting, integrating and increasing the variety of distributed-energy resources. No silver bullet – whether fancy technology, perfect policy or business model – will simplify the adoption and scaling of these technologies.

Those of us on both sides of the Atlantic must work out the details, from market rules to protocols for data management, system planning and operations, to grid architecture and business models. We must also be willing to continue to learn from each other's managed failures and scalable successes.



Thus, our hopes for the mission, to taste, and perhaps learn the recipe of, the special sauce the European power industry had developed, were ultimately not met. Still the trip provided a clear demonstration of the value of organizational alignment based on a common goal and sense of urgency. It also was a powerful reminder that much work, and therefore opportunity, remain for all of us. **PUF**

The FCC seems to believe the Internet should not be taxed. But the notion that the Internet should not be subject to FCC taxes is derived from the FCC's decision in 1983 temporarily not to impose access charges on enhanced services (the precursor to information services) because enhanced services at that time were an infant industry.

That original rationale has long since become inoperative. While presumably the least distortive telecommunications subsidy system would rely on general tax revenues rather than a distinct tax applied to a limited set of telecommunications offerings, that is not politically realistic. But the FCC can and should reduce the distortion by requiring Internet access services to contribute to USF. **PUF**