

Working to Enhance Sustainability and Resilience

By **ROD KUCKRO**

EEEI's member companies—America's investor-owned electric companies—are leaders in advancing environmental, social, governance, and sustainability (ESG/sustainability) issues. And, they are building modern, climate-resilient infrastructure that is key to a clean energy future.

As EEI's member companies continue to evolve to meet the needs and expectations of their customers and communities—and to ensure that stakeholders like regulators and investors have the information they need—they are leveraging a variety of innovative partnerships. Counsel from advisors like Guidehouse to EEI member companies is proving to be instrumental in enabling a more rapid clean energy transformation, enhancing the energy grid's resilience, and developing and implementing sustainability goals to better serve customers.

They are committed to a process of continuous improvement that includes thoroughly tracking and clearly reporting their ongoing progress. And, by tracking and reporting ESG/sustainability results, they are demonstrating how their efforts and investments are increasing clean energy generation and enhancing energy grid resilience, while maintaining their customer

commitment to reliability and affordability.

Companies like Guidehouse work to evaluate and to quantify EEI member company ESG/sustainability results, thereby helping to validate their actions. This also helps member companies to utilize EEI's voluntary ESG/sustainability reporting template more effectively. This template was developed with significant input from the investor community to facilitate concise and comparable reporting practices for the sector.

EEI's member companies were leaders across many industries when it came to addressing ESG/sustainability reporting. Initially, though, many did not have the corporate infrastructure and in-house expertise to execute seamlessly on their ESG/sustainability commitments. For that reason, many EEI member companies sought out expert guidance from companies like Guidehouse, which had acquired energy- and regulated industry-focused Navigant Consulting in 2019.

Jan Vrins is a partner and leader of Guidehouse's Energy, Sustainability, and Infrastructure segment. The practice Vrins leads has about 1,000 consultants globally, serving government clients and companies across the energy industry, from electricity to oil and natural gas.



Having a global consulting presence allowed Guidehouse “to learn a lot about climate change and sustainability best practices globally,” Vrins added.

“That’s one interesting angle of having a global team, because you can learn from clients elsewhere and bring those capabilities to other regions—in this case, sustainability and ESG in North America,” he said.

Several years ago, Vrins said, Guidehouse developed a model (the Energy Cloud) to help companies envision how renewables, distributed energy resources (DER), energy storage, and electric vehicles (EVs) would “really change how electric companies would operate.” Each of these technologies contributes to an energy company’s sustainability profile.

Today, Vrins points out that many EEI member companies “have large teams working on how customer demands and needs are changing; how DER comes into play; how the generation landscape is changing;” and more.

Another area in which Guidehouse is bringing its expertise into play is in helping electric companies plan and execute their long-term strategies to

enhance grid resilience.

At Duke Energy Florida, Guidehouse has supported the development of the company’s storm protection plan, specifically storm protection and recovery, said Daniel Hahn, a partner who leads the Guidehouse Energy Providers practice and who works chiefly with energy industry clients.

“Duke Energy has been a client of ours for many years,” Hahn said.

In April, Duke Energy Florida filed a roughly \$8 billion, 10-year plan that focuses on the resilience of the company’s assets and the ability to better withstand the increasing frequency and severity of extreme weather events. The company prioritized “cost-effective system investments that reduce outages and restoration costs associated with the extreme storms frequently experienced in the Duke Energy Florida service area,” Hahn said.

Guidehouse uses proprietary models to forecast the probability of major storm damage, consequences of the damage, outages, and customer restoration time, he said.

While the planned work is substantial and will take years to complete, “what we’re assessing is



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the costs and benefits of investments aimed at reducing restoration costs and outages,” Hahn said, touting the “bespoke nature” of the work Guidehouse does in terms of crafting such plans.

Among the planned investments are \$1.6 billion to harden transmission



structures to better withstand extreme weather events by replacing wood poles with non-wood poles, upgrading towers, and automating breaker and structure inspections, according to Duke Energy. Plans also include \$133 million to harden more than 220 substations to isolate line faults and shorten restoration times, the company said.

How to address resilience has become a major focus for Guidehouse in the past three to four years, Vrins said.

Guidehouse's methodology to address resilience has standard elements, he added, incorporating lessons learned and best practices gleaned from work with other clients. This ranges from addressing hurricane restoration along the Gulf Coast, to polar vortexes in the Northeast, windstorms in the Midwest, or wildfires in the West.

Also, its model includes variables unique to a service territory or geographic region—Vrins calls it “underneath modeling.” These factors include the profile of a company's generation fleet, load forecasts,

existing resource plans, transmission and distribution investments, state and local government plans, and other elements that “are important to stakeholders—including regulators,” Vrins said.

Data from the National Oceanic and Atmospheric Administration confirm that extreme weather events causing billions of dollars in damage have increased dramatically—from seven to eight per year on average over the last 30 years, to almost 20 every year now.

“One-third of the economy is being impacted by these storms and other weather events, with huge financial impacts on the energy business as well,” Vrins said.

And the widespread, disruptive effects of major storms have led Guidehouse to expand its client base into state and city governments, Vrins said, giving Guidehouse “a very broad perspective on the topic of resilience.”

Guidehouse's clientele also includes the Tennessee Valley Authority (TVA), the largest government-owned electricity provider in the nation and an EEI strategic partner. Guidehouse

is helping TVA on a number of fronts related to its transition to a clean energy future.

Founded in 1933, TVA provides wholesale power to more than 150 local power companies (LPCs) in Tennessee, as well as portions of Alabama, Georgia, Kentucky, Mississippi, North Carolina, and Virginia.

“TVA has been focused on delivering clean and reliable power for a long time, and they also have a real focus on environmental stewardship across the seven states that are within their service region,” said Michelle Fay, partner and solution lead with Guidehouse's Energy, Sustainability, and Infrastructure team, referring to the many dams and recreation areas also managed by TVA.

“One of the key programs that we're working on with them is their grid transformation initiative,” Fay said.

The goal of the initiative is to build a resilient, flexible, and integrated electric system that continues to meet TVA customers' needs in the future, she added.

TVA's Regional Grid Transformation effort helps to protect against power



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disruption while positioning LPCs to introduce cleaner and more efficient technologies that offer more value to their customers. Strategic deployment of advanced grid technologies will deliver the needed capabilities to realize new value for customers, communities, and local economies. The value TVA envisions includes continued energy affordability and resilience, regional innovation, optimized investment in new technologies, environmental sustainability and resourcefulness, economic development, and overall community vitality.

Guidehouse will work to quantify these benefits that go along with investments, Fay said.

Chief among the key capabilities to support this transformation is integrated planning. As TVA adds

increasing amounts of renewable generation into its energy grid, the agency will need to account for demands on its generation assets and transmission system, as well as the distribution systems of LPCs, Fay said.

TVA’s diverse service territory required a plan to engage the customers of TVA’s LPCs so they can understand the long-term benefits of its energy grid transformation plan, Fay noted.

So, as TVA rolls out end-use customer programs, Guidehouse is performing what Fay describes as a “stakeholder analysis” to gauge how well the programs are understood, especially those that focus on economic development and overall societal benefits.

Recently, TVA increased its commitment to deliver electricity with lower greenhouse gas emissions, focusing on integrating more renewables into its portfolio.

In pursuit of that commitment, TVA on July 12 announced a request for up to 5,000 megawatts of carbon-free energy to be delivered by 2029 as part of its strategy to be net-zero by 2050.

Jeff Lyash, TVA president and CEO, said the “bold decisive action” will help to continue to attract companies drawn to the region because of TVA’s low-cost and reliable clean energy.

Like all EEI member companies, TVA also is focused on helping to reduce emissions across other major emitting sectors of the economy. One of the challenges in TVA’s largely rural territory is encouraging the adoption of EVs and helping LPCs understand the benefits of EVs to the broader grid transformation, Fay said.

Two major pieces of federal legislation that are helping states and companies accelerate transportation electrification were signed into law in 2021. The American Rescue Plan has funding available to support EV charging infrastructure that can be deployed to the LPC level, and the historic bipartisan Infrastructure Investments and Jobs Act includes

significant funding for electric transportation, including \$8.9 billion for EV charging infrastructure.

These federal funds can complement state programs, such as Drive Electric Tennessee, Vrins said.

“There are about 20,000 EVs right now in Tennessee. They want to bring it to 200,000 by 2028, which is pretty aggressive,” Vrins said.

And if Tennessee gets close to that goal, Guidehouse will have contributed to this achievement by utilizing the extensive depth of its consulting to help the federal power system to develop forward-looking plans to meet the evolving needs of the distribution companies and communities that it serves.

Guidehouse also aims to help its clients develop their own in-house expertise throughout the process. Thinking about Guidehouse’s work with electric power industry clients, Hahn describes it in terms of an old proverb: “I’ll call it ‘teach them how to fish.’ They need to learn how to fish. They need to fish for themselves.”

As EEI’s member companies continue to lead a profound transformation, they are turning to partners like Guidehouse that can help them internalize best practices, spark innovation, and deliver the energy future their customers expect. The challenges the sector faces are big—and so are the ideas they are fostering together. [EP](#)

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