Tracking Sustainability with Data, Not Anecdotes

EPRI Initiative Helps More Than 30 Utilities Accurately Measure Sustainability Performance

By Chris Warren

In 2015, Los Angeles Mayor Eric Garcetti unveiled the Sustainable City pLAn, a roadmap of short- and long-term sustainability goals in areas such as water conservation, air quality, transit, energy efficiency, greenhouse gas emissions, and minimum wages. In his opening letter to the pLAn, the Mayor points to the potential multifaceted benefits: "This pLAn sets the course for a cleaner environment and a stronger economy, with a commitment to equity as its foundation."

One city organization in particular has a significant role in the roadmap. "We are involved in or responsible for more than half the goals," said Nancy Sutley, chief sustainability and economic development officer at the Los Angeles Department of Water and Power (LADWP), the city's municipal utility. "We're a critical part of this effort because the city owns so much infrastructure, including power and water."

Sutley also has a strong mandate to report on the utility's progress toward the city's sustainability goals. "There is a big emphasis on transparency in Los Angeles," she said. "The mayor's office maintains an open data website so that anybody can see our progress." For example, it requires just a few mouse clicks to learn that Los Angeles reduced water use by 19% between summer 2015 and summer 2016, just shy of its 20% goal for 2017. It also has surpassed its 2017 target of installing 1,000 public charging stations for electric vehicles.

Sutley says that her work has been aided by LADWP's participation in EPRI's Energy Sustainability Program and access to an online EPRI tool that enables electric utilities to measure and benchmark their sustainability performance relative to industry peers.

A Product of Collaborative Research

EPRI's Sustainability Benchmarking Tool builds on years of collaborative research by EPRI and the Tennessee Valley Authority (TVA). A 2013 EPRI study identified the 15 most relevant sustainability issues in the North American electric power industry, based on input from hundreds of utilities, government agencies, environmental organizations, and academic institutions. The issues are grouped under the three "pillars" of sustainability: environmental, economic, and social.

In 2015, EPRI assumed management of the environmental benchmarking initiative that TVA maintained since 2010. Utility participants in EPRI's initiative narrowed down a list of nearly 450 sustainability metrics to the 77 considered most useful for benchmarking. Examples include CO_2 emissions, employee volunteer rates, and skilled worker availability. EPRI used those 77 metrics to create the tool.

Over the past two years, more than 30 companies have submitted sustainability performance data and generated tailored benchmarking reports that examine issues such as water availability and employee safety. Utilities compare their performance with other companies through filters that narrow results based on revenues, generation capacity, and company type (investor-owned or "other" including municipal and cooperative).

For LADWP, the online platform provides an accurate measure of performance, supporting its transparency obligations for Los Angeles. "It is good to get a sense of where you stand by relying on data rather than anecdotes," said Sutley.

An Effective, User-Friendly Tool

 "With two years of data in the platform, a company can now create charts that track performance year-to-year and compare that to an average industry trend for the reporting companies," said EPRI Technical Leader Morgan Scott. "For example, a company can demonstrate visually how its greenhouse gas emissions have changed over the past two years and identify activities contributing to the change, such as the retirement of coal plants or investment in renewables. With each new year of data and enhanced database structure and capabilities, companies will deepen their understanding of performance on these sustainability issues."

Another 2016 enhancement: The tool asks users to specify how they prepared their data. As an example, when submitting CO_2 emissions data from coal-fired power plants, companies must indicate whether the data was third-party verified, compiled internally, or is a company's best estimate (meaning that it is within 25% of actual performance). Each method is flagged using a different color in the tool's graphing interface (see chart).

Such features provide deeper insights and help companies better understand how their peers approach third-party verification, potentially informing decisions about whether to undertake this more expensive approach to data collection.

"As we continue to benchmark, we may be able to quantify third-party verification trends," said Scott.

EPRI's Sustainability Benchmarking Tool uses different colors to indicate different data preparation methods.

Companies can use such features to make more direct comparisons with their peers. "Companies can filter out data from 'best estimates' and benchmark only data prepared internally or verified by third parties," said Scott.

More Robust Analyses

At some companies, sustainability managers provide executives with customized reports and graphics, which can inform decisions about recruiting new workers, community involvement, investments in greenhouse gas management strategies, and more.

"The benchmarking allows us to show that our programs and focus on environmental discipline are resulting in progress," said Harry Sideris, Duke Energy's state president for Florida. "The tool gave us a directional sense and validated that Duke was moving the needle compared to its peers. It has also directly led to the development of additional internal tools, stirred the brain, and provided a springboard to drive dialogue and internal innovation."

Other participants report that involvement with the benchmarking initiative has improved employees' understanding of sustainability. "Sustainability managers have sparked internal dialogue by reaching out to utility subject matter experts and requesting data for benchmarking," said Scott. "Many employees don't consider their jobs as sustainability-related. This work has helped to engage more employees and raise awareness that everybody's work supports sustainability."

American Electric Power (AEP) has used the tool to enhance sustainability analyses. "After collecting data from subject matter experts, we always circle back to share the results and confirm that we've accurately extracted the key takeaways," said Sandra Nessing, AEP's managing director for corporate sustainability. "This helps us to assess whether we are measuring the right things and how relevant they are to AEP."

AEP will use data collected over the past two years through the EPRI benchmarking initiative to help set new sustainability goals in 2017. "Benchmarking provides historical trends to support the storyline of transformation and will be very helpful as we set new goals to clearly show our path forward and our progress," said Nessing.

A commitment to continuous improvement is embedded in EPRI's approach to sustainability. There's a "reflection period" each year when member companies provide input to bolster the relevance and technical rigor of the metrics, applying lessons learned from the previous year's data collection. EPRI and the participating utilities are reassessing the 15 priority issues. If they identify new issues, the next step would be to identify metrics for those issues and incorporate them into the benchmarking tool. They also are considering possible new features for the tool.

Award-Winning Work

For their work developing the online sustainability platform, the members of EPRI's Energy Sustainability research steering committee received a 2017 EPRI Technology Transfer Award: Sandy Nessing (AEP), Anand Yegnan (Dominion), Patty Ireland (DTE Energy), Michelle Abbott (Duke Energy), Rick Johnson (Entergy), and Lee Matthews (TVA).

Committee members provided guidance essential to identifying the right metrics and defining the three methods of data preparation. "They offered important insights that helped us to create an easy-to-use tool that is relevant and delivering value to a wide range of companies," said Scott.

By providing quantitative data on sustainability, the tool illuminates what is often only a qualitative discussion, driving better decisions by company leaders. "It helps to translate sustainability for an industry that is very metric-driven," said Scott. "When an executive understands how a company's performance compares to industry peers, new opportunities can be identified to do better as a business and as a corporate citizen. To become an industry leader, sustainability commitments should be an integral part of the future success of a business."

Key EPRI Technical Experts

Morgan Scott