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# ScottMadden Finds Important Nuances in Analysis of California "Duck Curve"

**ATLANTA, GA – (October 12, 2016) –** ScottMadden, Inc., one of North America's leading energy consulting firms, has released a new report analyzing the California "duck curve."

In 2013, the California Independent System Operator conducted an analysis to understand how increasing penetrations of renewable resources would impact grid conditions. The result was the iconic "duck curve" chart, which predicted that as variable generation grows, so too will the trough of load served by conventional supply in midday. ScottMadden analyzes if actual results align with the original forecast in the new report: Revisiting the Duck Curve: An Exploration of Its Existence, Impact, and Migration Potential.

ScottMadden finds the "duck curve" is real and growing faster than expected. In addition, the analysis reveals some interesting, unexpected, and important nuances. In particular, the "duck curve" is:

- · Producing net loads lower than forecasted
- Increasing ramps throughout the year
- Most severe on the weekends
- Occurring in multiple seasons, not just spring months
- Driven by utility-scale solar in California, not distributed resources

"One of the most important implications is the 'duck curve' may migrate to other parts of the United States," said <u>Greg Litra</u>, partner and energy, clean tech, and sustainability research lead. "Growing numbers of utility-scale solar installations could mean that 'the duck' could migrate to states like Arizona, Georgia, Nevada, North Carolina, and Texas in the not-too-distant future."

Overall, understanding the root cause and comprehensive impact of the "duck curve" is essential before developing strategies to address operational impacts. Solutions for a seasonal, weekend, utility-scale solar issue may well be different than solutions for an everyday, distributed resource issue.

## About ScottMadden's Clean Tech & Sustainability Practice

Leveraging our energy expertise, the ScottMadden Clean Tech & Sustainability practice helps our clients effectively navigate through the quickly changing energy landscape. We specialize in assisting our clients with sustainable energy strategies and making smart portfolio choices. We work with our clients to understand and effectively utilize cleaner, renewable sources of energy, such as nuclear, wind, solar, biomass, and biofuels. Our experienced team of energy practitioners understands the roles of energy efficiency, demand response, and storage as part of an integrated strategy. We also assist clients with sustainability, bringing an understanding of energy-unique concerns.

### **About ScottMadden's Energy Practice**

We know energy from the ground up. Since 1983, we have been energy consultants. We have served more than 300 clients, including 20 of the top 20 energy utilities. We have performed more than 2,400 projects across every energy utility business unit and every function. We have helped our clients develop strategies, improve operations, reorganize companies, and implement initiatives. Our broad and deep energy utility expertise is not theoretical—it is experience based.

### About ScottMadden, Inc.

ScottMadden is the management consulting firm that does what it takes to get it done right. Our practice areas include Energy, Clean Tech & Sustainability, Corporate & Shared Services, and Grid Transformation. We deliver a broad array of consulting services ranging from strategic planning through implementation across many industries, business units, and functions. To learn more, visit www.scottmadden.com | Twitter | Facebook | LinkedIn

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