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ScottMadden Highlights Regional Considerations of Renewable Penetration Impacts on Combined-Cycle Non-Fuel O&M Costs

ATLANTA, GA – (June 28, 2018) – ScottMadden, Inc., one of North America's leading energy consulting firms, has released a <u>new report</u> focused on regional considerations of renewable penetration impacts on combined-cycle non-fuel operation and maintenance (NFOM) costs.

To keep the lights on, California is increasingly reliant on renewables and gas-fired combined cycles (CCs). But, what effects are these new operational realities, especially the effect of the "duck curve," having on costs for California's CCs? Our research shows that the changing dynamics have led to higher costs and lower total net generation for CCs in California.

Renewable capacity has been steadily increasing in the United States, and regions that have seen, or are expected to see, a significant increase in solar and wind capacity may want to examine the potential cost and operational impacts on CCs. This could lead to significant changes in the cost profiles of CC fleets in other regions, and operators may need to fundamentally rethink how their fleets are operated. CC operators everywhere need to be anticipating these dynamics and seeking opportunities to implement strong asset management programs and manage their generation fleets more efficiently. Of course, CC operators must also consider grid modernization initiatives and demand-side management options, as well as transmission impacts and increasing regionalization.

Quentin Watkins, manager at ScottMadden and study co-author, highlighted report hypotheses and conclusions at the Association of Rural Electric Generating Cooperatives (AREGC) conference in Atlanta, GA, on June 26. Specifically, he explored how hourly run profiles are changing for California CCs, NFOM costs trends, and how NFOM cost trends for CCs in California compare to elsewhere in the United States, where renewable penetration levels are lower.

"One key takeaway for operators in other regions is that this is no longer just a California challenge. Other regions in the United States are experiencing significant penetration of wind and solar generation, and fleet owners and operators would be wise to start planning sooner than later," explains Mr. Watkins.

"A couple of things have been remarkable about the developments in California. First, the speed with which the renewable build-out has exceeded even the most aggressive projections. Second, the strength of the evidence that the increase in renewables leads to higher costs for CCs. Efficiency and agility will both be key to operational success going forward," adds Todd Williams, partner at ScottMadden and report co-author.

There's no question that the California duck curve is real and bigger than expected. To better understand changing grid conditions, please <u>contact us</u>.

About ScottMadden's Energy Practice

We know energy from the ground up. Since 1983, we have been energy consultants. We have served more than 400 clients, including 20 of the top 20 energy utilities. We have performed more than 3,000 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, Grid Transformation, and Rates, Regulation, & Planning. 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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