Curriculum Vitae

MATTHEW W. TANNER
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SUMMARY

Matthew Tanner, Ph.D., has over ten years of experience advising clients across the power-sector value chain on strategy, risk, and planning matters. His expertise includes renewable integration, market transformation, power systems modeling and forecasting, utility resource planning, and risk simulation. He advises clients on market opportunities, risks of changing market structures, resource planning, and investment strategy under uncertainty.

Dr. Tanner provides highly analytical and creative approaches for utilities, investors, independent power producers, and other market participants to evaluate emerging market opportunities and adapt their business models as decarbonization drives market changes. He has deep expertise in modeling power markets, optimizing generator portfolios, and assessing the impact of technology on the power sector. He is an expert in helping clients understand underlying market drivers and regulatory and technological changes in the power sector and in helping utilities operate their systems reliably, reduce emissions, and minimize cost.

In recent years, Dr. Tanner has worked with both developers and utilities to understand the future requirements to maintain power system reliability as intermittent renewable generation increases on the system. He has testified before state utility commissions on renewable integration requirements. He has worked with developers and investors to understand how the capabilities of flexible resources, such as storage, gas, and hydro, can meet system requirements and how future market constructs might value such capabilities.

PREVIOUS POSITIONS

2017 – 2020, Director, Navigant Consulting
2012 – 2017, Associate Director, Navigant Consulting
2009 – 2012, Operations Research Analyst, U.S. Energy Information Administration

EDUCATION

Ph.D., Industrial Engineering	Texas A&M University, 2009
B.S.E., Operations Research and Financial Engineering	Princeton University, 2004

SELECTED RECENT PROFESSIONAL EXPERIENCE

Wholesale Market Advisory

- **Storage Market Assessments**, multiple clients, 2019 – 2020. Led analyses of market opportunities for battery storage providing value-stacked energy arbitrage, ancillary services, and capacity in CAISO, ERCOT, ISONE, NYISO, MISO, and Ontario.
- **Retainer Support**, multiple clients, 2017 – 2020. Led retainer engagements with clients to provide market advise, price forecasts, and due diligence across all regions of North America.
- **California Behind-the-Meter Storage**, JBAM, 2020. Led due diligence assessment of a behind-the-meter storage company in CAISO considering current and future revenue opportunities.
- **Gas Hedged CC Analysis**, Harrison St, 2020. Led market evaluation of a new combined cycle in PJM with a long-term gas hedging agreement.
- **Pumped Storage Assessment**, CIP, 2020. Evaluated the value and ability to contract that value for a large pumped storage project under development in Montana.
- **NYISO PPTN Testimony**, CVEC, 2020. Developed a report and testifying in NYISO on the economic needs for a new set of transmission upgrades that will impact CVEC's market opportunity.
- **NYC Gas Plant Assessment**, NRG, 2020. Evaluated the economics and potential emissions impact of a new gas peaker in NYC compared to alternative investments in battery storage and/or offshore wind.
- **Hydro Valuations**, Brookfield, 2019 – 2020. Supported in evaluating the company's portfolio of hydro assets considering how decarbonization is requiring the evolution of power markets.
- **Market Assessment of Texas Microgrid**, confidential investor, 2019. Evaluated the market opportunity for a large installation of microgrids in ERCOT.
- **Portfolio of Renewable Assets**, John Hancock, 2018. Evaluated the market opportunities and congestion risks for a portfolio of renewable assets spread across North America.

Utility Strategy and Resource Planning

- **Strategic Transmission Planning**, LADWP, 2017 – 2020. Led broad support of LADWP in evaluating their transmission needs particular in response to decarbonization and market evolution in WECC.
- **Southeast Options Analysis**, Duke, 2019 – 2020. Led evaluation of the options, costs, and benefits to Duke Energy of changes to market structures in the Southeast.
- **Avoided Cost Study**, Santee Cooper, 2020. Evaluated the utility avoided costs for Santee and how they change as solar penetration increases.
- **Variable Generation Cost Study**, Dominion South Carolina, 2019 – 2020. Led study and testified on the variable generation cost impacts to solar penetration in the utility service territory.
- **Renewable Integration Impacts**, Chelan PUD, 2019 – 2020. Led studies of how renewable penetration impacts the operation and system requirements of the Chelan hydro fleet.

- **Retail Choice Impact Analysis**, 2019, FPL. Evaluated the impact of retail choice on the operations and costs for FPL.
- **Once-Through Cooling Retirement Impact Assessment**, LADWP, 2016 – 2019. Large study to evaluate the feasibility of retiring all in-base OTC units in LA and replace with zero carbon generation.
- **Variable Generation Study**, Northwestern Energy, 2018. Studied and testified on the requirements for integrating renewable generation into the Northwestern service territory.

Wholesale Market Design and Participation

- **Southeastern EEM**, Southeast Utilities, 2020. Led the benefits analysis of the Southeastern Energy Exhange Market for a consortium of utilities.
- **Joint Economic Dispatch in Florida**, FPL, 2017. Modeled the economic benefits and dispatch changes that would result from full joint economic dispatch in the state of Florida.
- **Market Renewal Strategic Support**, IESO, 2016 – 2018. Supported the IESO in educational outreach, market design, and strategic considerations in their Market Renewal efforts.
- **RTO Membership Study**, LADWP, 2017. Evaluated the costs and benefits of RTO membership for LADWP.
- **Default Emissions Factor Analysis**, Ontario Ministry of Energy, 2016 – 2018. Developed the methodology and calculated the default emissions factor that Ontario applies to electricity imports from unspecified generators.