

ENERGY PRACTICE

RENEWABLE ENERGY

About Bates White

Bates White is a consulting firm offering services in economics, finance, and business strategy to leading law firms, Fortune 500 companies, and government agencies.

Bates White has offices in Washington D.C. and San Diego, CA.

Renewable electricity is the fastest growing segment of the electric generation market, and as such, it provides significant investment opportunities. Generation investors, utilities, lenders, insurers, and energy regulators all seek to maximize their gain from these opportunities. But to do so, they must assess the risks that attend this booming industry. These risks include:

- Market and operational risks related to future power prices, changes in weather, transmission access and pricing, and the prices of capital equipment and feed stocks
- Technological risks inherent in generation technologies that continue to evolve and mature
- Engineering risks associated with the impacts of variable-output technologies (like wind power) on transmission system stability
- Regulatory risks associated with changes in state and federal policy support, cost recovery methods, and cost allocation

Renewable energy services. Bates White's experts help organizations assess both their opportunities and their risks in the renewable energy marketplace. The following are some of the services we provide:

- Hourly production forecasting of solar thermal and photovoltaic generation using engineering models
- Forecasting of transmission system congestion and locational marginal prices
- Simulation of large, integrated transmission markets to determine asset value and performance
- Evaluation of the impacts of variable-output renewable technologies on transmission system stability and reliability
- Evaluation of high-value renewable energy projects and locations through the application of complex financial models that incorporate key risks
- Expert testimony and regulatory support on transmission cost allocation, rate of return, and pricing policies

Contact:

NICOLÁS PUGA, MSc
Partner
Bates White, LLC
1300 Eye Street NW
Suite 600
Washington, DC 20005
(202) 652-2184
nick.puga@bateswhite.com

Renewable energy policy. Our experts follow emerging policies that affect renewable generation, including renewable portfolio standards, "feed-in" tariffs, green tags, and legislative initiatives. Action on these fronts will determine the most likely regulatory and operating environments for renewable resources. And, because emissions standards affect the value of renewable technologies, we monitor developments in international carbon credit trading markets, as well as the multitude of proposed state and federal carbon emissions policies. We have provided expert testimony before regulatory and legislative bodies on the impacts of specific renewable energy and emissions control policies.

Transmission system modeling. The integration of variable-output renewable generation technologies, especially wind power to existing high-voltage transmission systems, can present significant challenges. These are the result of transmission constraints, congestion and stability issues, and policies on cross-border transmission systems. We apply our expertise in regional regulation, systems planning, operations, and modeling to evaluate these impacts and design alternatives that minimize integration issues.

We use the PowerWorld Power System modeling suite to model transmission constraints between regions using the latest ISO/RTO base cases and combine planned and proposed changes to regional transmission systems. Our transmission modeling techniques have withstood the highest degree of regulatory scrutiny. Our experts have testified before FERC and state regulatory agencies and have provided technical and policy assistance to regulators and transmission planning agencies.

Technology and market assessment. We have developed advanced portfolio and decision analysis models to value renewable generation facilities. These models take into account the complicated interplay of forecasted market prices (including wholesale electric prices), existing portfolio requirements, and state and federal financial incentives, as well as technology costs and performance measurements. We understand regulated markets, and our expertise in developing price curves, supply forecasts, and volatility estimates, gives clients a real edge in making renewable asset decisions.

Asset valuation and siting analysis. We help companies maximize the value of renewable generation assets by identifying and assessing the markets that can most effectively be served by comparing project generation and transmission costs to market prices. Our forecasts of revenues and costs are based on state-of-the-art hourly wind and solar production forecasting models and integrated generation dispatch and transmission models. We use custom applications of the National Renewable Energy Laboratory's Solar Advisory Model to forecast the production of solar thermal and photovoltaic generating plants, as well as empirically obtained hourly wind generation data, to model renewable generation in a transmission-constrained chronological-dispatch production costing model. This approach to modeling generation and transmission markets helps project developers determine optimal locations for new infrastructure investment. We understand that the optimum operating level of a plant can be greatly influenced by local and regional transmission constraints. Our ability to model large, integrated transmission markets enables us to assess the impact of proposed bulk transmission projects on the value of existing and proposed assets, as well as to predict the economic impact of increasing penetration of renewable generation on existing generation assets.

Regulatory support. Valuing renewable generation is only a first step. Generation developers almost always have to pay to use existing or new transmission systems, and for them, overall cost analysis, including rate of return and depreciation, cost allocation, and rate design, is critical. Our experts have provided expert testimony before many state, federal, and international regulators on all of these issues.