



## RENEWABLES INTEGRATION

### Evaluation of Renewable Energy Resources

Due to the complexities of the energy markets and the global environmental challenges imposed on conventional energy resources, renewables have become the main focus of energy resources development. Renewables being solar, wind (on-shore and offshore), biomass, geothermal and Hydro have established a solid footprint into providing close to 25% of the overall global energy usage supply. These essential clean energy resources shall continue to expand into a much larger role along the line of technology advancement and full awareness on manufacturing costs.

Experts, advisors and engineers from Quanta Technology are fully integrated into the renewable energy industry. They are aware of risks involved in developing diverse portfolio of renewable energy projects. They are also in compliance of the technical and financial impact of these resources on electrical networks and energy markets.

#### Service Offerings

##### Project Siting and Interconnection Studies

- Network modeling
- Electrical points of interconnection (POI) identification
- Site screening
- Deliverability and fatal flaw analysis
- Interconnection configuration
- Power flow and contingency analyses
- Voltage and thermal evaluation
- Reactive capabilities study



- Transient stability study
- Low voltage Ride Thru evaluation
- Network upgrade identification; cost and schedule estimation
- Regional mapping
- Impact of proposed network upgrades reviews
- Compiling and submitting all interconnection application forms
- Review interconnection studies performed by ISOs/utilities/RTOs
- Manage and administer interconnection applications up to executing an interconnection agreement
- “Wet Transmission” system for offshore wind
- Impact of plant retirement evaluation

##### High Penetration Renewable Studies

- Resource forecasting
- Curtailment and congestion evaluation
- Market structure design
- Energy/Power reserve requirements
- Resource uplift review
- Frequency response and impact
- Protection schemes design
- LMP and market pricing forecast
- Mitigation strategies recommendations

##### Development Strategy Support

- Development strategy
- Front end development risks
- Market penetration review
- Site(s) visits and identification of POIs and ROWs



## Renewable Development

- Market risks
- Development risks
- Technology risks
- Financial risks
- Resources risks
- Operation risks
- Maintenance risks

### Why Quanta Technology?

Understanding all risks involved in achieving a successful greenfield renewable energy development, Quanta Technology has the technical, engineering, economic and development expertise to mitigate against all types of risks facing developers, utilities, transmission owners, network operators, financial institutions and regulators. Quanta Technology is fully engaged and aware of market participation by renewables covering the complex current and future needs of utilizing these resources in full scale.

### Robust Solutions

Quanta Technology can assess and recommend solutions for challenges that can have an adverse impact on renewable energies from the diverse energy stakeholders' points of view. Quanta Technology services provide robust comprehensive solutions targeting increasing the success chances of project financing and project fruition. The team of experts is unique in its integral parts of desk-top and practicality evaluations and engagement. Thousands of realized renewable MWs are currently in operation as a result of Quanta Technology involvement. Quanta Technology has the in-house capabilities to support renewable project development at the early, or mid or last stages of the project or portfolio of projects development.

The future of renewable energy is now, and Quanta Technology has been ready to encompass the evolution of the renewable industry.

### About Quanta Technology

Quanta Technology is an independent technology, consulting, and testing company providing business and technical expertise, along with advanced methodologies and processes, to utilities and others in the power and energy industries. Our mission is to provide unparalleled value to our clients in every engagement across the value chain by using advanced software and hardware, laboratories, and custom tools for a holistic approach to practical service and the most insightful thought leadership in the industry.

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## Smart Solutions Practical Results

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