

## Energy Consulting Services

**Assist clients in managing their power portfolio and structuring deals, developing corporate strategies for the competitive market, and evaluation financial and insurance products to manage risk:**

- **Provide expert advice and analytical support to clients on market design related issues and congestion risks related to power purchase agreements**
- **Manage the short to intermediate-term power portfolio of power plants and contracts, acquire power resources, and market excess power**
- **Issue request for proposals, structure and evaluate electricity related deals, and negotiate contracts**
- **Develop analytical techniques to model electricity forwards and value energy options and power projects**

**Assist clients on electricity market design issues and the development of competitive electricity market structures:**

- **Designed most of the advanced features of the ERCOT Nodal Market, including:**
- **The Day-Ahead Market (DAM) design that allows for Congestion Revenue Right (CRR) Options to be either offered into the DAM or settled based on Real-Time prices and for price sensitive bids for Point-to-Point Obligations in the DAM.**
- **The handling of over-sold CRRs where the holders of over-sold CRRs are paid up to the legitimate hedge value of those CRRs.**
- **The two-step method used in the Security Constrained Economic Dispatch (SCED) that mitigates against the exercise of locational market power arising from congestion on a Non-competitive Constraint.**

- The Constraint Competitiveness Test (CCT) used to determine Competitive Constraints that is an objective measure of the competitiveness of any constraint.
  - Co-optimization of Ancillary Services (AS) and energy in the DAM that allows for full flexibility in terms of the combination of energy and AS capacity that can be offered.
  - Mitigation measures in the CRR market, DAM, Reliability Unit Commitment (RUC) process, and Real-Time Market.
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- Provided consulting services to ERCOT related to implementation of the Congestion Revenue Right market as part of the ERCOT Nodal Market.
  - Represented the Lower Colorado River Authority (LCRA) in the design of the ERCOT market
  - Represented the International Transmission Company (ITC), Detroit Edison, in the design process of the Alliance RTO - authored white papers describing the proposed Initial and Final market structures for the Alliance RTO.
  - Assisted Entergy and worked with Market Participants to draft Market Protocols for the SERC Region of Texas that were submitted to the Public Utility Commission of Texas.
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- Provided consulting services to Reliant Resources, Inc., on Midwest ISO market design related issues.
  - Provided expert advice to the Salt River Project on WestConnect market design related issues.

### **Provide consulting services to clients for participating in deregulated markets and developing strategies to take advantage of opportunities created by these markets.**

- Provided expert advice to Morgan Stanley Capital Group, Inc., LCRA, and others on issues related to the ERCOT market.
  - Provided training on the ERCOT market design to Austin Energy, CPS Energy, Brazos Electric Power Cooperative, Inc., GE Packaged Power, Inc., STEC, LCRA, Morgan Stanley Capital Group, Inc., BP, and others.
  - Provided consulting services to CPS Energy on issues related to Self-Scheduling in the ERCOT Nodal Market and its impact on private use restrictions applicable to the tax exempt debt of Municipally Owned Utilities
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- Provided expert advice to TXU in ERCOT on designing their business processes and software systems to participate in the retail deregulated ERCOT market.
  - Provided consulting services to Portland General Electric in the Pacific Northwest on

designing their business processes and software systems to facilitate retail access in their market.

### **Provide expert testimony on electricity market related issues:**

- Expert Witness on behalf of Brazos Electric Power Cooperative, Inc., in their arbitration with Mirant Americas Energy Marketing, L.P., in April, 2002.
- Testifying expert on behalf of Austin Energy in Cause No. GN403274; City of Austin, Acting by and through its Electric Utility Department v. FPL Energy Upton Wind I, L.P.; in the 345th Judicial District Court of Travis County, Texas.
- Direct Testimony on behalf of Brazos Electric Power Cooperative, Inc. and South Texas Electric Cooperative, Inc. filed in Public Utilities Commission of Texas Docket No. 31450.
- Rebuttal Testimony on behalf of Lower Colorado River Authority, CPS Energy, and City of Austin d/b/a Austin Energy filed in Public Utilities Commission of Texas Docket No. 31450.
- Testifying expert on behalf of TXU Portfolio Management Company, L.P., in Cause No. 04-10314 v. FPL Energy Pecos Wind I, L.P., et al., in the 116<sup>th</sup> Judicial District Court of Dallas County, Texas.