



GridBOOST Asset Optimization Platform

- The CES GridBOOST (Bid/Offer Optimization & Scheduling Tool) service optimizes grid-scale energy storage assets, including renewable and paired resources, with a focus on U.S. markets and products.
- Expanding upon our history of developing innovative services and software in support of the ongoing energy transformation, CES GridBOOST was initially designed for and implemented in the California ISO (CAISO). The CES GridBOOST service leverages CES' deep consulting and operational knowledge in the CAISO market and integrates it into a scalable software tool. Based on client need, we quickly expanded GridBOOST to serve the ISO-NE market, with plans to expand to other RTO/ISO markets including ERCOT, NYISO, PJM, MISO and SPP.

Energy Storage, either stand-alone or paired with renewable resources, have unique attributes. These attributes require careful consideration when developing bidding strategies. In order to maximize market revenue, we must consider:

- Storage system characteristics and operational performance vary greatly. It is critically important to account for the specific project configuration and the unique attributes of the battery cell technology when developing daily/hourly market bids and offers.
- Complex bidding and settlement rules change over time as markets evolve. CES' team possesses the market knowledge and flexibility to adapt appropriately in response to market evolution.
- Optimizing across markets and products is key to maximizing the value of energy storage and paired resources. The same strategy in the same markets every day over time often limits the ability to achieve maximum value.
- Renewable resources paired with energy storage adds another layer of variability that needs to be considered, such as:
 - Resource Specific must-offer requirements associated with capacity
 - Grid charging limitations associated with Investment Tax Credit (ITC) benefits
 - Maximization of Renewable Energy Credits (REC)

Leveraging more than 20 years of value-added consulting and market operations services to the rapidly evolving electric industry, CES GridBOOST:

- Co-Optimizes across markets and products including Energy, Regulation (Up and Down as applicable) and Spinning Reserves, as well as region specific revenue streams such as the Massachusetts "Clean Peak Energy Standard"
- Accounts for technology and warranty constraints
- Integrates market specific rules for participation
- Incorporates energy storage degradation characteristics
- Provides for the opportunity to re-optimize between markets due to changing market conditions and updated forecasts
- Allows for integration with third-party pricing and renewable production forecasts

WHY CES?

- CES provides standard & customized reporting letting you cover all markets with one system
- Our team provides value-added consulting and market operations services to the rapidly evolving electric industry
- We operate over 40 energy storage projects representing approximately 500 MW of nameplate capacity of various duration, and approximately 14,000 MWs of resources of various type
- CES understands the business, providing market operations for the first two commercial utility scale advanced energy storage projects to operate in a U.S RTO/ISO market (and we continue to do so today)



**Customized
Energy Solutions**

ANALYZE. SIMPLIFY. IMPLEMENT.

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