Ascend Analytics on Combining AI Trading with Human Insight to Maximize US Energy Storage Values

Originally published in Energy Storage News, March 18, 2026 by April Bonner

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Energy-Storage.news speaks with Michael Huisenga, managing director, bid optimisation, at Ascend Analytics, about optimising energy storage revenues, ahead of the upcoming Energy Storage Summit USA 2026.

Ascend Analytics operates as a market intelligence consultancy, using AI forecasts of market conditions and bid optimisation agents to increase battery energy storage system (BESS) profitability in day-ahead and real-time markets.

Huisenga manages business development and commercial activities for the firm's SmartBidder product, including executing customer acquisition strategies, supporting product positioning with clients and partners, and overseeing customer requests for proposals.

He will be a moderator on the 'BESS Contracting Strategies: Merchant vs. Contracted Revenue Models' panel discussion at ESS USA 2026, with speakers Amit Barnir of Zenobē Energy, Jack Southard of Arevon Energy, and Tim Turner of Kona Energy.

Energy-Storage.news: Is there an example where human trader insight could catch something an algorithm might miss—or conversely, where human intervention could actually hurt performance?

Michael Huisenga: The trading algorithms are getting better all the time, but they are data-greedy and lack the human intuition that can be key to capturing additional revenue opportunities. They need to ingest a lot of information to accurately predict future market states. Algorithmic trading software platform vendors are constantly looking to add sources to the data library, but there are costs and other practical limitations vendors need to consider. Peak optimisation performance often involves a human trader's intuition to augment data limitations and the occasional model forecast miss.

Algorithmic trading platforms excel at dealing with the complexity of forecasting a multitude of product prices, modelling SoC evolution under different trading scenarios, and valuing the opportunity cost of competing bid/offer sets. Algorithms perfectly execute strategies based on market bidding rules, asset technical constraints, and probability-weighted outcomes without injecting their own biases. In a head-to-head competition, we would expect algorithmic trading solutions to win 95% of the days.

However, there is definitely a role for the human trader and the majority of Ascend SmartBidder customers have kept their trading teams intact, even after deploying advanced algorithmic solutions. The human trading teams add value by fine-tuning the algorithmic trading parameters as market dynamics shift and deliver to affect desired outcomes and constrain risks to within organisational tolerances. Human traders also monitor a variety of different forecasts and sources of information that may not be getting ingested by the bidding platforms, are more qualitative in nature, or are not easily transcribable into numerical inputs.

Human trading teams can be viewed as providing direction to the algorithms, adding a layer of protection against market risks from sub-optimal bidding that may occur without human oversight. A classic example of this is when the human trader catches an obvious price forecasting error, like when the machine learning (ML) models fail to predict early morning winter price spikes in the Electric Reliability Council of Texas (ERCOT) market. The human trader can directly intervene by setting state of charge (SoC) targets to ensure batteries have state of charge by 6am when these spikes occur, or simply overriding the model-generated bids directly. Conversely, relying too much on trader intuition can be problematic, too. During winter storm Fern in ERCOT, many traders passed up very good revenue opportunities in the day-ahead market, assuming real-time prices would come in higher. ML price forecasting models did accurately predict the DA price would be higher on some of these key days. Teams that trusted the algorithm and resisted the temptation to override ended up capturing value in the Day Ahead.

How does SmartBidder adapt when market rules change, and how quickly can a pivot happen when a market operator announces new rules?

In a not-too-distant future, we can probably have AI tools and models rewrite the base code and adjust to changing market rules, but that time has not come yet. The recent Real-Time Co-Optimization Plus Batteries (RTC+B) market rule changes that ERCOT implemented last December was a massive change and SmartBidder engineers worked on adapting bid models, modifying market rules, rolling out new prices forecasts, and testing 3rd party integrations with new bid submission file formats for about 9 months. AI tools and models were leveraged by the engineers at an individual task level, but there is still a lot of code review, manual integrations, and testing required by humans. Smaller market rule changes, such as the introduction of new imbalance and capacity reserve products by the California Independent System Operator (CAISO) this spring, will be far easier and quicker to implement. Finally, rigorous testing and validation of the code prior to release is required to ensure that SmartBidder adheres to the new rules, and our clients continue to maximise value as expected.

What's the performance delta between a purely automated system and one with skilled human calibration?

This hasn't been something we've been able to easily measure, and that's primarily because all of the assets under management by SmartBidder involve some level of human trader calibration, but the addition of human input probably provides a lift in the range of 5-10%.

This can be in the form of an internal trading team taking an active role in setting and refining strategies and overriding model-generated bids during select periods, or it can be the Ascend trading analysts providing this support when the client doesn't have staff bandwidth or expertise. A purely automated system with no routine bidding parameter refinement would deliver acceptable results in many cases, but the incentives are very much aligned for either the vendor or client (or both) to provide this additional layer of guidance, refinement, and active control over the bidding strategies to ensure maximum revenue capture.

From what you're seeing in the market, how are storage developers and operators thinking about the trade-off between balancing contracted revenue floors with merchant upside opportunities right now?

Developers are responding to changing signals from the financing community, and at the moment, lenders are being more conservative when it comes to merchant storage projects. Developers are telling us that banks aren't willing to lend to projects that don't have some form of contracted revenue in the plan.

For some markets like CAISO, this may not be much of a change, where contracts with the investor-owned utilities (IOUs) and community choice aggregators (CCAs) for both resource adequacy (RA) and energy have been commonplace and are sufficient to get projects financed. However, for markets like ERCOT, where 100% of the project revenues come from wholesale market power sales, this has been a more tectonic shift.

Developers are looking for tolling contracts with utilities and retail providers that are seen as the most bankable solution, depending on term length, but are also evaluating revenue floor contracts that leave more upside available to the equity sponsor. We see the development community starting to look past ERCOT and into opportunities in the Midcontinent Independent System Operator (MISO) and Northeast markets, where forward capacity market sales support the need to find contracted revenue streams for developers.

States like Michigan, New York, and Massachusetts have anticipated this need, introducing programmes that provide long-term financial support at the project level. For example, New York's Index Storage Credit (ISC) provides a 'make-whole' payment for developers if wholesale market prices are insufficient to meet return requirements and the MA Clean Peak Standard (CPS) provides a very lucrative price adder for energy dispatched during peak demand periods. Revenue streams from these programs plus the wholesale market revenue and the capacity credit sales have been very effective at attracting development capital as volatility in ERCOT has slumped more recently.

What are the most common mistakes you see developers make when positioning for lowest-cost awards, and how can better analytics prevent them?

Competitive request for proposals (RFPs) inherently introduce an element of risk for the developers who are responding to them, especially if an off-take agreement with a single utility is the only viable path for the project to secure funding.

These RFPs take place before equipment supply and engineering, procurement, and construction (EPC) contracts have been executed, so developers are forecasting capacity prices into the future in order to come up with an offer price. We've seen examples of high-stakes competitive RFPs generating offtake prices that simply don't pencil out a year later when the EPC costs start to firm up. This can mean having to renegotiate prices with the offtaker or losing the contract altogether.

Ascend's valuation tools provide a range of probabilistic or scenario-based outputs that can be used to structure more or less aggressive offer prices. Best practice would certainly be using more conservative valuation cases in an initial RFP offer, but this needs to be balanced against the risk of being over on price. Developers should carefully review the evaluation criteria because it's often the case that an offtaker will prefer a project that has secured permits and approvals and has a clean path to completion versus a low-quality project at a rock bottom price.

Leaving a margin for unanticipated cost increases down the line can help ensure the project is ultimately successful.