Co-Locating Battery Storage with Onshore Wind Projects lifts assets over investment hurdle

July 23, 2026

In a joint study, phelas and Fluence modelled a 25 MW wind project in Germany and showed that a right-sized battery energy storage system (BESS) lifts project returns above the cost of capital in every modelled price scenario. BESS can turn a marginal standalone wind case into a bankable asset.

MUNICH/ERLANGEN, Germany, July 23, 2026 — phelas, the developer of Catalyst, a techno-economic modelling platform for large-scale battery storage in Europe, and Fluence Energy GmbH, subsidiary of Fluence Energy, Inc. (Nasdaq: FLNC), a global market leader delivering intelligent energy storage systems, services, and asset optimization software, today published their joint case study that outlines the fundamental attractiveness of co-locating energy storage with wind in Germany.

The study quantifies, at the project level, how adding a battery energy storage system changes the investment case for a 25 MW wind park across five forward market price scenarios for the German power market.

The analysis combines Fluence's expertise in grid-scale battery energy storage systems (BESS) with phelas's techno-economic project modelling. Using phelas's Catalyst platform, the partners simulated 125 storage configurations with durations of 2 to 8 hours and power ratings of 5 to 30 MW across the five price environments spanning 30 years and measured the impact on net present value (NPV), internal rate of return (IRR), curtailment, and revenue composition.

Key findings

- On its own, the 25 MW onshore wind park is expected to deliver an IRR between 7.5% and 12.5%. In only 2 of the 5 market price scenarios, the returns are above 8% cost of capital. With a well-sized BESS, every modelled scenario exceeds the cost of capital, with the strongest cases approaching 14%.

- The battery energy storage system is expected to earn 26% to 51% of total project revenue from the additional markets through the BESS (Day-Ahead arbitrage, Intraday, and positive aFRR), while accounting for only 17% to 29% of anticipated total project CapEx.

- 2-hour systems at 15–25 MW are expected to be optimal in most scenarios, extending to durations of up to 6 hours only in the most volatile, heavily cannibalized scenario. Over-sized configurations are projected to under-earn their CapEx.

- Minimizing curtailment is expected to leave significant potential unlocked: Sizing storage to eliminate curtailment entirely decreases the expected NPV within the modelling by an estimated €18 million to €29 million. Accepting some economically rational curtailment maximizes expected value.

“Co-location is no longer an optional enhancement but the structural change that keeps the wind business case future proof. This study provides an example to developers and IPPs on how much value the storage could add to a project and portfolio,” said Leon Schwarzott, Director Business Unit Catalyst at phelas.

“With the accelerated build-out of the German wind fleet, storage becomes paramount to preserve wind assets’ economics and lowering energy costs through renewables. We believe that merchant price cannibalization and curtailment are hurting the investment case, but co-locating wind with BESS in Germany now makes more sense than ever before to secure strong returns for investors,” said Julian Jansen, Vice President and Managing Director, Germany at Fluence.

To date, Germany has one of the largest onshore wind fleets in the world. According to the German Federal Network Agency Bundesnetzagentur, installed onshore wind capacity reached 68.1 GW at the end of 2025 and is targeted to grow up to 115 GW by 2030. This made wind the country’s largest single source of electricity generation with 24% of the country’s gross electricity generation in 2025. To achieve this ambitious target by 2030, Germany will need to add on average over 9GW each year, opening up a large field of opportunity for colocation with BESS.

The full case study, including the underlying methodology, scenario definitions, and interactive results, is available at phelas.com.

About phelas

phelas is a Munich-based climate tech company and the team behind Catalyst, the leading SaaS platform for financial modeling and asset planning of battery energy storage and hybrid renewable energy projects. Catalyst enables asset managers, project developers, and investors to benchmark tens of thousands of revenue scenarios. From early feasibility through financial close, phelas equips the energy transition with the analytical infrastructure for faster, more precise investment decisions.

About Fluence

Fluence Energy, Inc. (Nasdaq: FLNC) is a global market leader delivering intelligent energy storage and optimization software for renewables and storage. The company's solutions and operational services are helping to create a more resilient grid, from powering the next generation of AI-driven data centers to unlocking the full potential of renewable portfolios. With gigawatts of projects successfully contracted, deployed, and under management across nearly 50 markets, the company is transforming the way we power our world for a more sustainable future.

Note Regarding Modelled Results

This press release and the accompanying case study present results from forward-looking techno-economic modelling. The five price scenarios are stress tests, not forecasts, and are based on synthetic price data anchored to the 2024 weather year. NPV and IRR figures are 30-year project values at an 8% real, post-tax discount rate (including 2% CPI). Results are illustrative, depend on project-specific assumptions, and do not constitute investment, financial, or legal advice. Actual project outcomes will vary with site parameters, market conditions, financing structures, and regulatory developments.

Cautionary Statement Regarding Forward-Looking Statements

The statements contained in this press release that are not historical facts are forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, Section 21E of the Securities Exchange Act of 1934, as amended, and the Private Securities Litigation Reform Act of 1995. These forward-looking statements include, without limitation, statements regarding the potential impact of co-locating battery energy storage with wind projects, anticipated project outcomes, economic modelling results and impact on actual scenarios, and impact on customers and general industry and statements regarding beliefs, assumptions, prospects, plans,

and objectives of management. Such statements can be identified by the fact that they do not relate strictly to historical or current facts. When used in this press release, words such as “may,” “possible,” “will,” “should,” “expects,” “plans,” “anticipates,” “could,” “intends,” “targets,” “projects,” “contemplates,” “commits”, “believes,” “estimates,” “predicts,” “potential,” or “continue,“ or the negative of these terms or other similar expressions and variations thereof and similar words and expressions are intended to identify such forward-looking statements, but the absence of these words does not mean that a statement is not forward-looking.

The forward-looking statements contained in this press release are based on our current expectations and beliefs concerning future developments, as well as a number of assumptions concerning future events, and their potential effects on our business. These forward-looking statements are not guarantees of performance, and there can be no assurance that future developments affecting our business will be those that we have anticipated. These forward-looking statements involve a number of risks, uncertainties (some of which are beyond our control) or other assumptions that may cause actual results or performance to be materially different from those expressed or implied by these forward-looking statements, which include, but are not limited to, factors set forth under Item 1A.“Risk Factors” in our Annual Report on Form 10-K for the fiscal year ended September 30, 2025, filed with the Securities and Exchange Commission (“SEC”) on November 25, 2025, and in other filings we make with the SEC from time to time. New risks and uncertainties emerge from time to time and it is not possible for us to predict all such risk factors, nor can we assess the effect of all such risk factors on our business or the extent to which any factor or combination of factors may cause actual results to differ materially from those contained in any forward-looking statements. Should one or more of these risks or uncertainties materialize, or should any of the assumptions prove incorrect, actual results may vary in material respects from those projected in these forward-looking statements. You are cautioned not to place undue reliance on any forward-looking statements made in this press release. Each forward-looking statement speaks only as of the date of the particular statement, and we undertake no obligation to publicly update or revise any forward-looking statements to reflect events or circumstances that occur, or which we become aware of, after the date hereof, except as otherwise may be required by law.

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