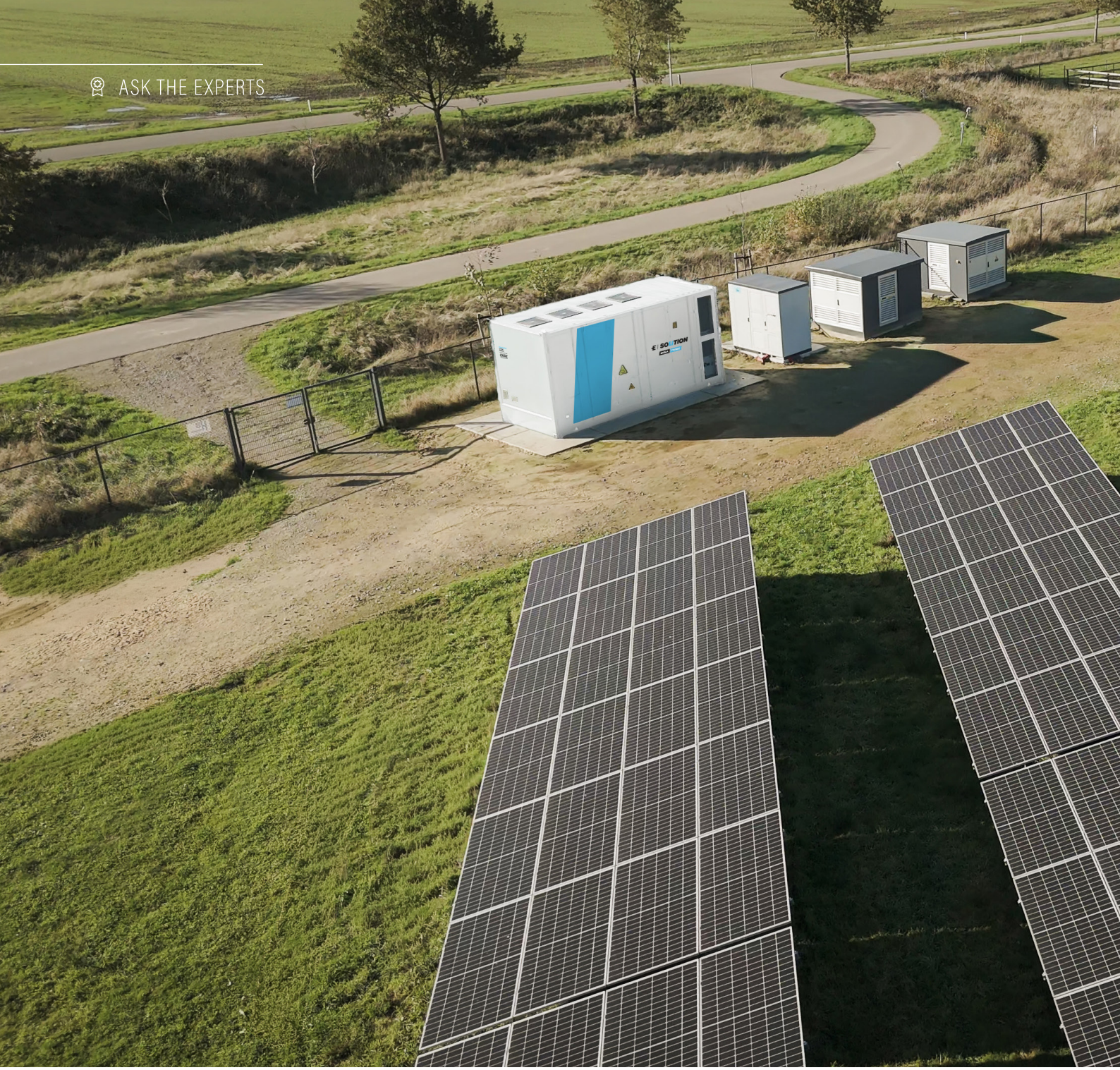
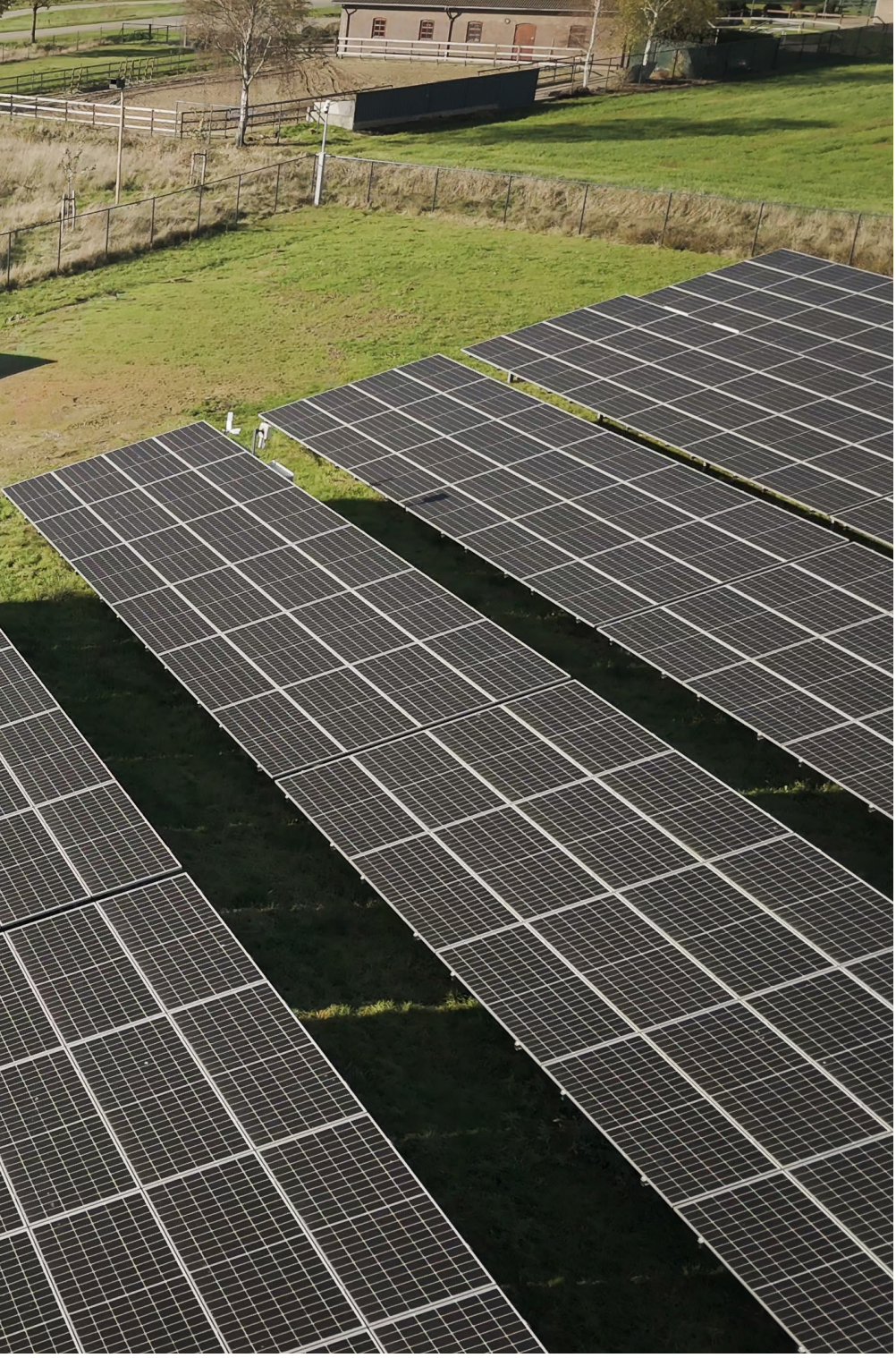


Industrial energy flexibility: why co-located battery storage is gaining momentum

As energy markets across Europe become more dynamic, industrial companies are looking for new ways to control energy costs and improve resilience. Battery storage integrated directly at industrial sites is emerging as a key solution.



In this interview, we speak with Tobias Badelt, Global Head of Sales BESS at Exide Technologies Energy Solutions, about the growing role of co-located battery storage in industrial energy strategies. He explains how storage solutions can support flexibility, cost control and reliable energy supply across different European markets.

PES: Welcome to PES Solar, Tobias. As Europe's energy landscape becomes increasingly complex, with rising electrification, more renewables and volatile electricity prices, how are industrial companies rethinking their energy strategies and what role can co-located battery storage play in this transition?

Tobias Badelt: As Europe's energy systems continue to evolve, industrial companies are facing a new level of complexity in managing their energy supply. Electricity prices are becoming more dynamic, renewable energy is expanding rapidly and many industries are electrifying their operations. In this changing environment, energy is no longer just a cost factor; it is becoming a strategic component of industrial competitiveness.

One approach that is gaining increasing attention is co-located battery storage. By integrating energy storage directly at industrial sites, companies can actively manage their energy consumption, respond to changing price signals and improve operational resilience by storing energy generated by their own PV system instead of feeding back into the grid at low feed-in compensation rates.

Storage systems must also be tailored to the specific needs of each site, from system design and engineering to long-term operation and service.

PES: Industrial energy systems across Europe are undergoing significant changes. What are the main drivers behind this transformation?

TB: Across Europe, industrial energy systems are being reshaped as companies adapt to new regulations, technological advances and sustainability pressures. Electricity prices have become more volatile, the share of renewable energy in the grid is increasing, and many industries are electrifying their processes. As a result, energy is no longer simply a cost factor; it is becoming a strategic element of industrial competitiveness.

Companies are therefore looking for ways to stabilize energy costs while maintaining operational reliability. This is where energy storage plays an increasingly important role.

PES: How does battery storage help industrial companies manage these challenges?

TB: Battery and energy storage enable industrial companies to actively manage their energy flows. By integrating storage systems directly at the industrial site, often referred to as co-located energy storage when installed behind the meter (BTM) and close to a PV system, using the same grid connection point, companies can reduce peak loads, optimize electricity consumption and gain greater control over their energy costs.

Storage systems also allow companies to make better use of renewable energy and improve resilience in increasingly dynamic energy markets.

PES: The concept of co-location is currently gaining significant attention in the storage market. Why is it becoming so important?

TB: Co-location reflects a broader shift in the way energy infrastructure is being designed. Business cases for PV have started to suffer due to the large number of PV installations, while at the same time the grid is often not prepared to transport the generated energy away. Therefore, PV operators have begun looking for new revenue sources, such as arbitrage.

PV sites are always connected to a grid connection point, typically via a transformer. This transformer can also be used for battery storage feed-in, meaning the battery system can discharge electricity at times when the sun is not shining and the PV plant is not producing power.

When the PV plant is active, the storage system can use the remaining transformer capacity for discharging. Charging is generally possible at all times and is often even grid-relieving.

By using this setup, PV operators are able to install battery systems and increase the operational income of their sites.

PES: Industrial sites are different. How do companies approach the implementation of such systems?

TB: This is exactly why consulting and engineering are so important at the beginning of every project. Industrial sites differ significantly in terms of load profiles, grid connections and operational priorities. Unlike PV plants, where generation follows the sun, industrial demand is shaped by production schedules, machinery start-ups, shift patterns and process constraints, all of which require a much more tailored storage design.

At Exide Technologies Energy Solutions, projects typically start with a detailed analysis of the site's energy demand and infrastructure. Based on this assessment, storage systems can be designed to deliver both strong technical performance and clear economic value.

It is essential to understand where storage systems can add value. Storage solutions only have a solid business case if the economic parameters, such as payback time, are reasonable compared to other investment options.

PES: Beyond system design, what other aspects are critical for successful storage projects?

TB: Industrial customers increasingly expect integrated project solutions and strong project management. This includes engineering, procurement and construction (EPC), as well as reliable operations and maintenance.

Battery and energy storage systems are long-term infrastructure investments. Companies, therefore, evaluate these projects from a strategic perspective, looking not only at the technical performance of the system but also at the long-term economic value it can deliver.

For many industrial users, this includes the ability to reduce peak demand charges, optimize energy consumption and ultimately lower overall energy costs over time.

Because of this long-term perspective, successful storage projects depend heavily on the right project structure and collaboration between experienced partners. Implementing an energy storage system typically involves multiple stakeholders, from technology providers and EPC partners to operators and service teams. Strong project management is therefore essential to coordinate these elements, ensure efficient implementation and deliver reliable performance throughout the system's lifecycle.

Ultimately, the success of a storage project depends on combining the right technology, a clear economic use case and experienced project partners who can deliver and operate the system over the long term.

PES: Germany is currently discussing different policy instruments to support industrial competitiveness, including flexible electricity pricing models and potential support mechanisms for energy infrastructure. How do these developments influence the role of energy storage?

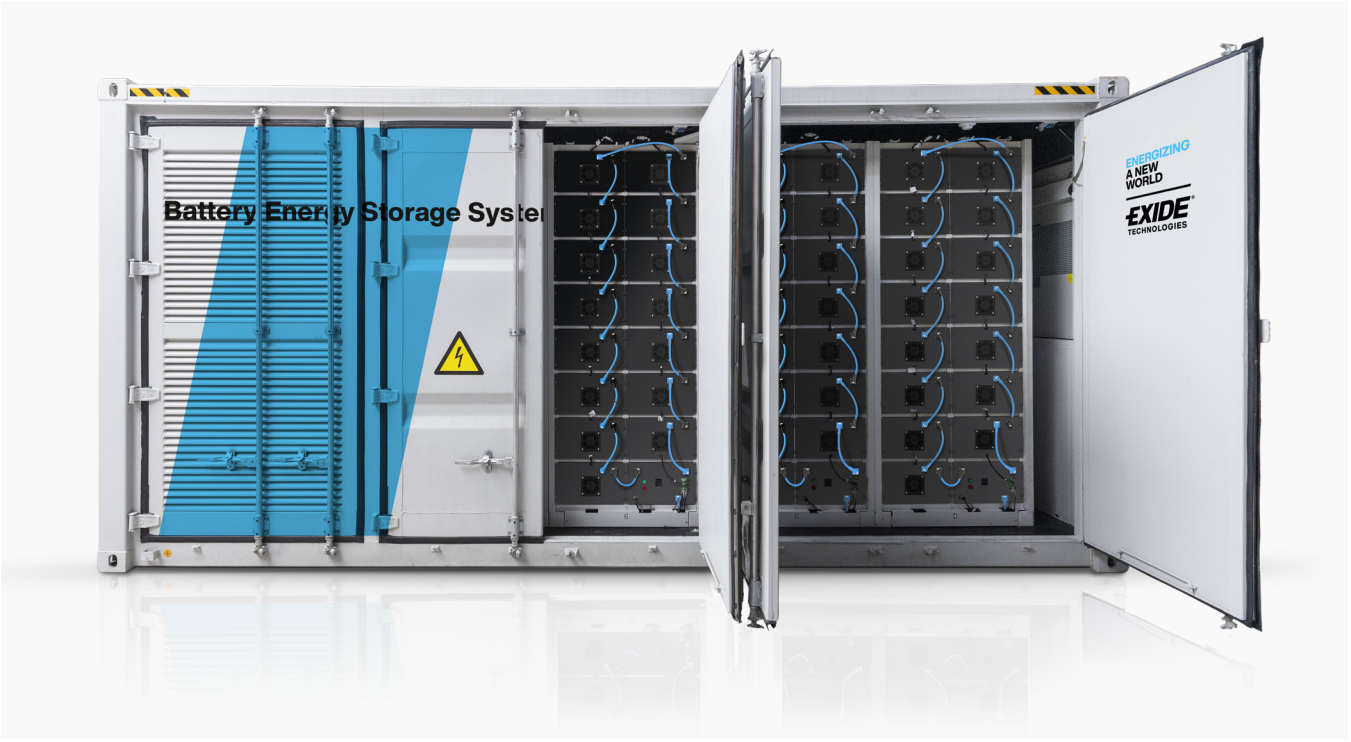
TB: Germany is currently at the center of an important discussion on industrial competitiveness and energy costs. Over recent years, high and volatile electricity prices have placed considerable pressure on many industrial sectors. As a result,

Tobias Badelt

policymakers and industry associations are actively debating measures to help stabilize energy costs and maintain Germany's position as an attractive manufacturing location.

One element of this discussion is the concept of a more flexible industrial electricity pricing model, which has been highlighted by industry organizations such as the ZVEI. In parallel, the German government is also considering and introducing support mechanisms that enable companies to invest in technologies that improve flexibility and efficiency in industrial energy consumption.

In this context, battery storage can play a particularly important role. By integrating storage systems directly at industrial sites, companies gain the ability to actively manage their electricity consumption behind the meter. Storage enables them to respond to dynamic



price signals by using intelligent energy management systems (EMS) to monitor short-term price developments on the stock market, reduce peak demand charges and optimize the timing of their energy use.

For many companies, this can translate into tangible cost savings. In addition, storage can also help reduce costs significantly by optimizing the air pressure systems in factories, where applicable, by shifting the energy intensive air compression process to periods of lower electricity prices.

Such technologies contribute to the broader transformation of the energy system. As the share of renewable energy continues to grow, the need for flexibility increases. Industrial storage solutions, therefore, create value on two levels: they help companies manage energy costs more effectively, while also supporting a more flexible and resilient energy system.

Developments in Germany illustrate a broader European trend: as energy markets become more dynamic and policy frameworks evolve, technologies that enable flexibility, such as battery storage, are becoming an increasingly important part of industrial energy strategies.

PES: Are there differences in how energy storage is used across European markets?

TB: Yes, the applications vary considerably by region, as energy systems, regulatory frameworks and industrial structures differ across Europe.

In Southern European markets such as Spain or Italy, energy storage is often closely linked to renewable energy integration and grid services. With high levels of solar generation, storage systems are increasingly used to balance fluctuations in renewable power and support grid stability.

In Germany, the focus is often more strongly on industrial energy management. Companies increasingly view storage as a way to manage peak loads, respond to dynamic electricity pricing and optimize overall energy consumption at the site level.

In Northern European countries, the situation can be quite different. In markets such as the Nordics, storage systems often need to operate reliably in very low temperatures and in more remote locations where grid infrastructure can be less dense. In these environments, resilience and robust system design are particularly important to ensure stable operation under challenging conditions.

These regional differences illustrate that energy storage is far from a one-size-fits-all solution. Instead, systems must be tailored to the specific regulatory, climatic and operational requirements of each market. Flexibility in system design and application is therefore becoming increasingly important for successful storage projects across Europe.

PES: Looking ahead, what role will battery storage play in the future industrial energy landscape?

TB: As the energy transition progresses, flexibility will become an increasingly critical factor for industrial companies. Energy systems are becoming more dynamic, renewable generation continues to expand and electricity prices are likely to remain volatile.

In this environment, companies will need technologies that allow them to actively manage their energy consumption rather than simply react to market developments.

Battery storage will play a central role in enabling this flexibility. By integrating storage systems directly at industrial sites, companies can respond to price signals, optimize load profiles and make better use of renewable energy. At the same time, storage improves resilience by helping stabilize energy supply in increasingly complex energy systems.

Looking ahead, we expect battery storage to become an integral part of industrial energy infrastructure. Much like energy management systems today, storage will increasingly be viewed as a strategic asset that supports cost control, operational reliability, and the broader transition toward a more flexible and sustainable energy system.

Meet Exide Technologies at ees Europe 2026

Exide Technologies Energy Solutions will be exhibiting at ees Europe 2026 in Munich. Hall B2 | Stand B2.320

Discover how co-located battery storage solutions support industrial energy flexibility, cost control and resilience.

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