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The battery storage market in the DACH region: new-build capacity, drivers and bottlenecks

New-build capacity in stationary battery storage is shifting from home storage to utility-scale storage. This analysis places installation figures, the grid connection pipeline and permitting practice in the DACH region in context, and sets out what follows from this for thermal barriers.

New-build capacity in 2025 in figures

The German storage market continued to grow in 2025, but its character has changed. According to the analysis by pv magazine based on the Marktstammdatenregister (Germany's core energy market data register), around 6.57 gigawatt-hours of new storage capacity were commissioned in 2025, an increase of eight percent on 2024. Just under 600,000 new systems were registered, below the figure for the previous year. More capacity from fewer installations means the average installation is getting larger. At the beginning of 2026 the installed base totalled more than 2.4 million battery storage systems with over 25 gigawatt-hours of capacity.

The shift between the segments is the real finding. The home storage market contracted by around eight percent in 2025 compared with 2024, while the commercial storage market grew steadily and the utility-scale storage market developed dynamically. Total capacity in utility-scale battery storage reached around 4 gigawatt-hours in 2025 at roughly 2.5 gigawatts of power. The segment is therefore still small, but it is growing considerably faster and is bringing a different risk class into the field.

- New-build capacity in Germany in 2025: around 6.57 GWh, up 8 percent on 2024 (pv magazine, January 2026)
- Newly registered systems in 2025: just under 600,000, fewer installations with more capacity
- Installed base at the beginning of 2026: more than 2.4 million storage systems, more than 25 GWh
- Utility-scale storage in 2025: around 4 GWh at roughly 2.5 GW of power

The European framework and the neighbouring markets

Germany is part of a European movement. According to industry figures published in 2026, around 27.1 gigawatt-hours of new battery capacity were installed in Europe in 2025, market growth of 45 percent year on year. That brings the installed base to 77.3 gigawatt-hours. The structure of this new-build capacity is decisive: at around 15 gigawatt-hours, the utility-scale storage segment accounted for 55 percent of total European additions and was thus ahead of the small-scale segments for the first time.

In Austria the development is slower, but it runs in the same direction. Forecasts of future storage demand

assume 5.1 gigawatts in 2030, of which 1.4 gigawatts is utility-scale storage, and 8.7 gigawatts in 2040, with 2.7 gigawatts of utility-scale storage at that point. In Switzerland, around 1,500 megawatt-hours were installed behind the distribution grid in 2025, plus at least 135 megawatt-hours of front-of-the-meter storage; according to the battery monitor published by Swissolar (the Swiss solar industry association), around 4,200 megawatt-hours of grid storage capacity are planned by 2030. For you this means that the project sizes now becoming standard in Germany will reach Austria and Switzerland with a delay.

Note: Why the shift between segments matters for safety — A home storage system of 10 kilowatt-hours and a container system of several megawatt-hours use the same cell chemistry, but they do not produce the same incident progression. As the energy content per installation site grows, so do the heat released, the gas volume in the event of a deflagration and the duration of a thermal runaway. The market shift towards utility-scale storage is therefore not merely a question of volume, but a shift in expected loss.

What is driving new-build capacity

Four mutually reinforcing drivers sit behind the growth. First, the increasing volatility of electricity prices, which is what makes revenues from arbitrage and balancing services attractive in the first place. Second, the fall in system costs, which makes projects viable even without subsidies. Third, the grid situation: storage relieves grid nodes at which generation capacity is growing faster than transmission capacity. Fourth, the regulatory easements that took effect in 2026.

These easements include amendments to building law and to electricity tax law, among them the removal of the permit previously required from the Hauptzollamt (the German main customs office). This shortens lead times. The building permit, however, remains the point at which fire protection requirements become concrete, and practice across the DACH region has so far been inconsistent.

- Price volatility on the spot market as a revenue source for arbitrage and system services
- Lower system costs per kilowatt-hour of usable capacity
- Grid relief at nodes with high feed-in capacity
- Regulatory easements in building law and electricity tax law from 2026

The bottlenecks: grid connection and permitting practice

The biggest bottleneck is not the battery, but the grid connection. By the end of the third quarter of 2025, the four transmission system operators had received a total of 717 grid connection requests amounting to around 270 gigawatts, of which 545 requests with 211 gigawatts were for utility-scale battery storage. At distribution grid level, the BDEW (the German association of energy and water industries) estimates a further 600 gigawatts, bringing the total requested connection capacity to some 720 gigawatts. For comparison: peak load in the German electricity grid is around 80 gigawatts. A considerable share of these requests is speculative or has been submitted more than once and will never be realised.

The Bundesnetzagentur (Germany's Federal Network Agency) has responded. Its decision of 30 March 2026 reorganised the allocation of grid connection capacity for utility-scale storage, data centres, electrolyzers and other large consumers; grid operators are given more scope to set priorities. For developers this means that it is no longer the request that decides, but project maturity. A robust fire protection and safety concept therefore moves from being a document produced at the end of the planning phase to a maturity criterion at the outset.

The second bottleneck is permitting. Germany has no fire protection rules that explicitly address utility-scale battery storage; the requirements follow from the building regulations of the individual federal states and from conditions imposed case by case. In practice, large lithium-ion storage systems require a fire protection assessment that sets out separation distances and firefighting concepts, together with consultation with the local fire service. On current understanding, the AGBF recommendations (issued by the German working group of senior professional fire service officers) cite distances of 5 to 10 metres from other objects as sufficient in many cases, but emphasise that this must be determined case by case.

What follows from this for thermal barriers

Three robust consequences for thermal barriers can be derived from the market figures. First: if new-build capacity in Germany and Europe is predominantly in the utility-scale storage segment, the protection task moves from equipment level to building and container level. The object of consideration is no longer the individual module, but the question of how long a barrier between cell blocks, rooms or installation areas withstands a thermal load that does not follow the standard temperature-time curve.

Second: where separation distances of 5 to 10 metres cannot be provided because the storage facility sits on a constrained industrial site with an existing grid connection, the function of that distance has to be replaced by construction. A tested thermal barrier is then the precondition for the project being permissible at the desired location at all. That is not a question of detail, but a question of site.

Third: because grid connection capacity is increasingly awarded on the basis of project maturity, the point at which the protection concept has to be available moves forward. Plan the thermal barrier in parallel with the connection request, therefore, and not after approval has been granted. Its structural implementation depends on decisions about cell chemistry, installation geometry and gas venting that are taken early.

Note: Three questions you should answer early — What temperature and what duration of exposure must the barrier withstand, and from which test evidence do you derive that figure? Does the barrier replace a separation distance you cannot provide on site, and has this been agreed with the permitting authority? Will the barrier remain inspectable throughout the operating life, or will it be permanently concealed by installed equipment?

Frequently asked questions

How strongly did the battery storage market in Germany grow in 2025?

According to an analysis of the Marktstammdatenregister (Germany's core energy market data register), around 6.57 gigawatt-hours of new storage capacity were commissioned in 2025, eight percent more than in 2024. At just under 600,000, the number of newly registered systems was below the previous year. At the beginning of 2026 the installed base reached more than 2.4 million storage systems with more than 25 gigawatt-hours.

Why is the grid connection the central bottleneck?

By the end of the third quarter of 2025, the four transmission system operators had received 717 connection requests amounting to around 270 gigawatts, of which 545 requests with 211 gigawatts were for utility-scale storage. Including the distribution grid requests, the BDEW puts the total at around 720 gigawatts, against a peak load of roughly 80 gigawatts. The Bundesnetzagentur reorganised the allocation process by decision of 30 March 2026.

Which fire protection requirements apply to utility-scale storage in Germany?

There is no nationwide regulation that explicitly addresses the fire protection of utility-scale battery storage. The requirements follow from the building regulations of the federal states, from a case-specific fire protection assessment and from consultation with the local fire service. The AGBF recommendations cite distances of 5 to 10 metres as frequently sufficient, but require a determination case by case.

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