Glint Solar

Germany’s Battery Storage Tsunami – Why the Maturity Procedure Is Now Being Introduced

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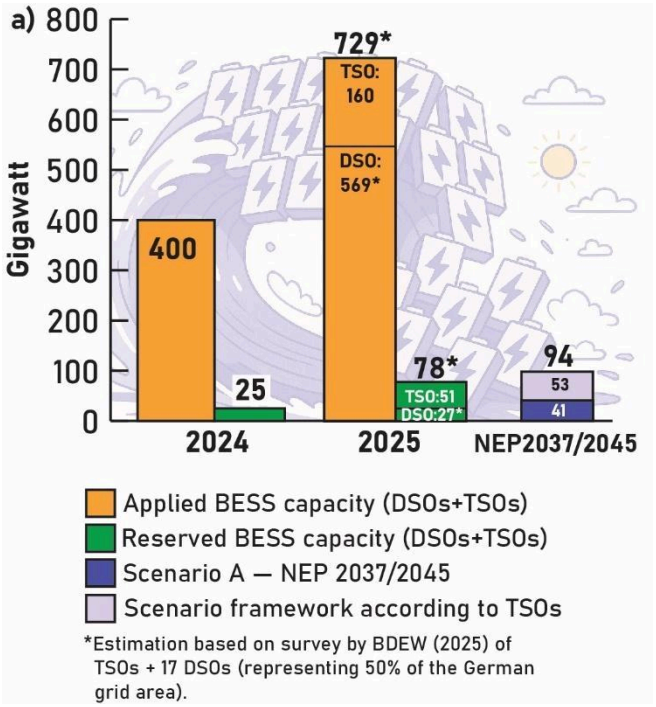
1. Introduction

Abstract: The massive surge in grid connection requests for large-scale battery storage systems since 2025—amounting to over 720 gigawatts (GW) of total planned capacity—has prompted German lawmakers to introduce extensive regulatory reforms. To channel the “battery storage boom” in an orderly way and prevent negative system effects, several changes were adopted beginning in late autumn 2025:

- **Planning law:** For the first time, battery storage systems are considered privileged projects in non-urbanized areas (§ 35 Federal Building Code). This privileged status was introduced in November 2025 but partly rolled back in December 2025. Since then, standalone (non-renewables-coupled) large battery storage systems may only be built in non-urbanized areas without a planning procedure under strict conditions (Siekmann, 2025; Maslaton, 2025).
- **Grid connection application:** The former “first come, first served” principle was abolished for battery storage systems above 100 MW. Large-scale storage projects were removed from the Power Plant Grid Connection Ordinance (KraftNAV) through a decision in December 2025. This gives transmission system operators (TSOs) more flexibility to dissolve overloaded queues and distribute available capacity to more mature projects within their new project maturity assessment procedure (BDEW, 2025; IWR, 2025,50Hertz et al., 2026).



- **Grid fees (AgNes process):** The 20-year exemption from grid fees for newly built electricity storage (through 2029) is being fundamentally reconsidered by the Federal Network Agency (BNetzA). As part of the AgNes process (General Electricity Grid Tariff System), BNetzA is developing a new grid fee system from 2029 onward that would include battery storage in the allocation of grid costs (Weinhold, 2026; Uibeleisen & Groneberg, 2026). Dynamic grid tariffs that incentivize system-friendly charging and discharging are being discussed. Meanwhile, the storage industry association (BVES) warns

of reduced investment certainty and calls for renewed exemptions at least until 2029, in some proposals even until 2034 (Enkhardt, 2026; Battery Storage Alliance, 2025).

The following sections analyze the background of these regulatory changes, the current market situation, recent legal reforms, and the ongoing debate surrounding grid fees (AgNes).

How the Battery Storage Hype Became a Regulatory Turning Point

Since early 2025, German grid operators have experienced an unprecedented boom in large-scale battery storage projects. With rapidly falling battery costs, high price volatility in electricity markets (partly due to solar expansion), and time-limited grid fee exemptions, the business case for large-scale storage improved significantly (50Hertz, 2023; Weinhold, 2026). As a result, grid connection requests sharply increased.

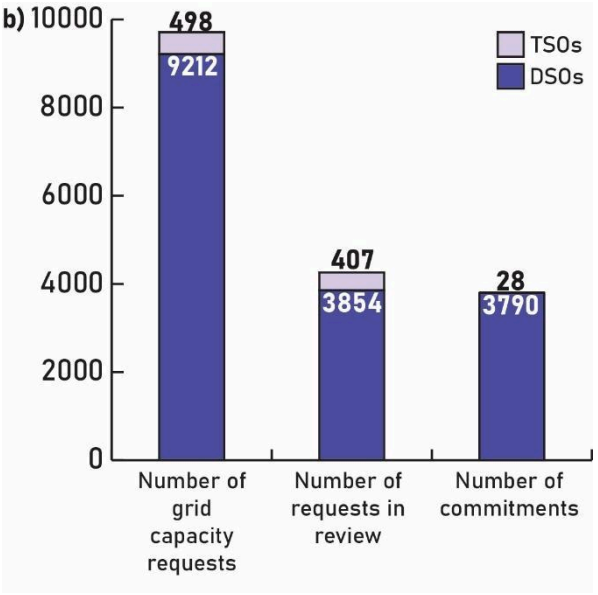


Figure 1: *Capacity (a) and number (b: for the year 2024) of battery storage inquiries and reservations by TSOs and DSOs. (BNetzA, 2025; BDEW, 2025; 50Hertz et al., 2026)*

By the end of 2024, there were already 9,710 battery storage connection applications (≥1 MW) totalling around 400 GW of planned capacity (BNetzA, 2025). In 2024 alone, approximately 25 GW of new storage capacity received a grid connection commitment (BNetzA, 2025).

The trend accelerated in 2025. According to a BDEW survey (autumn 2025), Germany's four TSOs and 17 major distribution system operators (DSOs)—together responsible for roughly half of the grid—had received connection requests for more than 720 GW of planned battery storage capacity (BDEW, 2025). At least 78 GW had been contractually confirmed by the end of 2025 (BDEW, 2025). Extrapolated nationwide, total requested capacity is likely even higher.

The TSOs alone had registered around 545 large battery projects with approximately 211 GW of capacity by the third quarter of 2025. In addition, BDEW estimates that DSOs received nearly 600 GW in further inquiries (50Hertz et al., 2026).

For comparison:

- Germany's total installed generation capacity across all technologies was only around 263 GW in 2025 (BDEW, 2025).
- Maximum annual peak load in the transmission grid was roughly 80 GW (BDEW, 2025; 50Hertz et al., 2026).

The volume of storage applications therefore exceeds today's system capacities many times over and even goes beyond long-term planning assumptions: the Grid Development Plan 2037/2045 projected only 41–94 GW of large battery storage by 2037 (BDEW, 2025).

Problems with the "first come, first served" principle

Until late 2025, grid connections for large generation plants followed the KraftNAV procedure, strictly processing applications in the order received. Every request above 100 MW had to be assessed quickly and sequentially (50Hertz, 2023; IWR, 2025). This rigid system, designed in 2007 for a small number of large power plants, was not equipped for hundreds of simultaneous storage projects (BDEW, 2025).

The result: numerous immature or speculative projects were able to block scarce grid capacity (IWR, 2025). No proof of land, permits, or financial security was needed to file a connection application. Some developers even registered the same project at multiple grid nodes to maximize chances of a quick connection (50Hertz, 2023).

This unstructured situation risked displacing other essential projects—new industrial facilities, electrolysers, data centers, or renewable energy plants (BDEW, 2025; IWR, 2025). In short: the KraftNAV first-come-first-served mechanism had become unfit for the scarcity environment of 2025.

TSOs and industry groups repeatedly warned about the issue. 50Hertz described the situation as a "tsunami of storage connection requests," noting that the existing process had reached its limits (50Hertz, 2023). BDEW CEO Kerstin Andreae called for urgent reform to ensure "other grid users also get their fair share" and to prevent inefficient "phantom projects" from blocking limited grid resources (BDEW, 2025).

In response, the German government began working swiftly on regulatory adjustments in summer 2025 (IWR, 2025). The reforms adopted in December 2025 aim to relieve grid connection bottlenecks, guide storage deployment spatially, and integrate future storage plants into the grid fee system.

2. Current Situation (2025–February 2026): Grid Connection Requests and Key Challenges

Figure 1 illustrates the enormous gap between market interest and available grid capacity in Germany. The “run” on battery storage poses several challenges for grid operators:

- **Overloaded grid connection processes:** TSOs and major DSOs must process a large number of applications in parallel, causing staffing and procedural bottlenecks (50Hertz et al., 2026). Delays and legal disputes may arise if applicants face rejections or long wait times (BBH, 2026). To reduce legal uncertainty, BNetzA published FAQ guidance in autumn 2025 addressing communication rules, realization obligations, and cost-sharing arrangements (BBH, 2026).
- **Grid bottlenecks and limited capacity:** In many regions—especially at high-voltage nodes—available connection capacity is constrained (BDEW, 2025; IWR, 2025). There is a risk of approving more storage than can actually be integrated before costly grid expansion takes place (BDEW, 2025). This also affects other future-oriented projects that require robust grid access (e.g., electrolysers, e-mobility hubs, or data centers). Policymakers recognized that the existing first-come-first-served system was ill-suited for such distribution conflicts.
- **Storage without system benefits:** Technically, battery storage can ease grid stress by absorbing excess electricity or providing power during bottlenecks. In practice, however, operators respond solely to market signals, without guaranteed system-beneficial behavior (50Hertz, 2023; Weinhold, 2026). In the worst case, simultaneous charging and discharging cycles may even worsen local congestion (50Hertz, 2023). Policymakers therefore saw a need to incentivize grid-friendly behavior—e.g., via dynamic grid fees or flexible connection agreements (Weinhold, 2026; Enkhardt, 2026).
- **Planning and investment certainty:** Many storage projects were planned based on assumptions that are now changing—such as 20-year fee exemptions or the ability to build in non-urbanized areas without extensive land-use planning (Uibeleisen & Groneberg, 2026; Siekmann, 2025). While reforms aim to bring order to the boom, they must not stall the rapid expansion of storage. The challenge is to strike a balance: ensuring legal clarity for serious projects while avoiding abrupt changes that could deter investors (Enkhardt, 2026; Batteriespeicher Allianz, 2025).

2.1. Regulatory Changes in Detail

Figure 2: *Timeline of new legal regulations for large-scale battery storage and a selection of expected developments for the year 2026 (BMWK, 2025; Dombert Rechtsanwälte, 2025; Maslaton, 2025; BNetzA, 2026; Enkhardt, 2026, Kunz Rechtsanwälte, 2026, 50Hertz et al., 2026)*

2.1.1. Privileged Status for Battery Storage in Non-Urbanized Areas (§ 35 BauGB)

Earlier legal situation ("initially non-privileged"):

Prior to 2025, battery storage systems did not fall under the privileged categories of § 35 of the Federal Building Code (BauGB). This meant that large-scale storage projects located outside settlements often needed time-consuming and costly local development plans (Zimmermann, 2025). Although some federal states tried to classify battery storage as "energy-related infrastructure," a uniform federal definition was lacking. This legal uncertainty led to delays and increased project costs in practice (Zimmermann, 2025).

13.11.2025
BESS privileging §35 of the German Building Code (BauGB)

04.12.2025
Restriction of BESS privileging §35 BauGB

24.12.2025
Removal of >100 MW BESS from the KraftNAV provisions

30.01.2026
AgNes orientation paper (proposed abolition of the network fee exemption for BESS)

05.02.2026
Presentation of the maturity assessment procedure for BESS by the TSOs

01.04.2026
TSOs initiate the maturity assessment procedure

Q2-Q4 2026
BNetzA: Confirmation of the maturity asessment procedure
BNetzA: AgNes draft determination
Federal Council /States: clarification of interpretive questions on BESS privileging under Section 35 BauGB
BNetzA: AgNes final decision
BNetzA: Clarifications on construction cost contributions (BKZ) & flexible grid connections
...

Introduction of privileged status (§ 35 BauGB):

On 13 November 2025, as part of an amendment to energy sector legislation, the German Bundestag (German parliament) adopted a reform granting battery storage systems explicit privileged status under § 35 BauGB (German Bundestag, 2025). Under the new § 35(1) No. 11, electrical storage systems with at least 1 MWh capacity are considered permissible in non-urbanized areas without the need for a development plan (Zimmermann, 2025).

This initially extremely broad privilege—without location restrictions or capacity caps—was welcomed by the industry for establishing legal certainty nationwide and accelerating numerous projects (Zimmermann, 2025).

Restriction of the Privilege: 200-Meter Radius and Open Interpretation Questions

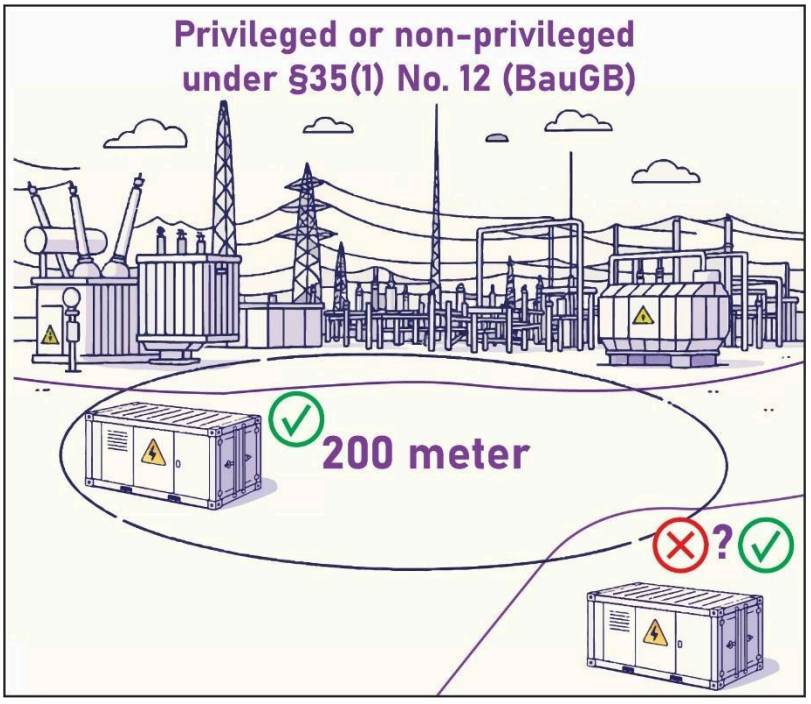


Figure 3: *Discussion on the interpretation of the 200 m privileged area around substations for battery storage facilities referred to in Section 35(1)(12) of the German Building Code (BauGB).*

Just three weeks later, lawmakers revised this broad privilege. On 4 December 2025—before the first rule even came into force—the Bundestag (German parliament) adopted restrictions through the Geothermal Acceleration Act (Siekmann, 2025). Since 23 December 2025, the following applies:

- **Storage linked to renewable energy:**

  Under § 35(1) No. 11 BauGB, battery storage stays privileged only if it is located "in a spatial-functional relationship with an existing renewable energy installation," i.e., typically co-located with solar or wind farms (Siekmann, 2025).

- **Standalone storage ("non-renewables-linked"):**
  § 35(1) No. 12 BauGB grants privileged status to standalone storage only if all of the following criteria are met:
  (i) minimum capacity of 4 MW,
  (ii) site located no more than 200 m from a 110/380-kV substation or a power plant ≥50 MW, and
  (iii) the total area used for such storage within any municipality does not exceed 0.5% of municipal area or 5 hectares (Maslaton, 2025; Siekmann, 2025).

These restrictions were requested by the Bundesrat and federal states to prevent uncontrolled proliferation of large storage facilities and to concentrate them spatially (Siekmann, 2025). Bavaria criticized the U-turn, fearing competition for land near substations and noting a lack of planning certainty due to the rapid legal changes (Siekmann, 2025). Nonetheless, the amendment is now in force.

Open interpretation and application issues:

- **Ambiguous definition of "spatial-functional relationship":**

  It remains unclear what constitutes sufficient spatial-functional linkage. For example, it is uncertain whether a storage system planned concurrently with a new solar farm is privileged even if the PV plant is not yet operational. The interpretation of "existing" may be decisive (Maslaton, 2025).

- **Determination of the 200-m distance:**

  The law does not specify whether the distance should be measured from the substation perimeter fence, the switchgear, or another reference point. The legislative rationale is incomplete, causing legal uncertainty (Maslaton, 2025).

- **Municipal area cap:**

  The limit of 0.5% of municipal land (max. 5 ha) means that small municipalities may allow very few facilities. Larger municipalities may allow several, if the

total remains under 5 ha. Critics argue that a rigid cap disregards local conditions (Maslaton, 2025).

Practical effects:

The new rules have already had impact: Many standalone projects in non-urbanized areas must now move closer to substations or work with municipalities on local planning procedures. Co-location concepts (storage + renewables) have become increasingly attractive, as they are easier to realize under planning law (Siekmann, 2025).

2.1.2. Removal of Battery Storage >100 MW from the KraftNAV (December 2025)

To relieve immediate pressure on grid connection processes, the German government also amended energy law at the end of 2025. On 19 December 2025, the Bundesrat approved a regulation exempting large-scale storage (>100 MW) from the Power Plant Grid Connection Ordinance (KraftNAV) (IWR, 2025; BDEW, 2025).
Since 24 December 2025, battery storage is no longer subject to KraftNAV (BBH, 2026). As a result, the former first-come-first-served principle no longer applies. New applications ≥100 MW now fall under § 17 of the Energy Industry Act (EnWG), which grants grid operators significantly more discretion to prioritize applications (50Hertz et al., 2026).

Impact on projects:

Without rigid KraftNAV deadlines and sequencing, TSOs can introduce alternative allocation approaches to manage the surge in requests (BDEW, 2025). As noted earlier, the four TSOs have jointly developed a maturity-based allocation model that evaluates implementation readiness and system benefit (50Hertz et al., 2026). Beginning April 2026, new connection rounds will follow this model. Projects with strong permitting status, financing, and feasible grid concepts will receive priority, while less advanced projects may be deferred (50Hertz et al., 2026). The introduction of application fees and security deposits is also under consideration to deter speculative filings (Taylor Wessing, 2026). Overall, policymakers expect a more efficient and transparent allocation process.

Transitional and competition concerns:

The removal from KraftNAV creates a temporary regulatory gap. Industry associations warn that projects already far advanced could face uncertainty without a clearly defined replacement procedure (IWR, 2025). They call for non-discriminatory, standardized successor rules and sufficient grandfathering. BNetzA has indicated it

will review the maturity model legally and initiate consultations (50Hertz et al., 2026). Transitional arrangements may be developed to ensure fair treatment of standing applications (Taylor Wessing, 2026). Nevertheless, policymakers have clearly signaled that grid access for large-scale storage will no longer be distributed solely by application timestamp but by objective criteria of urgency and suitability (BDEW, 2025; IWR, 2025). This marks a fundamental shift in market rules.

2.1.3. AgNes Process and Grid Fees for Battery Storage

Background – previous regulation:

Under § 118(6) EnWG, newly built storage systems commissioned by 31 December 2028 are exempt from grid fees for 20 years. This aimed to avoid double charging during charging and discharging and to stimulate investment (Uibeleisen & Groneberg, 2026).
However, a 2023 amendment allows BNetzA to deviate from this rule, and a 2021 ECJ ruling stated that long-term blanket exemptions may violate EU law (Uibeleisen & Groneberg, 2026).

Launch of the AgNes process:

Against this backdrop, BNetzA launched the AgNes process (General Electricity Grid Tariff System) in April/May 2025 to fundamentally reform grid fee policy (BDEW, 2025). The goal is a new tariff system beginning 2029, when the current StromNEV expires (BDEW, 2025).
In January 2026, BNetzA presented “orientation points” for storage tariffs, followed by an expert workshop on 30 January 2026 (Enkhardt, 2026). BNetzA sees the existing full exemption as outdated—neither economically efficient nor aligned with EU rules (Weinhold, 2026).

Planned new tariff regime:

According to BNetzA (Uibeleisen & Groneberg, 2026), future tariffs for storage—potentially including currently exempt systems—would consist of two components:

- **A capacity-based fee** contributing to fixed grid costs, analogous to today’s basic charges.
- **A dynamic, grid-condition-dependent energy fee**, charged only on net electricity withdrawal (i.e., withdrawals minus any feed-in), varying by grid congestion (Weinhold, 2026).

The dynamic part aims to incentivize grid-friendly behavior: charging more during uncongested periods and less during constrained periods (Weinhold, 2026).

BNetzA emphasizes that storage should not face double charging; if future feed-in fees are introduced, storage would be exempt (Uibeleisen & Groneberg, 2026). Also under consideration is the limitation of “excess profits” from purely system-beneficial behavior to avoid windfall gains (Enkhardt, 2026). Overall, AgNes marks a paradigm shift: away from blanket exemptions toward a steering, incentive-based system that assigns grid-cost responsibility while rewarding system stability (Weinhold, 2026).

Debate and stakeholder positions:

- **Storage industry (BVES & alliances):**

  Extremely concerned, particularly about retroactive removal of exemptions for projects already planned or under construction. They argue this would undermine investment trust and jeopardize financing (Enkhardt, 2026). Industry representatives at the January 2026 workshop argued that reliable grandfathering must apply until concrete new rules were published—earliest in mid-2025 (Enkhardt, 2026). They demand protection until 2029 and call for incentives rather than financial burdens (Batteriespeicher-Allianz, 2025; Weinhold, 2026).

- **Federal Network Agency:**

  BNetzA counters that long-term full exemptions—extending to 2045 for systems commissioned in 2025—are neither fair nor efficient (Enkhardt, 2026). The agency argues that since the 2023 EnWG amendment, investors should have anticipated possible changes (Uibeleisen & Groneberg, 2026). Still, BNetzA wants to avoid abrupt investment disruption and may offer transitional arrangements or options for existing projects (Enkhardt, 2026).

- **Political actors and other stakeholders:**

  The issue is politically sensitive: large-scale storage is crucial for the energy transition, but current exemptions are unsustainable. Some states support longer transitions; others—often aligned with grid operators—push for swift implementation of system-oriented tariffs. Consumer groups stress that grid costs must be distributed fairly, and rapid storage growth provides an additional financing base.

Outlook:

Key AgNes milestones are expected in mid-2026 (first draft decision) and late 2026 (final decision after consultation) (Enkhardt, 2026). Rules should take effect from 1 January 2029, with testing phases beginning around 2028 (Enkhardt, 2026). In parallel, flexible grid connection agreements (FNA) are under discussion, allowing storage operators to accept temporary power withdrawal limits during congestion in exchange for reduced fees (Enkhardt, 2026). Overall, the rigid tariff system of the past is likely to be replaced by a variable, steering system that both helps finance

grid expansion and mitigates congestion. For storage investors, this introduces a new planning variable: grid fee risks must be integrated into business models. The earlier and clearer the regulatory signals, the better such risks can be priced in (BVES, 2025).

2.2. Conclusion: Impacts on Projects and Outlook

The new framework conditions affect project developers and investors in several respects:

- **Grid connection and project realization:**

  Due to the abrupt end of the first-come-first-served principle and the introduction of the maturity-based allocation procedure, advanced and permit-ready projects now have better prospects of receiving a prompt grid connection (50Hertz et al., 2026; BDEW, 2025). Unspecific or immature projects, by contrast, will now be treated with lower priority or may lapse entirely if applicants do not meet the new requirements (e.g., financial securities, project planning). For serious developers, this increases planning certainty, while purely speculative projects are likely to disappear from the market. However, uncertainties arise during the transition phase: some already submitted applications must be reassessed, which may lead to delays or require adjustments (IWR, 2025; Taylor Wessing, 2026).

- **Site selection and permitting:**

  The privileged status under planning law eases development of battery storage projects at suitable locations—particularly as extensions of existing renewable-energy plants or in close proximity to substations. This removes the need for time-consuming land-use planning procedures, thereby accelerating permitting in such cases (Zimmermann, 2025; Siekmann, 2025).
  Nevertheless, the new restrictions (4-MW threshold, 200-meter distance, area limits) are a double-edged sword: on the one hand, they aim to reduce conflicts with residential and environmental protection and to guide storage toward optimal grid nodes. On the other hand, these requirements significantly reduce the amount of available land. Concentration effects are foreseeable: land around major substations will become highly sought-after and more expensive, while other potentially suitable sites (further away from the grid) are effectively excluded (Maslaton, 2025; Siekmann, 2025). Project developers must therefore secure suitable locations early and cooperate closely with municipalities and grid operators in order to find workable solutions within the 200-meter rule (Siekmann, 2025).

- **Economics and financing:**

  The potential future burden of grid fees on battery storage systems is currently a central uncertainty factor. Many projects planned today assume a 20-year exemption from grid fees. Should this privilege be gradually or fully abolished shortly after 2029, the business case could be significantly weakened (Enkhardt, 2026; Battery Storage Alliance, 2025). Rigid capacity-based fees or high energy-based tariffs would reduce revenues from arbitrage and ancillary services and make refinancing more difficult (Battery Storage Alliance, 2025; Enkhardt, 2026). According to BVES calculations, even a fixed capacity price of e.g. €10/kW/year could jeopardize the profitability of many projects (BVES, 2025).
  The industry therefore argues for predictable, downstream adjustments and dynamic tariffs that reward system-friendly behavior instead of imposing blanket charges (Weinhold, 2026; BVES, 2025). Investors emphasize that trust in stable framework conditions is essential—otherwise, investment willingness may decline sharply (Enkhardt, 2026; BVES, 2025). It is positive that BNetzA and policymakers are taking these concerns seriously: they are signaling a willingness to compromise (e.g., possible transitional periods or capping excessive additional revenues instead of abrupt added cost burdens; Enkhardt, 2026).

In conclusion, it can be said that the years 2025/26 are a turning point for the battery storage sector in Germany. Regulatory facilitations — such as the privileged status in non-urbanized areas — coincide with new obligations, for example with regard to grid integration and grid fees. The grid and energy transition required these adjustments to limit the risks of uncontrolled development and inefficiencies (BDEW, 2025; IWR, 2025). Despite some criticism, the measures appear aimed at enabling a sustainable ramp-up of battery storage: serious projects are meant to advance more quickly, storage investors are to receive greater clarity about conditions, and the power grid is to be relieved through system-friendly flexibility. During the transition period, however, it is still important to develop the fine-tuning jointly with all stakeholders so that the enormous willingness to invest in storage — over 720 GW in requests — results in actual build-out and is not slowed down. The next steps, such as in the AgNes process, will therefore be closely observed. What is already clear is this: large-scale battery storage is a game changer in the power system, and regulation and market actors are called upon to shape this transformation successfully together.

3. Maturity assessment procedure of the transmission system operators

The four German transmission system operators (TSOs) – 50Hertz, Amprion, TenneT and TransnetBW – presented a jointly developed “maturity assessment procedure” for grid connection applications on 5 February 2026. This new procedure is intended to replace the previous first-come, first-served principle, under which grid connections were allocated strictly according to the date of receipt. The background is the dramatically increased demand for high-capacity grid connections, particularly for large-scale battery storage systems and other energy-intensive consumers, which has pushed the existing first-come, first-served system to its limits. By contrast, the maturity procedure relies on qualitative criteria and the likelihood of project realisation in order to allocate available grid capacity more selectively.

At the core of the maturity procedure is an evaluative prioritisation of connection applications based on verifiable criteria. These include in particular:

- project progress and maturity (e.g., secured land and advanced permitting procedures),
- the technical plant and connection concept (degree of technical planning maturity),
- the applicant’s financial capability (evidence of financing and implementation ability), and
- the project’s grid and system benefits (contribution to grid stability, security of supply, etc.).

All these criteria are given equal weight in the procedure. In future, the TSOs will collect connection requests in cyclical rounds and evaluate them jointly. If the total volume of requested connections exceeds the available grid capacity (particularly at extra-high-voltage substations, where free bays are a scarce resource), the most advanced and “maturest” projects will receive the first binding grid connection offer with a timetable. This is intended to ensure that high-quality and rapidly realisable projects are given priority in oversubscribed situations, while less concrete projects may initially have to wait. The aim is a structured, transparent and non-discriminatory allocation system that accelerates grid connection processes while promoting the economically efficient use of scarce grid connection capacity.

According to the TSOs, the maturity procedure will enter into force on 1 April 2026 for the extra-high-voltage level (transmission grid) – initially based on self-coordination among the TSOs. A formal confirmation or approval by the Federal Network Agency (BNetzA) is still pending; however, the TSOs have already made clear that such

regulatory backing would be desirable. The rapid introduction (only two months after publication) indicates that prior coordination between the TSOs and the BNetzA has taken place. Legally, explicit approval by the BNetzA is not required, as the procedure can be implemented within the framework of the existing statutory provisions (§ 17 EnWG). Nevertheless, market observers expect that the regulation will be specified in the medium term – either through an official decision by the BNetzA or through statutory codification of the maturity principle.

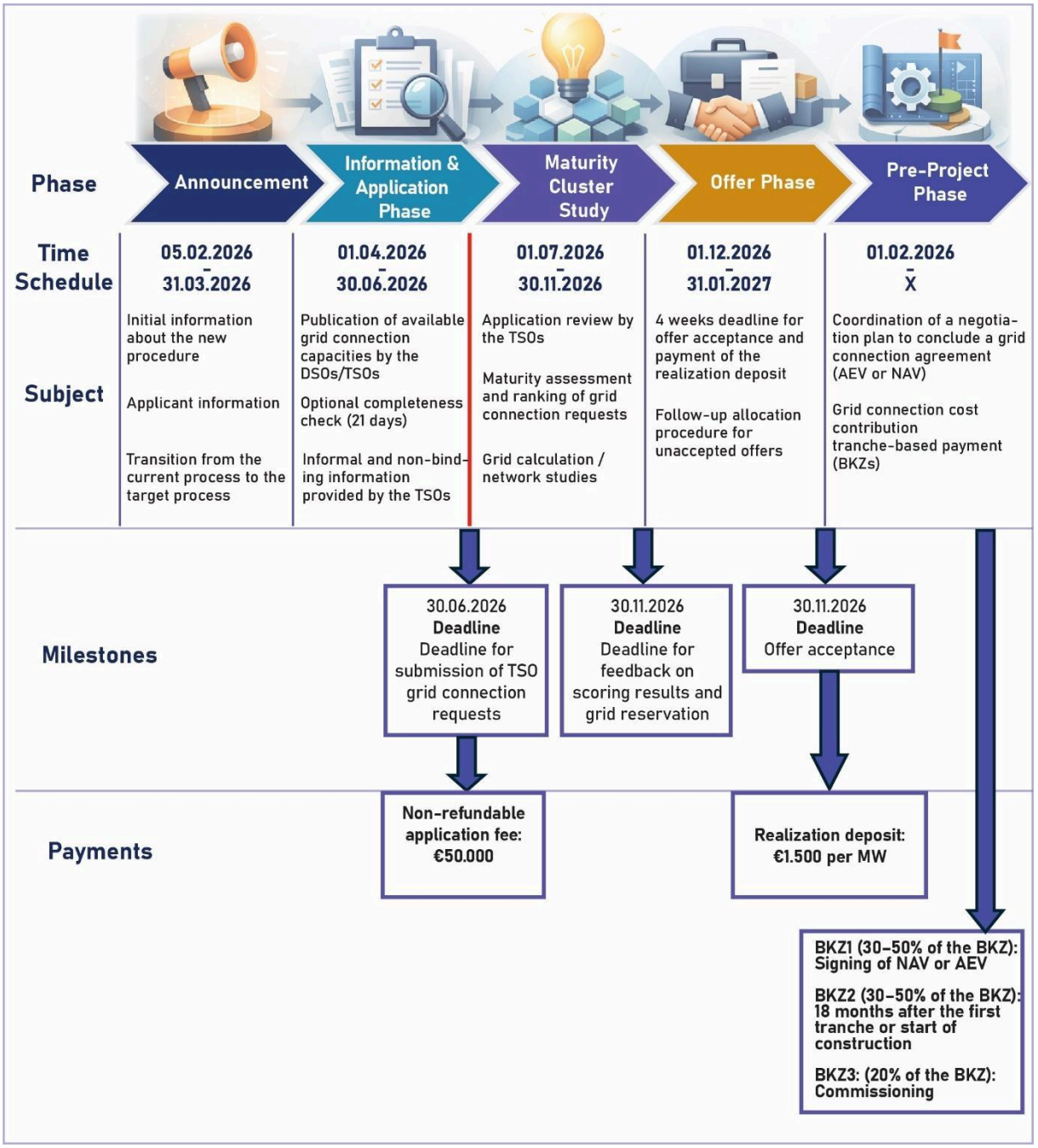


Figure 4: *Timeline for Implementing the First Cycle of the TSOs' Maturity Assessment Procedure. Provisional — the schedule may be adjusted by the TSOs at any time. (50Hertz et al., 2026)*

Changes and further development:

The TSOs' concept paper emphasises that the maturity procedure is designed to be adaptive. Although no fundamental revision of the evaluation logic is expected, adjustments in weighting or refinements of individual criteria may be made over time if this contributes to improved fairness and accuracy. This flexibility is intended to ensure that the procedure remains practical and can take account of market developments (e.g., new project types or experiences from the first application rounds).

The maturity procedure is of particular importance in the context of the entire electricity grid. The TSOs have already indicated that an extension of this approach to the distribution grid level (DSOs) is urgently needed. This perspective aims to prevent project developers from "migrating to the larger grid operator" because of differing connection rules. Without a corresponding procedure in the distribution grids, there would be a risk that large-scale storage or consumption projects would deliberately seek a connection at the extra-high-voltage level in order to benefit from the new TSO system – or vice versa, move to the distribution grid if the first-come, first-served principle still applied there. Aligning allocation mechanisms across all voltage levels therefore also serves to avoid regulatory arbitrage and to ensure that projects are located at the technically and economically most suitable grid level. So far, the distribution system operators have not publicly committed to such a procedure; however, it appears likely that the DSOs will follow in the coming months, given the considerable pressure arising from the high volume of applications in the distribution grids as well. The following sections on the maturity procedure – although formulated primarily from the perspective of the TSOs – can therefore already be understood as a blueprint for a future unified evaluation system at both TSO and DSO levels.

Overall, the introduction of the maturity procedure marks a paradigm shift in German grid access regulation: away from pure priority by application date, towards selection based on project quality and grid contribution. This development underscores the adjustment of the regulatory framework to the requirements of the energy transition – a response to the boom in storage and large-consumer projects, which can only be efficiently integrated into the grid through innovative allocation concepts. The following chapters examine the specific content and mechanisms of the maturity procedure and its foreseeable impacts on project developers, grid operators and energy law.

(50Hertz et al., 2026)

3.1. Maturity Assessment Criteria

Criteria	Project X
A - Land Securing & Permits (A1 & A2) – Maximum 4 points	
A1: Mandatory requirement – Land exclusivity	☐
A1a: Notarial reservation agreement	**1P**
A1b: Lease agreement or land ownership	**3P**
A2: Mandatory requirement – permitting strategy in written form	☐
A2: Confirmation of the permitting strategy by authorities	**1P**
B - Technical Concept (B1–B3) – Maximum 5 points	
B1: Mandatory requirement – written project plan (technical drawing, schedule)	☐
B2: Mandatory requirement – VDE application form / P(t) / SLD	☐
B2a: Complete layout of the primary equipment	**1P**
B2b: Completed design of the secondary equipment	**1P**
B3: Mandatory requirement – Written cable routing strategy	☐
B3a: Analysis of environmental constraints along the cable route	**1P**
B3b: Detailed planning of the cable route	**2P**
B3c: Easements / cable route permits	**3P**
C - Applicant Suitability (C1–C3) – Maximum 6 points	
C1: Mandatory requirement – Proof of company existence and organisational structure	☐
C2: Mandatory requirement – Inventory list according to SLD	☐
C2a: Supplier quotations	**1P**
C2b: Purchase order (complete procurement)	**3P**
C3: Mandatory requirement – Indication of planned investment	☐
C3a: Creditworthiness proof	**1P**
C3b: Proof of project financing	**3P**
D - Grid & System Benefits (D1)	☐
D1: Combination of two technologies	**1P**
D2: Combination of three technologies	**2P**
D3: Combination of three technologies with overbuild	**3P**
Total points	
Maximum achievable points	**18P**

Table 1: *Project Maturity Assessment Criteria Overview (50Hertz et al., 2026)*

3.2. Maturity Criteria Definitions

3.2.1. A — Land Securing & Permits (A1 & A2) – Max. 4 points – Weighting 25%

A1: Mandatory requirement – Land exclusivity

The criterion “land securing” assesses whether the project site is actually available.
For the minimum requirement for application admissibility, at least an exclusivity agreement between the applicant and the landowner must be submitted.
For more advanced projects, additional points can be obtained if a lease or purchase agreement already exists.

Note A1a–A1b: Simultaneous fulfilment of both criteria is excluded.

A1a: Notarial reservation agreement (+2 points)

Notarially certified reservation agreement that grants the project developer an exclusive right to use or purchase the designated plot, providing legally binding proof that the land is secured for the project.

A1b: Lease agreement or land ownership (+3 points)

A lease agreement is considered proof of successful land securing if:

- The contract term extends at least until the economic breakeven of the project (point of repayment of equity and debt) and is aligned with the project timeline.
- The contract cannot be terminated unilaterally by the landlord (except for good cause) to ensure binding effect.
- The contractually agreed land area is sufficiently large for the planned project.

A2: Mandatory requirement – permitting strategy in written form

The criterion “permitting status” assesses the progress in obtaining all regulatory permits required for the project and the substation to be connected. The minimum requirement is the submission of a structured, written permitting strategy. For advanced projects, additional points can be achieved if positive feedback from permitting authorities already exists.

The permitting strategy includes:

1. A complete list of all permits required for construction and operation of the facility, including specification of which permit is required for which facility

components and whether an EIA (Environmental Impact Assessment) is necessary.

2. Information on an appointed general planner (if applicable), including qualifications and responsibilities.
3. Description of the competent permitting authorities at state, regional and municipal level.
4. Current status of authority involvement, if already carried out or prepared.
5. Explanation of the preparation of application documents, including responsibilities, completeness, correctness, and liability provisions under planner liability.
6. Time and milestone plan of the permitting process:
    - M1: Start date
    - M2: Permitting planning including expert reports
    - M3: Compilation of application documents & completeness check
    - M4: Duration of the permitting procedure
    - M5: Expected permitting date

A2: Confirmation of the permitting strategy by authorities (+1 point)

The permitting authorities have reviewed the strategy and formally confirmed that no obvious exclusion criteria oppose the planned approach. The TSOs provide a standard template for this purpose (see Annex 2), which the applicant completes and submits to the authorities for confirmation.

3.2.2. B — Technical Concept (B1–B3) – Max. 5 points – Weighting 25%

B1: Mandatory requirement – written project plan (technical drawing, schedule)

The criterion “technical concept” assesses the technical maturity and feasibility of the project.
It includes:

- the technical plant concept,
- the concept for the substation on the connection side,
- the planning of the cable/line connection.

The project plan contains at least:

1. **Technical project description**
   1a) Description of main components with technical data and functional characteristics
   1b) Description of operational requirements (availability, operating hours, charge/discharge cycles for storage systems)
   1c) Representation of electrical systems including supply concepts, fault management measures and redundancy concept
2. **Spatial and plant layout**
   2a) Planned positioning of electrical systems (transformers, switchgear, converters)
   2b) Positioning of main components (batteries, electrolysers, data centers, auxiliary buildings)
   2c) Connection to electricity, water, gas or hydrogen infrastructure
3. **Project schedule up to commissioning**
   3a) Steps in the permitting procedure, land securing, ordering of long lead-time components
   3b) Financing (pre- and final decisions, funding applications)
   3c) Construction and commissioning phases, lifetime, economic breakeven

B2: Mandatory requirement – VDE application form / P(t) / SLD

The following documents must be available:

1. Fully completed VDE grid connection application form
2. Quarterly P(t) data for ramp-up/load profile
3. Meaningful SLD (single line diagram) of the electrical connection to the TSO substation

Note B2a & B2b: Simultaneous fulfilment of both criteria is possible.

B2a: Complete primary technology layout (+1 point)

A complete layout of the primary technology of the customer substation, including:

- switchgear
- transformers
- lines and cables
- grounding and lightning protection systems
- operating equipment

B2b: Completed secondary technology planning (+1 point)

A finalised functional and system design of the secondary technology, including:

- protection and control systems
- control and communication systems
- measurement and monitoring systems
- backup power supply (e.g., batteries)
- signalling and auxiliary systems

B3: Mandatory requirement – written cable routing strategy

The strategy includes:

1. Description of the planned cable corridor
2. Representation of public, private-law and technical measures
3. Specification of the grid connection point (if known)

Optional: GIS representations, first coordination steps with grid operators.

Note B3a–B3c: Simultaneous fulfilment of multiple criteria is excluded.

B3a: Spatial resistance analysis (+1 point)

Includes, among others:

- conflicts with nature conservation areas, FFH areas, landscape protection
- regional priority and suitability areas
- existing infrastructure (settlements, roads, railways, lines)
- restriction zones (water bodies, elevations, contaminated sites)
- map representation on a GIS basis

B3b: Detailed cable routing planning (+2 points)

Includes, among others:

- exact routing with cross-sections and construction method
- technical design
- transfer points and height specifications
- feasibility study regarding construction, technology and permitting

B3c: Easements / routing permits (+3 points)

Evidence:

1. All required easements entered in the land register
2. All relevant permits available (planning approval or similar)

Alternatively: negative confirmation from the grid operator if a separate routing is not required.

3.2.3. C — Applicant's Capabilities (C1–C3)- Max. 6 points – Weighting 25%

C1: Requirement – proof of company substance

Required documents:

1a) Commercial register extract
1b) Business registration
1c) For freelancers: professional licence/membership in chamber

Plus: Company presentation with structure, business areas, key figures.

C2: Requirement – inventory list according to SLD

Assessment of whether time-critical grid connection components are secured:

- transformers
- complete switchgear
- cables for grid connection

Additionally: procurement plan (planned order and delivery dates)

Note C2a & C2b: Simultaneous fulfilment of both criteria is excluded.

C2a: Supplier offers (+1 point)

Proof of offer requests including delivery commitments.

C2b: Order confirmations / complete procurement (+3 points)

All components contractually secured (or already owned).

C3: Requirement – indication of total investment costs

Note C3a & C3b: Simultaneous fulfilment of both criteria is excluded.

C3a: Creditworthiness proof (+1 point)

Current credit report or corporate guarantee.

C3b: Proof of project financing (+3 points)

Evidence:

- equity capital
- bank commitment
- investor agreement
- funding commitment

Financing structure (equity/debt) clearly presented.

3.2.4. D — Grid & System Benefits (D1) – Max. 3 points – Weighting 25%

Additional points for projects where multiple technologies are operated at a common grid connection point. There may be only one contractual grid connection customer.

D1: Combination of two technologies (+1 point)

(e.g., generation + storage, load + generation)

Proof via:

- joint application, or
- existing grid connection documents of a second technology

D2: Combination of three technologies (+2 points)

Generation + load + storage at the same grid connection.

Proof via:

- joint application, or
- existing grid connection documents of the two additional technologies

D3: Combination of three technologies with overbuild (+3 points)

In addition to D2:

- generation capacity > requested grid connection capacity

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