DSO ENTITY
DSOs FOR EUROPE

DSO Entity's reaction to the Grids Package

March 2026

Table of Contents

This response was jointly developed by DSO Entity members across several Expert Groups and Task Forces. DSO Entity thanks all contributors for their valuable input and support.

1. In a nutshell: DSO Entity's reaction to the Grids Package

Executive Summary

DSO Entity welcomes the European Grids Package as part of a broader **European Grids Momentum**, which recognises electricity grids as the backbone of a resilient, competitive, and sustainable European Union. With a focus on three core areas - **planning, permitting, and connection** - the Grids Package builds on the Grid Action Plan (2023) and DSO Entity's establishment as institutional partner (2021).

DSO Entity appreciates the proposed measures to introduce faster and more efficient **permitting procedures for grid infrastructure**. It also positively acknowledges the holistic approach to addressing grid connection challenges, in particular the emphasis on **anticipatory investments and the provision of a toolbox** - rather than a single prescriptive solution - to move beyond the 'first come, first served' approach. However, the introduction of tacit approval for DSO grid connection decisions in certain cases raises significant safety and technical concerns. Also, the proposed shift towards a more top-down scenario approach in an **energy system that is becoming increasingly decentralised, i.e. bottom-up**, does not appear to be fully aligned with the ongoing paradigm shift.

Overall, the Grids Package **falls short of fully recognising the decentralised and consumer-driven nature of the energy transition** and of providing a sufficiently enabling framework for Distribution System Operators (DSOs) as core enablers of the clean energy transition. Notably due to an insufficient acknowledgement of the investment challenge, compounded by **rising resilience requirements** and external constraints such as supply chains or staffing.

The relevance of Distribution System Operators (DSOs) for the EU:

DSOs are key for delivering a sustainable and resilient energy transition while keeping the lights on[1]:

Managing increasingly diverse grid connection needs: More than 250 million consumers are connected to the electricity distribution grid, alongside an electric vehicle fleet expected to reach 30 million units by 2030, an additional 10 million heat pumps by 2027 and 70% of renewables. Together with TSOs, DSOs will need to accommodate the connection of data centres, with total electricity demand projected to grow by around 15% annually between 2023 and 2030[2].

A cornerstone of social and economic development: DSOs connect the majority of industrial consumers in Europe, create and support 835,000 direct and indirect jobs, and enable 1.5 million citizens to participate in energy communities across the EU.

A vast - yet often unseen - infrastructure: DSOs operate more than ten out of the eleven million km of electricity grids spread over the EU's territory, facing an annual investment need of EUR 61bn between 2030 and 2050 for its expansion, smartening and renewal.

[1] For references below if not other stated: DSO Entity (2025) Let's connect – DSOs as key enablers for a competitive, green and resilient EU. Available online.

[2] European Data Centre Association (2025) State of European Data Centres 2025, p.5. Available online.

Key aspects to be considered from a DSO perspective

1. **INVESTING:** DSOs are facing rapidly increasing investment and financing requirements to deliver a sustainable and resilient transition. While it is acknowledged that more than €730 billion of the €1.2 trillion in required grid investments by 2040 will need to be allocated to DSOs (COM 2025, 1006, p. 1), the TEN-E framework remains predominantly focused on cross-border TSO projects. DSOs are largely limited to eligibility for smart grid projects and are excluded from Projects of Mutual Interest (PMIs), with additional uncertainty regarding the applicability of the newly added resilience category.

2. **PLANNING:** In an increasingly decentralised energy system, national network planning becomes more bottom-up (DSO forecasts), inclusive (grid users) and cooperative (TSO-DSO). The inclusion of DSO forecasts and assumptions in TSO development plans (both TNDPs and the TYNDP) is essential to avoid bottlenecks at distribution level where new loads and generation are connected. It is welcome that the package highlights the need for close coordination between distribution and transmission planning, i.e. the integration of DSO inputs into TSO planning. The absence of further harmonisation of Distribution Network Development Plans (DNDPs) is positive, while more top-down planning approaches related to scenario building should be treated with caution.

3. **PERMITTING:** Procedures can take up to 8-10 years in the medium- and high-voltage distribution network and are a major bottleneck for DSOs. The proposal to accelerate permitting procedures for grid infrastructure, including shorter time limits, the designation of electricity grids as projects of overriding public interest, and the introduction of one-stop shops, are positive. However, grid connection procedures differ from permitting processes facilitated by public authorities and should not be referred to as permits. Also, efforts to accelerate procedures must not compromise safety or technical requirements, i.e. tacit approval mechanisms based on the absence of a DSO response are not supported.

4. **CONNECTING:** The holistic approach to grid connections is generally welcomed, notably its recognition of anticipatory investments, long-term planning and external challenges. While proposals to move beyond the 'first-come, first-served' principle are supported, clear national legal frameworks are needed to ensure legal certainty and practical implementation for grid operators. Some proposals on enhanced hosting capacity transparency risk go beyond existing EU legislation and may increase administrative burden with limited added value. DSO Entity supports capacity-based and static time-of-use tariffs which can improve cost reflectivity, highly dynamic tariffs risk excessive complexity and limited effectiveness.

5. **NATIONAL IMPLEMENTATION AND LACKING ELEMENTS:** Given the national nature of DSOs, the package alone will not resolve all their underlying challenges. The implementation of forward-looking regulatory frameworks and anticipatory investments aligned with existing EU rules remains essential including adequate compensation and predictability about future earnings. The package also failed to sufficiently address other challenges, such as growing resilience requirements from extreme weather events and external constraints like supply chains or staffing.

Multi-level governance: In an increasingly interconnected and decentralised electricity system, close cooperation among key institutions is essential (EC, ACER, DSO Entity, ENTSO-E).

2. Revision of the TEN-E Regulation

DSO Entity's reaction to the proposal for a Regulation on guidelines for trans-European energy infrastructure, amending Regulations (EU) 2019/942, (EU) 2019/943 and (EU) 2024/1789 and repealing Regulation (EU) 2022/869, COM(2025) 1006 final.

Executive Summary

DSO Entity welcomes the revision of the TEN-E Regulation and the proposed five-fold increase of the CEF-E budget in the next Multiannual Financial Framework (MFF) cycle (2028-34). However, despite acknowledging the growing decentralisation of the energy system, rising resilience and security challenges and the significant investment needs of distribution networks, the revised TEN-E framework continues to focus on interconnection transmission projects and high-voltage infrastructure, while providing limited practical support for DSO-led investments. This imbalance perpetuates the existing funding gap for distribution networks. The inclusion of Smart Electricity Grids (SEG) as Projects of Mutual Interest (PMIs), the eligibility of lower-voltage projects within the smart grids category, and clearer recognition of DSO eligibility under resilience and digitalisation categories would be important steps to better reflect the needs of a decentralised energy system. Also, effective EU-wide grid development depends on strong bottom-up national planning, with systematic inclusion of DSO forecasts in TSO processes. The introduction of an overly centralised, top-down approach on scenarios might overlook local network realities.

DSO Entity welcomes the revision of the TEN-E Regulation and, in this context, the proposed five-fold increase in the Connecting Europe Facility for Energy (CEF-E) budget in the next MFF cycle, from €5 billion to €30 billion[3]. While the overall budget increase is positive, DSO Entity regrets that the TEN-E revision does **not introduce meaningful improvements for DSOs in terms of project eligibility**. As a result, the continued prioritisation of interconnection transmission projects is further reinforced, particularly with the gradual inclusion of more categories, thereby intensifying competition for funding and leaving smart grid projects as a secondary priority.

TEN-E: Insufficient recognition of decentralised projects and the DSO funding gap

In today's decentralised energy system, where most new connections (renewables, heat pumps, EVs and data centres) are made at the distribution level, DSOs have become far more prominent than when the TEN-E Regulation was adopted in 2013, in a fundamentally different context. Since then, it has become apparent that the **European energy transition cannot be delivered without substantial investment in distribution networks**. The revision of the TEN-E Regulation rightly acknowledges that Europe's electricity system is becoming increasingly electrified and decentralised and is facing new challenges related to (cyber)security, resilience, and digitalisation. It is stated that by 2040, electricity grids will require investments of €1.2 trillion among which DSO investment needs alone amount to €730 billion[4]. Against

[3] Proposal for a Regulation COM(2025)547, Establishing the Connecting Europe Facility for the period 2028-2034.

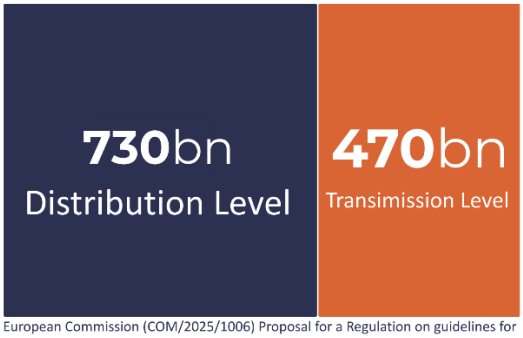
[4] Proposal for a Regulation on guidelinesfor trans-European energy infrastructure, amending Regulations(EU) 2019/942, (EU) 2019/943 and (EU) 2024/1789 and repealing Regulation (EU) 2022/869, COM(2025) 1006 final, p.1.

this backdrop, it remains unclear why TEN-E falls short of providing adequate (funding) opportunities to DSOs and insufficiently addresses the decentralised dimension which is so central for achieving the EU's energy objectives of a sustainable, affordable and resilient system.

In particular, the explicit **exclusion of smart grid projects from Projects of Mutual Interest (PMIs) (Art. 2(6)), the lack of clarity regarding the eligibility of DSOs under resilience-related criteria (Annex II(1)(e) and (f))**, and the inclusion of additional categories of potential beneficiaries without a corresponding increase in dedicated support for distribution networks to be included raise concerns. **Delivering clear evidence of a significant cross-border impact** as set out in point (1) of Annex IV is often difficult to prove for smart grid projects and often requires the participation of TSOs in the consortium. Therefore, digitalisation and flexibility projects in distribution grids should be eligible for PCI status and CEF funding even **without an explicit cross-border element, given their systemic contribution to EU energy objectives** and to building an integrated EU single energy market. In fact, smartening the EU's electricity grid delivers long-term benefits in terms of economic efficiency. Enhanced digitalisation and flexibility reduce the need for capital intensive investments in the physical expansion of the grid, ultimately lowering the final bill for consumers.

The DSO Funding Gap

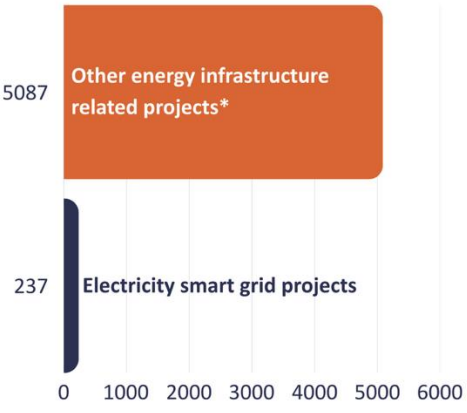
Investment needs in electricity grids by 2040 in billions



European Commission (COM/2025/1006) Proposal for a Regulation on guidelines for trans-European energy infrastructure, p.1.

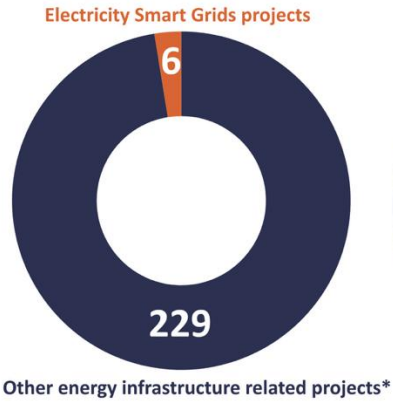
Despite the critical need for investments in distribution grids, only **€237 million out of the €5.324 billion** allocated to CEF-funded energy infrastructure projects was directed to smart grid projects for DSOs (bottom left figure). Likewise, the second PCI/PMI list (2025) features just **6 smart grid projects** out of **235 in total** (center figure). Moreover, of the **€33 billion** allocated to all energy-related projects under the EU's regional funds for 2014–2020, only **€1.3 billion** was invested in distribution and smart grid projects (bottom right figure).

Allocation of CEF-E funds towards infrastructure projects (2014-2020) in millions



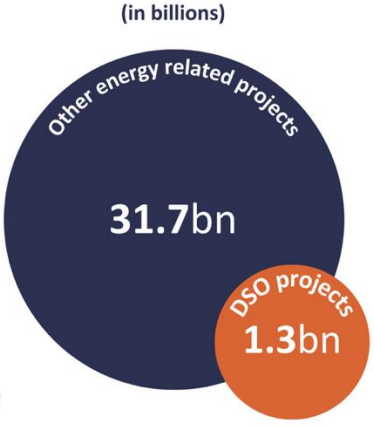
Investors Dialogue WG2 (2022) Meeting report: Availability of financial instruments for Transmission & Distribution, p.20.

2nd PCI list (2025) and representation of smart grid projects



European Commission C(2025)8144 Delegated Regulation as regards the Union list of projects of common interest and projects of mutual interest, p.6.

Allocation of EU Regional Funds (2014-20) to energy-related projects (in billions)



DG ENER (2024), presentation at the 19th meeting of the Energy and Managing Authorities Network (EMA) on 13 June 2024, Brussels.

*** Including all PCI/PMI project categories (electricity, offshore grids, hydrogen and electrolysers, smart gas grids, cross-border carbon dioxide networks projects) with the exception of smart grid projects.**

Beyond TEN-E/CEF-E: Need for complementary funding opportunities for DSOs (MFF – NRPPs)

Given the scale of investments required at distribution level (see figure XX above), TEN-E alone cannot be expected to address all needs. While it can play a supportive role in the limited areas where relevant for the distribution level, it will be equally important to ensure that the Multiannual Financial Framework(MFF)[5] provides adequate, targeted, and accessible funding for DSOs at the national level via the National Regional Partnership Plans (NRPPs). The EC's proposal acknowledged the 'development of smart energy systems and domestic transmission and distribution grids' but did not include earmarking / ring-fencing for grids. Thus, access to these funds will ultimately depend on the national priorities outlined in each NRPP. This creates a risk for the delivery of the energy transition as DSOs could be excluded from these since the allocation of nationally managed funding to DSOs remains uneven across Member States. For example, under the 'Recovery and Resilience Facility' (RRF), only 11 out of 27 Member States directed funding towards DSO projects[6].

Clear eligibility of DSO-projects: Smart Electricity Grids and resilience categories

The introduction of new infrastructure categories explicitly addressing resilience and digitalisation is timely and appropriate. DSO Entity welcomes the inclusion of the new infrastructure categories in the form of investments into equipment and installations directly connected to and designated to enhance the **critical network elements' resilience (Annex II(1(e)(f))**. However, despite this evolution, the focus of these new categories remains predominantly on transmission infrastructure. This is difficult to reconcile with recent developments, which show that **increasingly frequent and severe extreme weather events significantly affect distribution networks[7] at all voltage levels**. Also, other elements related to resilience such as the implementation of the Network Code Cyber Security and other Cyber-related aspects are occurring at the DSO-level. As a result, distribution grids require stronger and more targeted support to enhance resilience and security. Further clarification is therefore needed regarding DSO eligibility under Annex II(1)(e) and (f), in particular for investments aimed at strengthening network resilience and for monitoring, control and digitalisation of critical network elements.

At the same time changes in the **Smart Grids Category (Annex II (1(g)))** are needed which is currently limiting projects at '*transmission and medium and high voltage distribution level*, engaging entities present in at least two different countries' leaving out projects connecting renewable energy sources, storage facilities, and digital upgrades, with clear impacts on cross-border flows. Lower voltage levels should also be eligible to reflect the needs of DSOs.

Usage of non-wired solutions:

TEN-E includes an addition into the Electricity Market Directive (EU) 2019/944) regarding the active integration of non-wired solutions (Art. 40a(3)). The new obligation requires TSOs to specifically explain how non-wired solutions, non-fossil flexibility resources or other alternatives to system expansion were considered. While non-wired solutions are increasingly deployed where feasible, physical grid reinforcement remains indispensable to ensure system reliability, resilience and the integration of renewables in a decentralised energy system. **DSOs already systematically assess non-wired solutions,**

[5] Proposal for a Regulation COM(2025)565, Establishing the European Fund for economic, social andterritorial cohesion, agriculture andrural,fisheries and maritime, prosperity andsecurity for the period2028-2034.

[6] DSOEntity(June 2025) Public Funding for DSOs– Findings of a questionnairelaunched by EU DSOEntity. Available online.

[7] DSO Entity (February 2026) Strengthening theresilience of the EU Energysystem: Theimportantrole of DSOs. Available online.

non-fossil flexibility resources and other alternatives as part of established grid planning processes, i.e. no further changes are required in this respect**.**

Others: Planning, permitting and cross-border financing

In an increasingly decentralised energy system, national network planning becomes more bottom-up, inclusive and cooperative. **The inclusion of DSO forecasts and assumptions in TSO development plans is essential to avoid bottlenecks at distribution level where new loads and generation are connected**. Therefore, it is welcome that the package highlights the need for close coordination between distribution and transmission planning, i.e. the integration of DSO inputs into TSO planning. However, the shift towards a centralized and more top-down approach to scenario-based grid planning is seen critically (Art. 11), since it brings the risk that an overly centralized, top-down scenario does not consider the specific network development and capacity needs in specific countries or regions at the distribution level.

While the changes to the permitting provisions in Chapter III represent a significant improvement, they will have limited positive impact on DSOs because of their restricted eligibility for PCI status.

Lastly, the proposed rules on the use of congestion income for financing cross-border electricity infrastructure as an incentive to cost-sharing in the form of earmarking 25% of the unused congestion income for PCI/PMIs (Art. 19) is seen critically. This could lead TSOs to pass costs on to DSOs and ultimately customers, undermining subsidiarity and fairness, particularly when congestion costs originate at national or local level.

Further insights: Previous publications

- DSO Entity (June 2025) *Public Funding for DSOs*. Available online.
- DSO Entity (August 2025) *DSO Entity's Recommendations for Enhanced EU Funding – Accompanying paper to DSO Entity's responses to the MFF-consultations*. Available online.

3. Proposal for a Permitting Framework

DSO Entity's reaction to the proposal as regards the acceleration of permit-granting procedures amending Directives 2018/2001/EU, 2019/944/EU and 2024/1788/EU under the Grids Package

Executive Summary

DSO Entity welcomes the proposal on the acceleration of permit-granting procedures under the Grids Package as a key milestone to the deployment of EU grid infrastructure. The legislative proposal amending the Renewable Energy Directive (RED) and the Gas and Electricity Market Directives (EMD) is of high significance for Distribution System Operators (DSOs). It establishes a permitting regulatory framework for electricity grids at the EU level with a new authorisation system for grid projects in Art. 8 of EMD and recognises the decentralised level with dedicated simplified measures for DSOs. However, clarification regarding the use of certain terminology is needed. Procedures for grid connection applications differ from permit-granting procedures facilitated by public authorities, and they should not be referred to as permits. Furthermore, efforts to accelerate procedures must not compromise safety or technical requirements (i.e. tacit approval mechanisms based on the absence of a DSO response pose a risk to security of supply and are not supported), and Art. 16 and 17 of the RED therefore require further adaptations. Finally, the reopening of the RED and EMD could lead to a broader revision beyond the scope foreseen and increased implementation delays. In the next steps of the legislative process, it will be key to ensure the consistency of the whole framework and avoid further complexity given the overall proposal is already composed of various provisions laid out in different directives and articles.

A significant step towards unlocking faster permitting for electricity grid projects (Art. 8 of Electricity Market Directive (EU) 2019/944, EMD)

Slow permitting is a barrier for the timely deployment of EU grid infrastructure and achievement of EU's energy objectives. **DSO Entity welcomes the proposal as it closes the gaps with existing EU provisions and sets the right conditions for grid operators**. It establishes a holistic approach to permitting and promotes greater consistency among the electricity and gas permitting procedures applied across Member States.

Overall, the **proposal is deemed positive from the DSO perspective** as it identifies and addresses remaining challenges to accelerate permitting procedures (in line with recommendations outlined in DSO Entity's Permitting Guidance; *see publications box*). **It now expands the scope of EU provisions beyond solely permits for RES projects to grid projects**, storage and recharging station projects. The establishment of a new permitting regulatory framework for grids at the EU level under Art. 8 of EMD is highly significant to speed up the deployment of electricity grids across Europe.

Key positive aspects from the new EU Permitting Regulatory Framework:

New authorisation procedures for electricity grids: The new system of authorisation procedures for grids, consistent with the Distribution Network Development Plans (para. 3(a)), is decisive to support the deployment of grid infrastructure. Many provisions are instrumental, like the introduction of a **2-year mandatory time objective (para. 3(b))** for the authorisation of DSO infrastructure (3 years for complex

projects if fully justified) and simplified and streamlined procedures for the construction and operation of distribution system infrastructure or associated equipment (para. 1).

Recognition of the decentralised level: Alongside TSOs, authorisation of distribution infrastructure is now regarded as essential for RES integration and EU energy targets achievement (para. 3(e)). **Some provisions also support expressly distribution infrastructure**, i.e. obligation for Member States to provide specific, simplified and streamlined procedures for distribution infrastructure (para. 2(e)) and possible exemptions from certain environmental assessments extended to the construction of new distribution infrastructure if they are not likely to have a significant environmental impact (para. 10).

Streamlined environmental impact assessments (EIAs): The refurbishment, modernisation and repowering of existing DSO infrastructure (Para. 9) are exempted from the whole EIAs and other screenings and assessments (and possibly new DSO infrastructure; see above). The planning, construction and operation of DSO infrastructure are also presumed to contribute to the long-term reduction of nitrogen emissions, therefore exempted from its assessment, which is also positive.

Presumption of overriding public interest: This provision is strongly welcome and applies to the planning, construction and operation of distribution infrastructure (para. 8), hence complementing the existing Art. 16f that covers the RES plants and production, their connection to the grid and grid itself.

One-stop shops: The new obligation for Member States to set one or more contact points to guide authorisations for DSO infrastructure is positive considering the duplication of competent authorities and documents requested that still constitute a challenge for DSOs at national and local levels.

Horizontal measures for grid project permits: Remaining challenges and administrative burden are addressed, i.e. tacit approvals in case of lack of reply from public authorities (para. 3(c)), lack of administrative capacity and resources of public authorities that should now be reflected in concrete measures in Member States (para. 3(i)), and increased digitalisation of procedures.

Further adaptation: Extension of Art. 8(8) of the EMD

The designation of the planning, construction, and operation of distribution grid infrastructure as projects of overriding public interest is very positive. It could be even more beneficial if its scope was **extended to the refurbishment, modernisation and repowering of existing DSO infrastructure**.

- **Recommendation:** Art. 8(8) should be amended to also apply to the refurbishment, modernisation and repowering of existing distribution infrastructure.

Key recommendations on grid connection obligations (Art. 16 and 17 of Renewable Energy Directive (EU) 2018/2001, RED)

The amended RED provides new obligations for DSOs regarding procedures for grid connection to integrate new distributed generation capacities into the network. While the proposal is assessed as positive in general, **Art. 17 and Art. 16(3a) raise serious concerns from a DSO perspective**.

The relevance of DSOs for permitting in the EU

Streamlined and simplified permitting procedures for the construction, refurbishment and expansion of grid infrastructure are highly relevant to ensure the energy transition follows its course as DSOs:

Connect high volumes of Renewable Energy Sources (RES) and Decentralised Energy Sources (DER): DSOs will integrate 70% of the new renewable capacity into the distribution grid by 2030 together with the electrification of transport and heating and cooling sectors. As a result, they are facing a massive increase in requests to connect new distributed generation capacities at the decentralised level

Need to apply for grid infrastructure permits: The connection of new installations often entails grid infrastructure expansion or reinforcement requiring permits which often follow lengthy and protracted processes, i.e. they can take up to two to three years for additional or reinforced grid capacity on medium- voltage lines, and eight to 10 years for medium- and high-voltage network, i.e. considerably longer than identified in the Grids Package Communication.

The proposal draws a parallel between the permit-granting procedures and procedures for grid connection applications. However, the two processes differ fundamentally in their nature and function. Permitting is carried out by competent public authorities which primarily assess compliance with ex-ante legal requirements to authorise construction work, installations (on public ground), and ultimately issue an administrative decision. In contrast, grid connection procedures (and conditions) are managed by grid operators which determine the technical and economic conditions for access to the network. The outcome of a connection application is not a simple approval or refusal, but a determination of commissioning feasibility, connection costs, and the capacity that can be allocated, subject to network constraints, and results in a contract proposal. Grids operators are responsible for guaranteeing the reliability, stability and safety of the grids. Before granting access to the network, they must guarantee specific **technical and safety conditions** in addition to available capacity checks (e.g. Art.17(4) implies only available capacity is an imperative). As a result, **DSO decisions differ from granting administrative authorisation** and it is of utmost importance to ensure that **the pursuit of fast permitting procedures does not jeopardise the physical safety and reliability of the grid**.

Finally, the proposal should avoid legal ambiguities, as the neutral approach of the Grid Connection Guidance is overridden by Article 17 of the RED permitting proposal, which prioritises certain technologies.

Key recommendations on Art. 16 and 17 of RED:

Definition of 'procedures for grid connection permits' – Art. 2(10f)

Grid connection procedures differ from the administrative authorisation granted by a public authority and are thus not '*permits*'. The definition states the procedure ends with '*the system operator's decision on whether the project can be connected to the grid'.* It seems to refer to the first answer provided by the grid operator to the request, but it should be clarified as it should not refer to the concrete proposal of

connection contract. Only the first interpretation would be technically feasible for grid operators.

- **Recommendation**: The definition should be amended as follows: '*procedure for grid connection **application** ~~**permit'**~~*. The definition of permit-granting procedures (Art. 16(1)) and other references (Recitals 1, 13 and 14 and Art. 16d(2), 16h(1-3) and 16i(2-3)) should be adapted accordingly. Overall consistency should be ensured with other relevant legislation.

Tacit approvals in the absence of DSO response – Art. 17(4)

Grids operators are responsible for **guaranteeing that necessary technical and safety conditions are met** to ensure the connection is safe before granting access. Available grid hosting capacity results from technical studies ensuring that the safety and reliability of connecting and affected system operators are ensured. **It is hence not the only imperative to fulfil, and the possibilities for network extension as well as the safety and reliability of the grid are overriding considerations**. Therefore, tacit approvals under para. 4 based on the absence of DSO response within the 1-month period for the connection of distributed generation installations (listed in para. 1) are viewed as a risk for the power system. Customers may also misunderstand the procedures and assume that submitting a connection application is optional, potentially resulting in installations being connected without the DSO's awareness; and hence such uncoordinated connections pose a threat to system safety. Further, this could give rise to financial loopholes, enabling the circumvention of connection charges. For these reasons, tacit approval mechanisms for DSO decisions cannot be supported.

- **Recommendation**: Art. 17, para. 4 should be deleted.

Deadlines for grid connection applications – Art. 17(1)

It is important to recognise that procedures for grid connection application are not only subject to various mandatory technical and safety assessments but also depend on studies and assessments from system operators operating higher voltages (i.e. often TSO but also overlaying DSOs for low-voltage operating DSOs). Indeed, most congestion occurs at the transmission level, and **DSOs require the TSO authorisation to assess the guaranteed and flexible connection capacity that can be granted and pursue grid connection applications.** This can take time and should be accounted for in the timeline together with the assessment and validation of other technical solutions needed to reinforce the grid in consultation with other infrastructure network parties (e.g. railways, road, etc.). Therefore, it should be acknowledged that procedures for grid connection applications are not as reducible as other administrative procedures, and sufficient time is necessary to carry out required assessments with one-month deadline deemed too challenging for system operators.

Furthermore, while smaller installations may in some instances have a limited impact on the distribution grid, the effect of the **cumulative amount of capacity applying for connection (e.g. numerous customers applying for connecting small solar installations) can be significant** and should not be considered negligeable. In addition, from a **cybersecurity and system security perspective**, renewable generation and storage installations (incl. small ones) introduce new vulnerabilities, requiring DSOs to remain fully accountable for what is connected and ensure that appropriate security assessments are carried out prior to granting access. It should also be noted that **any threshold above 10 kW may encourage applicants for**

a grid connection to split projects to benefit from fast-track provisions as has already been observed in some Member States, e.g. high-voltage (or medium-voltage) projects being split into medium-voltage (or low-voltage) projects to fall within the scope of preferential framework. **Smaller connections already benefit from faster grid connection applications** implemented by DSOs in Member States. Eventually, **many DSO provide additional (innovative and digital) services to their customers** (e.g., connection checks, capacity maps) which are de facto rendered useless by the proposed provisions. In the future, users that are eligible to make use of the procedures outlined in Art. 17 will start the (legally binding) process despite being already informed via one of the aforementioned tools that no capacity is available.

- Recommendation: **3-month deadlines under Art. 17, para. 1 should apply to all renewables and storage regardless of their size** (i.e. also under point (a)). and safeguards for justified safety concerns and technical incompatibility under point (b) extended to point (a). A duly justified derogation from the 3-month deadline should be provided for where circumstances beyond the DSO's control prevent the validation of the procedure for grid connection application in a new paragraph 1a. This may include the following cases: permitting for system operator assets has not been granted within the deadline, third-party infrastructure operators (e.g. road, rail or navigation authorities) are involved and require additional assessments, or unresolved land ownership or similar legal constraints impede the works. It should be made clear that procedures for DSO grid connection applications often depend on available TSO capacity and deadlines and the processing of necessary studies by all affected SOs consistently with the necessary schedule. Furthermore, it should be clarified whether feed-in generations are included as they require further assessments that can also affect the timeline. References implying a lack of grid impact from small installations (e.g. Recitals 10 and 13) should be amended.

Flexible connection agreements (FCAs) – Art. 17(2(b)) and (3)

FCAs can help connect more installations to the grid. However, such connections should only be granted at the explicit request of the applicant who should assess the suitability of this type of connection to their specific needs. FCAs should remain a right and not an obligation for the DSOs. The precondition sets in para. 2, point (b) stating only '*where technically possible'* is key and needs to be kept.

- Recommendation: Para. 2, point (b) should be amended as follows: '*where there is insufficient grid capacity, **may** propose, where technically possible, a flexible connection agreement in accordance with Article 6a of Directive (EU) 2019/944*'.

Time-limit – Art. 17 of RED

While Articles 16 and 17 apply uniformly across all Member States, their strong incentives, particularly for RES and storage combinations, risk having uneven and underestimated real-world impacts given differing national transition speeds and system needs.

- Recommendation: If retained, **Art.17 of RED should therefore be time-limited** (e.g. until climate neutrality) and allow flexibility in national transposition, as preferential treatment is politically difficult to adjust once established.

Single digital portals at national level – Art. 16(3a)

One-stop shops are a welcome step in simplifying permit-granting procedures for grid projects. However, **procedures for grid connection should not fall under the scope of single digital portals**. Procedures for grid connection are not permits and DSOs implement their own individual platforms to manage grid connection requests. Yet Art. 16(3a) is unclear and only states: '*Member States shall set up a single digital portal at national level for all the steps of the permit-granting procedures for renewable energy, storage and grid projects*'. According to the definition of permit-granting procedures (Art. 16(1)) meant as covering '*all relevant administrative permits […] including grid-connection permits',* grid connection procedures could be concerned. Furthermore, clarification is needed regarding how the single digital portals of Art. 16(3a) will consistently apply with the national contact point(s) of Art. 8(4) of EMD that aims to guide the permit application for grid projects. Both platforms should be centralized as one to avoid duplication and administrative burden. Finally, it should be made clear that, when setting their single digital portal at national level, Member States may establish the portal as they see best suited to their national regulatory framework and relevant competent levels (e.g. federal Member States such as Belgium where environmental permitting is a regional competence).

- **Recommendation**: Art. 16(3a) should be amended to exclude the procedures for grid connection from the scope of the digital single portals, as follows: '*Member States shall set up a single digital portal at national level for all steps of the permit-granting procedures for renewable energy, storage and grid projects, **with the exception of the procedures for grid connection'***. Consistency should be ensured with other relevant articles and legislation.

Further insights: Previous publications

- DSO Entity (January 2025). *Guidance on EU permitting-related provisions on grid and renewable energy projects* (Permitting Paper). Available online.
- DSO Entity (August 2025). *Response to DG ENVI's call for evidence on the simplification of administrative burden in environmental legislation on permitting-related aspects*. Available online.
- DSO Entity (December 2024). *Response to the European Commission's Targeted Consulation on the Dedicated Grid Areas (Art. 15(e) of RED)*. Available online.

4. Guidance on Grid Connection

DSO Entity's reaction to the EC's Guidance on efficient and timely grid connection (COM(2025) 8473 final.

Executive Summary

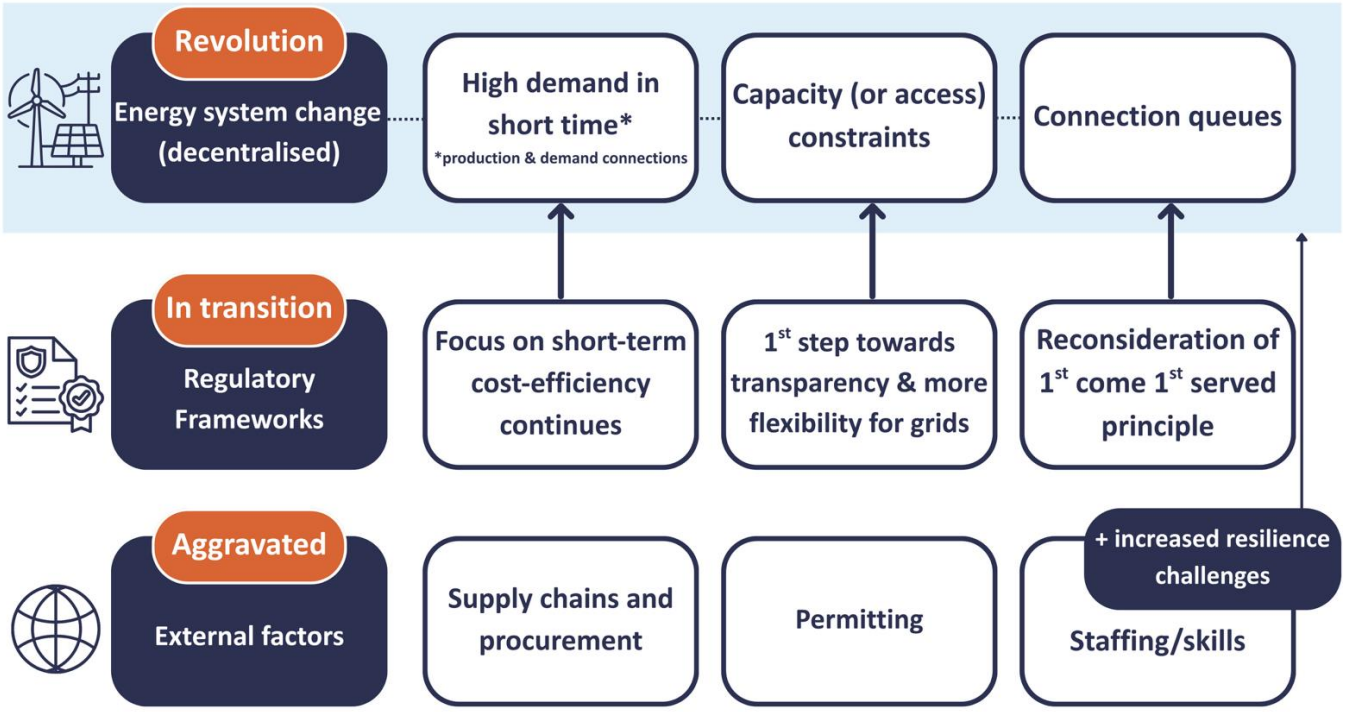
The EC's holistic approach to grid connections is generally welcomed, notably its recognition of anticipatory investments, long-term planning and external challenges (e.g. supply chains, permitting). While proposals to move beyond the 'first-come, first-served' principle are supported, clear national legal frameworks are needed to ensure legal certainty and practical implementation for grid operators. Also, any additional obligations imposed on DSOs regarding the management of the connection requests must be clearly embedded in the regulatory framework and adequately reflected in network tariffs to ensure full and transparent cost recovery. Some proposals on enhanced hosting capacity transparency risk going beyond existing EU legislation, may increase administrative burdens with limited added value and raise concerns regarding their technical feasibility. DSO Entity supports capacity-based and static time-of-use tariffs which can improve cost reflectivity and help smooth peak demand, whereas highly dynamic tariffs risk excessive complexity and limited effectiveness.

Relevance of the topic: DSO connect

DSO Entity welcomes the European Commission's Guidance on efficient and timely grid connections as an important contribution to addressing a growing challenge for Distribution System Operators (DSOs). As the last mile to consumers, **DSOs are at the forefront of the rapidly increasing demand for grid connections**, both on the consumption and generation side. Across the European Union, DSOs connect more than 250 million households including electric vehicle charging infrastructure and heat pumps, most industrial customers, more than 70% of renewables, and, in many cases, data centres.

Root cause for grid connection queues: Failure to adapt investment needs to changing energy system

The EC identifies inadequate grid planning, insufficient transparency and locational signals, and outdated connection procedures as the main drivers of growing connection queues. While overall agreeing with this holistic approach that also considers the need for anticipatory investments, (longer-term) planning and acknowledges external challenges for grids such as permitting, supply chain constraints and lack of skilled workforce, DSO Entity considers that one underlying root cause requires stronger emphasis: **the realization of investments in electricity networks is not progressing at the necessary pace**. The rapid and profound decentralisation of the energy system, driven by ambitious decarbonisation objectives and accelerated by Russia's war against Ukraine, has led to a sharp increase in renewable and demand-side connection requests. **However, investment in distribution networks has not always kept pace with the speed of the transformation**, due to factors such as permitting constraints and regulatory tariff pressure. Regulatory frameworks must therefore be stable and provide clear risk-return allocation, ensuring that DSO returns adequately reflect the risks they bear and enable access to competitive financing. Regulators should strike a balance between protecting consumers from high tariffs and ensuring timely grid connections and network capacity extensions. Without adequately tackling this core investment gap, transparency or procedural measures alone will not be sufficient to resolve the connection challenges.



Planning and Deployment

In an increasingly decentralised energy system, national network planning is more **bottom-up, inclusive and cooperative, with a stronger role for DSO-level forecasts** and close TSO–DSO coordination. The systematic integration of DSO assumptions and demand- and generation forecasts into TSO development plans, including both national TNDPs and the EU-level TYNDP, is essential to prevent bottlenecks that constrain connections at the distribution level, particularly for new loads and decentralised generation. This is crucial since distribution-level constraints may also originate from insufficient capacity or delays at the transmission level.

While the early involvement of system operators in planned developments (e.g. heating and cooling projects, industrial developments, and public transport reinforcement) is essential, any consideration of new ways of working should build on existing structures. Care should be taken to ensure complementarity with established processes, avoid duplication, and maintain efficient administrative arrangements for all stakeholders. In many Member States, Distribution Network Development Plan (DNDP) consultations and other stakeholder fora already provide structured opportunities for engagement. Against this background, **proportionality, consistency, procedural simplicity and equal access should guide the design of any additional coordination mechanisms**. At the same time, the effective use of flexibility is already being advanced through existing frameworks, including DNDPs, Flexibility Needs Assessments, and flexibility mechanisms (such as FCAs or market-based) which allow DSOs to systematically integrate available flexibility from grid users into network planning and operation.

Incentives for efficient grid connection and use

While DSO Entity support several of the EC's recommendations in this Guidance as well as its published Guidance on network charges[8], it is important to stress that network tariffs[9] mechanisms alone do not address all operational challenges of DSOs. **MS and NRAs must provide toolboxes – consisting of market rules, flexible connection agreements, flexibility products and/or tariffs - that can be used jointly to mitigate the operational challenges of grid operators**.

While use-of-system tariffs (UoS) will have a limited effect on the connection decisions they can have an important impact on the use of the grid and thus the capacity to connect. In this respect DSO Entity:

- shares the recommendation of the EC regarding the usage **of capacity components in UoS** which improve cost-reflectivity. The capacity used/demanded is and will continue to be the main driver of the investment needs in the grid. Therefore, by creating a direct link between this driver *(capacity used)* and tariffs, this capacity component increases the expected efficiency in the system by incentivising network users to smoothen their peak use of the grid. Furthermore, this tariff mechanism could have a bi-directional component as the directly used part of the grid can be used both for infeed and discharge.
- support the use of '**static' time-of-use tariffs (ToU)** in combination with capacity or energy components. For example, through predefined time windows with differentiated network charges, DSOs can incentivise consumers to shift consumption to periods of available capacity, thereby reducing peak demand and avoiding congestion. This support, however, comes with a caveat, as **time-of-use (ToU) tariffs with a high degree of granularity and frequent changes are viewed critically** (e.g. changing the day before with 15 minutes frequency or even intraday). These tariffs, commonly referred as dynamic tariffs, are only effective if users can respond to time signals, which is unlikely without widespread demand automation. As a result, they would currently generate a level of complexity that would not compensate for any improvement in network usage. Also, overly complex time-of-use tariffs undermine effectiveness by reducing customer understanding and risking exclusion of less knowledgeable or less well-equipped consumers.

In addition to considering the share of the **connection costs** that are socialised *(i.e. the share of the connection charges to be paid by the connecting user),* regulators should consider the structure of these charges which may have a strong impact on electrification. DSO Entity considers three points as relevant:

- The methodology for locationally differentiated connection charges should be **non-discriminatory** to ensure an efficient connection of the network user, but they need to evolve to reflect the changing nature of demand for connections going forward.

---

8 European Commission (2025): Guidelines on future-proof network charges for reduced energy system costs published (COM(2025)4010).

9 Network charges are not only fees paid by network users that aim to recover the costs of building, maintaining and operating networks, but they can also be usedas tool to provideincentives to network users. To ensure fairness and efficiency network charges must be cost-reflective and non-discriminatory, simple predictable and transparent. Network charges include both connection charges andfeesfor the use of the grid(use-of-system charges (UoS).

- Locational components would only be effective when network users have the **capacity to choose between different locations**. This capacity will depend on whether the locational decision can be crucially influenced by the connection charges (e.g. a household or small business would not change location due these charges. Equally, a wind farm would only consider changing to other areas with sufficient wind power).
- **Non-shallow connection charges** are well suited to provide locational incentives for generators and some larger consumers at the moment of decision making. This is a one-time incentive for a one-time location decision.

Where full capacity is not available, **Flexible Connection Agreements (FCAs)** enable the connection of customers and DSOs to optimise network utilisation without delaying necessary reinforcements. In line with the existing regulatory framework, DSO Entity supports the wider use of FCAs as a potential means for faster connections, provided that they are implemented under appropriate operational and contractual conditions and allow DSOs to select and optimise solutions in accordance with their specific network structures, technical requirements, and operational needs, while maintaining the option to convert to firm connections as network conditions evolve.

Facilitating understanding of grid hosting capacity

The latest Electricity Market Design reform (2024)[10] has significantly strengthened the obligations for DSOs regarding requirements to ensure transparency on grid hosting capacities and handling of grid connection requests. DSO Entity acknowledges that national platforms for hosting capacity can improve user visibility and planning and today 22 Member States already publish some form of hosting capacity information on DSO-level as stated in the Guidance. This current approach preserves **flexibility for diverse national practices** while ensuring EU-level transparency through DSO Entity's and ENTSO-E's joint work under Grid Action Plan Action 6, which ensures a **European-wide overview** of available grid hosting information (see box on Capacitypedia).

Against this backdrop, several of the Commission's proposed measures on grid hosting capacity transparency go well beyond the just recently adopted regulatory framework. This includes calls for increased transparency at low-voltage level, higher data granularity, faster grid observability, a closer linkage between hosting capacity information and DNDPs and harmonized methodologies for assessing capacity on a national level. While remaining open to good practices and suggestions for improvements, some recommendations raise concerns about their technical feasibility, proportionality, and limited practical value:

- **Visibility into the low-voltage grid:** The usefulness of capacity map information depends on stakeholder needs, which differ significantly between small LV connections, large HV connections. Publishing hosting capacity at the low-voltage level is often impractical due to the high variability driven by local grid topology (e.g. radial vs. meshed), dynamic customer profiles, simultaneity effects, applied grid design, security criteria and GDPR-constraints.

[10] Electricity Market Directive(EU2024/1711)–Article31; Electricity Market Regulation(EU2024/1747) – Article50.

- **Linking DNDPs with grid hosting capacity:** Linking DNDPs with grid hosting capacity information conflates different purposes, timelines and data needs, making the proposal technically and practically unfeasible. DNDPs are strategic, biennial planning documents that do not provide asset-level information - at least at medium and low-voltage - whereas hosting capacity requires more frequent updates under a separate framework. Hosting capacity is therefore better addressed independent of DNDP cycles.
- **Real-time grid hosting capacity data:** Capacity is not static but depends on complex factors like grid topology, security criteria (N-1/N-x), interactions with other grids, and project timing. While monitoring the real-time available capacity of the grid is essential for safe and secure operation within technical limits, this does not directly translate into the hosting capacity available for new connections, i.e. the information has limited usefulness for planning purposes. In addition, hosting capacity information only provides an indicative snapshot of a constantly evolving network situation. Available hosting capacity information should be considered indicative as it provides a high-level approximation of complex and evolving network conditions.
- **One-size-fits all methodology at national level:** Hosting capacity assessments are highly network-specific and depend on local operational, security-of-supply and planning parameters that cannot be fully harmonised without risking oversimplification and potential impacts on reliability and safety. DSO Entity supports transparency through knowledge exchange and good practice sharing, notably via initiatives such as Capacitypedia.

On a more general note: considering recent developments, including targeted attacks on critical grid infrastructure throughout the EU, it has become increasingly important to strike an **appropriate balance between transparency and security aspects**.

Capacitypedia: an EU-Portal for Grid Hosting Capacities

The Grid Action Plan (COM(2023)757) assigned DSO Entity and ENTSO-E to develop a **Joint Portal on Grid Hosting Capacities**. The portal will help to increase transparency on an EU-scale and will included the following elements: (1) Create a **pan-EU overview by aggregating links** to national grid hosting capacity information, (2) provide **contextual information** to help stakeholders better understand the available information; (3) **increase visibility** for project developers of renewables, energy storage, emerging load such as EV charging stations and other developers.

This milestone represents a significant step towards clear and accessible hosting capacity information, ultimately accelerating the energy transition, however also requiring further steps to integrate this static information into a meaningful dialogue at relevant grid-level. More information in the dedicated Joint Progress Report[11].

(EU) monitoring of connection queues and benchmarks

Providing customer information on the state of its connection application is a basic element of DSO customer relationship and service transparency. Alongside digital platforms, many DSOs maintain

[11] DSO Entity C ENTSO-E (December 2025) Joint Progress Report on Capacitypedia. Available online.

multichannel customer support including in-person and telephone options, usually following a Member State mandate. Though less efficient and costlier, traditional channels ensure inclusiveness for customers with limited digital skills or special needs, prioritising equitable access and trust over pure operational efficiency.

However, the recommendation to provide regular, ideally **real-time, information on the state of connection requests and their impact on grid hosting capacity** does not sufficiently reflect the technical and operational realities of distribution networks. Hosting capacity is not a static value and cannot be determined or updated in a synchronous manner with each new connection request (see part on transparency). Nevertheless, it should be noted that the work on Capacitypedia aims to clarify the availability of grid capacity, including the treatment of waiting lists, in a way that is consistent with existing regulatory obligations and practical for DSOs to implement.

Further, DSO Entity sees the proposal to introduce *'clear connection waiting time benchmarks, milestones and efficiency criteria for grid operators with penalties in case these are not met'* critical. Most bottlenecks in the connection process lie outside the direct control of DSOs when handling connection requests. They are primarily related to permitting procedures and supply-chain constraints . In addition, construction timeframes are largely non-compressible. Therefore, such **a punitive approach with progress on indicators for benchmarking connection times should be avoided but a positive approach taken** , i.e. DSOs would be able to faster develop their network if future system users commit to connection during scenario building. Member States should rather foster forums to gather scenarios of connections.

Supporting smartification and digitalization

It is positive that the importance of grid smartification is recognized in the Guidance. The use of specific technologies must remain business-case driven, reflecting the diverse local conditions under which DSOs operate and the absence of a one-size-fits-all solution. It is also positive that the necessity to set a supportive regulatory framework is emphasized to enable cost-effective investments, including in non-wire solutions and to secure the relevant level of observability as it is a pre-requirement for future grid´s management.

Improving grid connection procedures: overcoming the 1st come – 1st served principle

The clarification that the detailed design of connection rules falls within the competence of Member States, together with the practical proposals to move beyond the 'first-come, first-served' principle through the introduction of prioritisation frameworks, is generally welcomed. Clear and transparent national legal or regulatory frameworks will be essential to provide legal certainty and protect grid operators from challenges related to prioritisation decisions, which should leave little or no discretionary decision-making to DSOs.

To ensure smooth implementation and enable DSOs to fulfil their operational responsibilities, the following principles should be applied:

- the **inclusion of DSOs** in the design of prioritisation schemes during the consultation phase;
- the establishment of a clear and **unequivocal national framework** to avoid legal uncertainty;

- proportional and feasible implementation, **avoiding excessive administrative burden**; and
- **avoidance of overloading the connection process** with overly complex or one-size-fits-all solutions.

While clear transition periods and legal certainty are essential to avoid litigation against grid operators when applying new rules, it is reasonable for prioritisation schemes to also apply to existing connection requests. Otherwise, currently reserved capacity would remain blocked until the expiry of existing connection agreements. Similarly, the **reallocation of unused capacity**, as referenced in one of the recommendations, can contribute to a more efficient use[12] of the grid. While DSOs are responsible for monitoring and calculating network capacity utilisation, any concrete rules governing the reallocation of unused capacity back to the system must be defined by MS or NRAs. When implementing such rules, it is essential that they remain straightforward to apply and do not impose disproportionate administrative or computational burdens, considering the size and capabilities of the DSO.

Further, the proposals for better **queue management and maturity assessments** are deemed useful tools to improve transparency and predictability for all stakeholders. These mechanisms also help identify speculative or underprepared requests and allow DSOs to manage workload more effectively by focusing first on those applications that are ready for technical assessment. In this respect it is important to underline that any new obligations imposed on DSOs must be clearly embedded in the regulatory framework and **adequately reflected in network tariffs** to ensure full and transparent cost recover.

Further insights: Previous publications

- DSO Entity (January 2026) *Tariffs and incentives: a premier for the future*. Available online.
- DSO Entity (December 2025) *Joint Progress Report on Capacitypedia*. Available online.
- DSO Entity (Octobre 2025) *Digital solutions for handling connection requests*. Available online.
- DSO Entity (November 2023) *DSOs Fit for 55: Challenges, practices and lessons learnt on connecting renewables to the grid*. Available online.

[12] An'efficient' network is not one that maximisesasset utilisation at the expense of security andresilience; capacitymarginsand redundancies are essential, as anunreliablegrid ultimately becomes costly. Further, it should be noted that using the grid at full capacity for a longer timeincreases losses, which is not 'efficiency'and whichoverall might come ata greater cost.

For further information, please contact DSO Entity's Strategy, Legal & Regulatory Affairs team:

Elisa van Dooren – Team Lead – elisa.vandooren@eudsoentity.eu
Claire Vandewalle – Senior Advisor – claire.vandewalle@eudsoentity.eu
Louise Tydgadt – Junior Officer – louise.tydgadt@eudsoentity.eu