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The role of grids and the need for a European Grids Package



Why a Grids Package: European Commission President's 2025 State of the Union

"We [] need to urgently modernise and invest in our infrastructure and our interconnectors. This is why we will propose a new Grids Package to strengthen our grid infrastructure and speed up permitting."

Ursula von der Leyen in her 2025 State of the European Union address on 10 September 2025.

Electricity grids are a cornerstone of a competitive and resilient European Union (EU) and were thus in the focus of the European Commission's (EC) agenda from the very beginning. Already the mission letter of the Energy and Housing Commissioner highlighted the need for an assessment of the suitability of the EU legal framework for grids and the Affordable Energy Action Plan formally unveiled the EC's intention to develop a European Grids Package to accelerate the expansion, modernisation and digitalisation of the grids building on the actions from the Grid Action Plan (COM 2023/757/EU).

EU Grids Action Plan: Achievements and follow-up

The Grids Action Plan (GAP) published in November 2023 and concluded during the Copenhagen Forum in June 2025 proved to be a useful tool to support the delivery and implementation of preceding grid-relevant EU legislation. For instance, it supported the new provisions to shorten permitting under the revised Renewable Energy Directive (RED III) as part of the REPowerEU Strategy or the Electricity Market Design (EMD) reform prescribing the inclusion of anticipatory investments in regulatory frameworks and requesting increased transparency on available grid hosting capacity. The GAP identified clear measures to tackle challenges faced by grid operators and played a key role in setting in motion key initiatives on the short- and medium-terms supporting electricity grids in their clean transition. Yet, certain obstacles remain to be fully addressed in the long run to contribute to achieving the clean transition but also enhancing the EU's competitiveness and resilience.

While the European energy market integration, including the development of "one of the most extensive and resilient electricity networks in the world" (COM 2023/767), can be widely acknowledged as a success story, more integration will be needed in the future as well as a shift in perspective towards a more decentralised, digitalised and renewable energy system. Given the changes in the energy system and the increasing role of DSOs, the current legal framework is not yet fully adapted to the new circumstances overlooking the decentralised level which is key to empowering consumers.

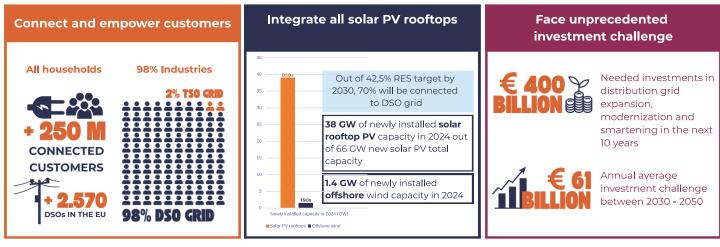


Figure 1: DSOs are key enablers of Europe's energy transition¹

On the road to the Grids Package: Key principles to guide the future measures on grids

Although recent developments in the EMD reform and the GAP have positively put grids and their role in the spotlight, the European framework remains focused on a predominantly cross-border view with little inclusion of distribution grids which can be seen in the relatively low support for DSOs in European funding opportunities for instance. Therefore, DSO Entity welcomes the announcement of an upcoming dedicated package for grids to keep the momentum. The European Grids Package will be a key opportunity to address some of the outstanding DSOs' needs and challenges in the long term in the form of legislative and non-legislative proposals. It is expected to notably "simplify the trans-European energy networks (TEN-E Regulation), ensure cross-border integrated planning and delivery of projects, especially on interconnectors, streamline permitting, enhance distribution grid planning, boost digitalisation and innovation as well as increase visibility of manufacturing supply needs"2. Building on the GAP's milestones, DSO Entity investigated with its members what missing actions are still necessary to fulfil the EU's objectives and what level of support is needed for DSOs at the EU and national levels. DSO Entity developed key recommendations for the upcoming Grids Package which are detailed below.

¹Connect and empower customers: Based on the input of DSOs from 15 different Member States in a DSO Entity survey, 98% of industrial customers are connected to the European distribution grid in average in the EU. DSO Entity (2025). Competitiveness Report. Available online. & DSO Facts & Figures. Available online.

Integrate all solar PV rooftops: WindEurope (2025). 2024 Statistics & the outlook for 2025-2030. Available online. & SolarPowerEurope (2025). EU Market Outlook for Solar Power 2024-2028. Available online.

Face unprecedented investment challenge: DSO Entity(2025). DSO Facts & Figures. Available online.

² European Commission (2025). "Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions for an Action Plan for Affordable Energy - Unlocking the true value of our Energy Union to secure affordable, efficient and clean energy for all Europeans" (COM/2025/79). Available online. URL: https://eurlex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52025DC0079&qid=1741780110418

A more decentralised future requires a system-ofsystems approach

While grids in general and DSOs in particular had often been overlooked in the European legislative framework in the past, recent developments in the EMD reform and the GAP have positively put grids and their role in the spotlight. However, the European framework remains focused on a predominantly cross-border view with little inclusion of distribution grids.

Distributed Power Connects the Future

Today, DSOs manage over 10 million kilometers of network infrastructure out of the 11.3 million of the whole EU's power grids, connecting +250 million customers, i.e. all households and most of the industries with 98% of European industrial customers connected to the DSO grid in average. The setting of ambitious EU energy and climate targets and a more decentralised, decarbonised and digitalised energy system have led to a paradigm shift and distribution grids need to meet growing new demands. Distribution grid operators have developed into active Distribution System Operators with a grown portfolio of activities, such as integrating an increasing amount of renewable (RES) and decentralised energy resources (DER), unlocking customer participation in electricity markets via the facilitation of flexibility services or energy sharing solutions while still ensuring a reliable electricity supply through a more active system management.

The need for a system-of-systems approach

It is therefore of the utmost importance that the Grids Package follows a system-wide approach paying sufficient attention to the decentralised level. By integrating and managing the bidirectional and intermittent flows of energy resulting from growing DER and RES, DSOs play a key role in maintaining system stability through an active system management in coordination with the TSOs. Such a system of systems approach should ensure that DSOs/TSOs are equally treated through balanced EU legislation regarding their roles and responsibilities to guarantee good coordination and cooperation also at the national level³. For instance, for national network development planning, good **DSO-TSO** cooperation is a pre-requisite to ensure an efficient and accurate forward-looking planning of future interventions. As the majority of RES and future electrification of consumption (EV, HPs, etc.) will be connected at the distribution level, DSOs must be involved as equal partners and a bottom-up approach is needed. TSOs' sufficient investments in their connections with DSOs is central to ensure sufficient capacity at the DSO level to connect new loads of customers (generation and demand). Collaborative and integrated network planning at the national level is therefore the best guarantee for a comprehensive European TYNDP4 vertically assessing grid needs across transmission and distribution levels and for data-driven Distribution Network Development Plans (DNDPs) able to efficiently identify system capacity needs and ultimately optimise costs.

³ DSO Entity (2025). DSO Entity's Technical Vision. Available online. URL: https://eudsoentity.eu/wp-content/uploads/2025/01/Technical-Vision-2024-Final-report-.pdf

⁴ Ten-Year Network Development Plan (TYNDP).

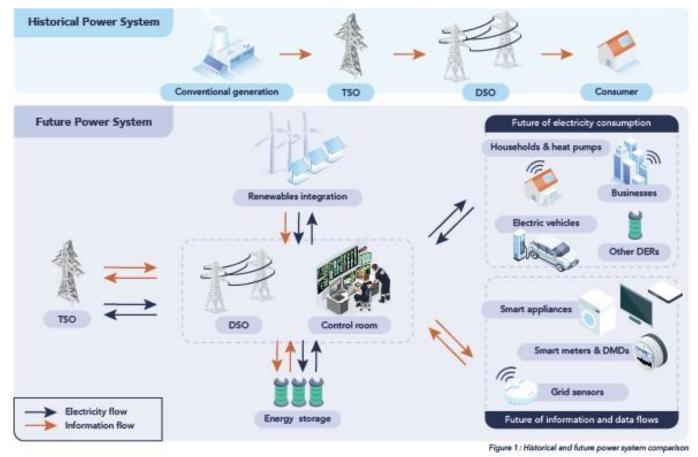


Figure 2: The role of DSOs is growing in an increasingly decentralised, decarbonised and digitalised energy system

Right level of EU engagement

However, this does not mean that all solutions can and should be tackled within the EU framework since despite their relevance for the EU energy objectives, DSOs remain local and diverse actors (*no one-size fits it all*). Differences in grid topology, regulatory environments, market structures, and customer profiles mean that DSOs face unique challenges and opportunities depending on their national and regional contexts. While DSOs and DSO Entity are committed to the European project and strive for alignments on different levels, the current approach looking for simplification should also apply for DSOs while accommodating this diversity.

Recommendations for the Grids Package: What still needs to be done?

Beyond a greater focus on the decentralised level, it is important that the Grids Package ensures the right mix of measures at the EU and national levels while keeping the principle of simplification in mind also for DSOs. Following the achievements and progress of the GAP, certain challenges remain not fully addressed and therefore more direct EU support is needed to ensure grids are fit for purpose, especially in the area of funding and financing to ensure a forward-looking regulatory framework and the right investment climate are in place. Yet, for other grids areas focusing more on local issues, latest actions taken have brought positive outcomes. For these areas no new legislative EU action is needed, and efforts should be rather put into keeping supporting implementation, sharing good practices and bringing visibility and transparency.

The following three principles should guide the measures taken in the future Grids Package

1. Ensure the <u>implementation</u> of existing EU legislation and strengthen EU guidance to support Member States in tailoring solutions to local realities

Important initiatives were set in motion with these acts which still need to be fully implemented at the national level. The EU level can further continue to support by providing guidance documents for the implementation such as on anticipatory investments or dedicated grid areas (EC) or by supporting DSOs through knowledge sharing and increasing European-wide transparency on good practices. But no explicit new legislative action at the EU level is needed for topics with a local character such as DNDPs, grid hosting capacities or initiatives to smarten the grid. For these areas the ongoing and follow-up GAP-activities seem sufficient to support the ongoing implementation of existing EU legislation at the national level. It is also essential to ensure the timely adoption of secondary acts on technical rules to improve the technical conditions for grids and set the right conditions in place without delay (e.g. implementation of the Network Code Demand Response or Grid Connection Codes Requirements for Generators (RfG)).

2. Provide <u>direct EU support</u> for tackling the investment and finance challenge and strategic topics

Some other areas are, however, still in need of greater direct EU support, especially where progress at the national level is stalling. For instance, the topic of investments, funding and financing needs more direct EU action. Despite small improvements in the recent EMD reform (2024/1747/EU, Art. 18(2)) which added that the tariff methodologies shall also consider "[...] to contribute to the achievements of the objectives set out in NECPs", they seem still too vague to ensure a more holistic approach to efficiency when protecting customers: efficiency does not mean the lowest costs in all situations, but also the reliable availability of assets and services when needed. Therefore, the EU level should give clearer guidance to NRAs to ensure that grid investments are aligned with the European climate and energy objectives as well as prepared for increasing needs for climate adaptation and prevention of physical and cyber-attacks. In parallel to that, funding and financing support for DSOs also need to be improved at the EU level with the earmarking of funds for DSOs (MFF) and greater focus on smart grids projects (CEF-E) and derisking initiatives. While for permitting the implementation of existing EU legislation is crucial, new legislative attempts from the EU side to further shorten lead times by simplifying environmental

impact assessments and reducing administrative burden are welcome. Furthermore, EU leadership and support is needed on strategic and complex topics such as reliable supply chains, accessible raw materials, or simplified EU public procurement rules. These are areas where active EU action and support are needed to ensure the right conditions for DSOs on the ground.

3. Improve <u>coordination</u> and alignment between the different levels to foster cooperation and knowledge sharing.

The future framework must ensure that all players at all levels cooperate and coordinate their actions to optimise the required evolution from the energy grid towards an energy system to enable customers to actively participate in the transition. A system-wide approach in the energy landscape will open **new opportunities for customers, service providers and system operators.** It should be clear that this system-wide approach points towards engaging all players of the system to achieve the energy transition in the most effective and efficient way and not to unify or standardise one-size-fits-all solutions over all voltage levels. The strengthened cooperation between the institutional actors of the GAP (i.e. EC, ACER, DSO Entity, ENTSO-E) has developed into a successful non-legislative framework of exchange that should be kept and further developed. DSO Entity is an important actor in this respect and should be actively involved in envisaged new fora such as the concept of tripartite contract announced in the Affordable Energy Action Plan to provide **expertise on topics with primarily local or national character** and share good practices and transparency of activities (e.g. DNDPs, public engagement, smart grids and digital technologies, skills and staffing).



Figure 3: Three guiding principles for the Grids Package

Concrete examples for measures needed at different levels:

Below are some examples of measures describing where direct or indirect EU support will be needed and identifying which areas of cooperation should be strengthened.

Table 1: Recommendation for the Grids Package detailing concrete measures needed and with what level of action.

	INTENSIFIED COOPERATION	NATIONAL IMPLEMENTATION with INDIRECT EU	DIRECT EU SUPPORT
	with involved stakeholders	SUPPORT	DIRECT LO SOFFORT
	Actions ongoing	Actions needed	a
Grid Investment and Funding	Organised exchanges of experience between NRAs, Member States, system operators to swiftly implement the Guidance on anticipatory investments (COM 2025/3291/EU) by ACER, EC (Copenhagen Forum's assignment).	Ensuring and supporting the implementation of EU legislation (EMD reform with amending Regulation 2024/1747/EU, Art. 18(2)) and EC guidance on anticipatory investments to ensure forward-looking regulatory frameworks, adequate compensation and predictability about future earnings. Implementation of EU guidance on network tariffs (COM)	Clearer EU-guidance for NRAs to guarantee the right investment climate for grids at the national level to meet the EU energy objectives. Better funding and financing support at EU level for DSOs: Earmarking of funds for
		2025/4010/EU) to ensure grid tariffs follow the principles of cost-reflectiveness and cost-recovery.	DSOs (MFF) and greater focus on smart grids projects (CEF-E) and derisking initiatives.
Grid Permitting and Public Engagement	Public engagement: Providing EU guidance rather than top-down harmonisation on public engagement plans in cooperation with DSO Entity given the local nature of the topic and the need to acknowledge DSOs' diversity (no one-size-fits-all solution) (2025 Copenhagen Forum's assignments). Continuing using the Pact for Engagement as a forum of knowledge sharing to exchange good practices with local and national involved actors (DSOs, TSOs, NRAs).	Permitting: Ensuring and supporting the implementation of existing EU legislation (RED III, 2023/2413/EU, Art. 15e) and EC guidance on dedicated grid areas (COM 2025/4012/EU) (e.g. overriding public interest).	Permitting: Further EU actions are needed on simplification of administrative burden (e.g. environmental impact assessments), on generalizing the use of one-stop shops beyond the scope of TEN-E Regulation (2022/869/EU, Art. 7-10), increasing the digitalisation of authorities setting deadlines for national competent authorities.
Grid Supply Chains, Procurement and Skills	Continuing the implementation of GAP Action 13 on visibility for supply chains and common specifications through cooperation between DSO Entity, ENTSO-E, T&D Europe and Europacable (Copenhagen Forum's assignment).	Higher diversity in technical specifications for DSOs necessitates bottom-up approach for alignments on a national or regional level. Usage of Distribution Network Development Plans (DNDPs) as a tool to provide visibility in DSOs project pipelines for suppliers in addition to EU cooperative approach with GAP's Action Point 13.	EU leadership and support on strategic topics such as access to supply chains and critical raw materials. Simplification and alignment of public procurement rules. De-risking initiatives for suppliers (EIB – Grid manufacturing plan). Launch of a European Grid Academy within
			the framework of the EU's Net-Zero Industry Academies.
	Network planning: Providing EU guidance rather than top-down harmonisation in cooperation with DSO Entity on DNDPs. Continuation of follow-up work from GAP on supporting EU transparency on DNDPs and grid hosting capacities (see below).	Network planning: Transposition of EU legislation on DNDPs (Electricity Market Directive 2019/944/EU, Art. 32(3) & (4)) in all Member States, sharing of good practices and increased accessibility and transparency.	
Grid Capacity and Planning	Grid capacity: Ongoing work between DSO Entity and ENTSO-E on providing a pan-EU overview on grid hosting capacities in the EU with an information portal (Capacitypedia) to be launched in 2026. (Copenhagen Forum's assignment).	Acknowledgement of different approaches in Member States regarding the level of detail of DNDPs and their role in relation to other planning instruments (e.g. investment plans). Close DSO-TSO cooperation on national level. Grid capacity:	
		Implementation of EU legislation on grid hosting capacities (EMD reform with amending Regulation 2024/1747/EU, Art. 57(3) and amending Directive 2024/1711/EU, Art. 31(3)).	
Grid Smartening and Grid Efficiency	Sharing good practices and experiences on smartening the grid via Technopedia website together with ENTSO-E (Copenhagen Forum's assignment).	Implementation of the EMD reform to consider flexibility needs, i.e. definition and implementation of the Flexibility Needs Assessment (FNA) methodology (2019/1747/EU, Art. 19c).	Ensuring the timely adoption of secondary acts on technical rules such as the Network Code on Demand Response or the Network Code on Requirements for Generators (RfG).

Conclusions: Key principles for the Grid Package

In a nutshell, the following principles should guide the Grids Package to ensure grids and in particular DSOs are fit for purposes:

- Greater focus on decentralised level and system-of-systems approach to ensure DSOs are not overlooked in the EU's transition to a clean, competitive and resilience economy.
- Right level of support and mix of measures for DSOs at the EU and national levels to
 ensure efforts are maintained where needed and new legislative measures are set where
 appropriate.
- Focus on national implementation by strengthening EU guidance to support Member States in transposing the existing EU legislation at the national level and in tailoring solutions to local realities.
- Need for further targeted direct EU action to address remaining challenges in necessary areas especially investments, funding and financing and strategic topics such as on supply chains and access to raw material.
- Intensified and committed collaboration with key institutional partners building on the success of the GAP's coordinated and aligned approach to maintain dialogue and knowledge sharing as well as foster cooperation and collective work towards the achievement of EU's objectives.

As one of the main involved semi-institutional actors assigned to the delivery of the GAP, DSO Entity is committed to pursue its strong collaboration with the EC and other institutional stakeholders to develop and implement EU legislation, share knowledge and foster cooperation. The success of the Grid Package lies in the active engagement, cooperation and willingness of stakeholders to work together to achieve the common set goals. Such a collaborative approach should be maintained in the long run to accelerate implementation and identify solutions to close the gaps in missing areas of the transition. DSO Entity will be a key actor in actively supporting and facilitating such exchanges and stands ready to support the EC in delivering the Grids Package.



About DSO Entity

DSO Entity is a technical expert body mandated by the Electricity Market Regulation (2019/943/EU) to promote the functioning of the electricity market and to facilitate the energy transition. DSO Entity represents around 830 diverse Distribution System Operators (DSOs) connecting 250 million households to the electricity grid in 27 Member States. Among DSO Entity's core tasks are the development of technical rules for the electricity system in the form of Network Codes together with the mandated organisation of the Transmission System Operators (ENTSO-E), the facilitation of renewables integration and the promotion of the digitalisation and smartening of the grid as well as sharing knowledge and best practices.