DIGITALEUROPE

1 AUGUST 2025

DIGITALEUROPE's feedback on the European Grids Package consultation

Executive summary

In May 2025, the Iberian Peninsula faced a sudden blackout, requiring over 35,000 be rescued from trains and metros:[1] the full cost may be anywhere between €400 million to €1.5 billion.[2] This is a stark reminder that the electricity grid needs to transform at the speed needed to keep up with societal mega shifts, such as digitalisation and decarbonisation.

Electricity's share of energy demand is set to triple, from 20% to 60%, by 2050. To keep up, Europe will need to double its grid investments, including in grid modernisation.[3] Digitalisation and grid-enhancing technologies will be crucial to modernise the grid. They allow grid operators to better use the physical grid's capacity today, identify where upgrades are the most useful and efficient. Digital flexibility management solutions can also forecast, evaluate and mitigate grid congestions, which makes grids more stable and resilient. Meeting energy demand solely by building more power lines is unrealistic—it would require 152 million kilometres of new cables, enough to stretch from the Earth to the Sun.[4] In addition, critical grid projects face permitting and procurement delays, often lasting up to 12 years, due to inefficiencies across EU countries, as reported by our members.

DIGITALEUROPE brings together a diverse range of companies leading the digital transformation of Europe's energy infrastructure. Our members include energy providers, clean tech leaders like grid equipment manufacturers, and energy consumers like data centres. To remain globally competitive and strengthen the security and resilience of critical infrastructure, Europe must prioritise investment in grid modernisation and digital innovation. The upcoming European Grids

[1] Associated Press, 'Power outage affects parts of Spain and Portugal,' available at https://apnews.com/article/spain-portugal-power-outage-electicity-533832bb4ceae92eaa68c23dc0b5db18.
[2] BBC, 'How Spain powered back to life from unprecedented national blackout,' available at https://www.bbc.com/news/articles/c175ykvjxyeo.
[3] European Commission notice on a guidance on anticipatory investments for developing forward-looking electricity networks, available at https://energy.ec.europa.eu/document/download/0c176369-b0c9-416b-9d77-d9f22c482770_en?filename=guidance%20on%20anticipatory%20investments%20for%20developing%20forward-looking%20electricity%20networks.pdf
[4] BNEF, A Power Grid Long Enough to Reach the Sun Is Key to the Climate Fight, available at https://about.bnef.com/blog/a-power-grid-long-enough-to-reach-the-sun-is-key-to-the-climate-fight/.

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Package offers a unique opportunity to deliver on this ambition. We therefore recommend for the European Grids Package to:

- Adopt a Total Expenditure (ToTEx) approach supported by a grid productivity metric to foster digital grid investments and enable recovery of both operational and capital costs.
- Design flexibility incentives that respect voluntary participation while aligning with national needs assessments, ensuring fair, effective uptake across sectors and Member States.
- Extend fast-track grid permitting measures from the Renewable Energy Directive (RED) to grid infrastructure, including Grid Enhancing Technologies (GETs) and innovative network projects, as well as harmonise permitting processes across the EU.
- Enhance transparency and long-term visibility of electricity demand, capacity, and grid development plans by extending planning horizons to at least 20 years.
- Set up clear grid connection queues based on clear, objective and measurable criteria with strong safeguards, relevance, and added value to the grid instead of using the slower first-come, first-served model across all Member States.

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Investments in digital infrastructure and grid enhancing technologies

ToTEx approach & Grid Productivity metric

In the past, tariff methodologies used to calculate network charges have discouraged system operators from investing in digital technologies. This is because digitalisation and GETs were classified as operational costs (OpEx), rather than capital investments (CapEx). As a result, operators could not recover these costs in the same way they would for traditional, physical infrastructure projects.

To fix this, **the EU and national regulators must properly embrace the implementation of a ToTEx approach.** The Electricity Market Design Regulation (EMD) already includes language on the need for tariff methodologies to consider both capital and operational expenditures, but this is not yet effectively adopted across Member States.[5] **There must be emphasis on effectively including anticipatory projects in the Regulatory Asset Base and ensuring that grid operators can recover OpEx and depreciation costs through network tariffs.** Such approach would allow Transmission System Operators (TSOs) and Distribution System Operators (DSOs) to include both OpEx and CapEx in their cost frameworks.

We believe a **"grid productivity metric"** would be a valuable tool to measure how efficiently grid infrastructure is used. It would also demonstrate how digital investments improve grid performance. This, in turn, would help operators justify that these costs are necessary and should be recoverable through network charges. Without adding delays to grid development, such a productivity metric would especially support the following:

- *Cost-effective investments:* Investment decisions could be guided by the metric, identifying how software or digital tools enable the grid to operate closer to its full capacity while maintaining stability, representing better use of public resources and offering greater regulatory assurance.
- *Simplification:* Existing international standards could underpin the development of a basic KPI, analogous to established indicators like SAIDI[6] or SAIFI[7], that may eventually replace more fragmented or complex reporting obligations.
- *Digitalisation incentives:* Embedding productivity metrics into regulatory frameworks would spur further private and public investments, including at EU level, in areas like data infrastructure, digital capabilities and flexibility, accelerating the EU's advancements in sensor technology, connectivity, and artificial intelligence, as well as supporting the growth of Europe's start-up ecosystem.

Complementary to regulatory reform, tailored financial mechanisms and targeted incentives are essential to accelerate digital grid deployment across Member States. We call for:

- *Introducing performance-based rewards for TSOs and DSOs*, with National Regulatory Authorities (NRAs) assessing and remunerating outcomes like improved line utilisation, faster connection times, increased hosting capacity, customer satisfaction, and transparency. The Grids Package

[5] Article 18 of Regulation (EU) 2024/1747
[6] SAIDI stands for System Average Interruption Duration Index
[7] SAIFI stands for System Average Interruption Frequency Index

should also encourage NRAs to benchmark TSOs and DSOs on their uptake of GETs, creating transparency and promoting the adoption of best practices.

- *Flexible use of EU funds to support national grid needs*, with a strong focus on digitalisation, innovation, and resilience. A key area for EU financial support is tariff design: tariffs should continue to be set nationally based on local specificities and cost considerations, yet there is clear value in EU-level guidance and sharing of best practices, especially around anticipatory grid investment and flexibility needs assessment.

- *Setting up additional firm capacity offered, utilising a wide range of solutions including, but not limited to, GETs and flexibility markets* – in alignment with the objectives of the proposed grid productivity metric. This approach aims to optimise grid efficiency and unlock available capacity.

Flexibility incentives

As electricity demand grows and more renewables come online, Europe's power system must become more flexible to stay stable, efficient, and resilient. Introducing incentives for flexibility is vital to maintain security of supply. This will, in turn, encourage industrial players to invest in digital solutions to help manage and predict grid capacity.

To ensure the effectiveness of these incentives, it is essential to align them with the national flexibility needs assessments due by July 2026, as required under the revised EMD Regulation. The Regulation mandates that Member States regularly assess their flexibility needs based on a common EU methodology developed by ENTSO-E and EU DSO.[8]

To make flexibility work in practice, the following principles should guide the design and implementation of incentives across Member States:

- *Holistic assessment of flexibility needs at the level of the entire system, as mandated by the recent EMD reform.* Policies should focus on procuring the required flexibility services in a technology-neutral and non-discriminatory manner, without singling out or placing undue burdens on specific consumer sectors.

- *Establishment of a broad and inclusive EU-wide definition of flexibility.* This is key ensure a responsive, future-ready grid and energy market. Flexibility services must be clearly defined, market-driven, technically specified, harmonised across the EU and open to all customer classes. Inclusiveness in the definition of flexibility is key for data centre operators and other industries to explore how best to respond to the grid's evolving needs.

- *Encouragement of tailored flexibility products to the diverse technical and operational parameters of potential providers.* Innovative products could be piloted and refined through regulatory sandboxes. TSOs like Belgium's Elia are already open to this approach. The Netherlands also provides a positive example, offering consumers a choice of flexible access products with different

[8] ENTSO-E, European Methodology for the Analysis by TSOs and DSOs of the national flexibility needs, available at https://www.entsoe.eu/tso-dso-flexibility-methodology/

levels of firmness and corresponding tariff discounts, allowing businesses to select the option that best fits their operational profile.

Other investment mechanisms

Delivering the modern, flexible grid Europe needs will require mobilising a broader set of financing tools beyond traditional public funding. Attracting private finance will depend on de-risking grid investment—especially for anticipatory projects that are essential to meet growing digital demand and advance decarbonisation. Other efforts should focus on fostering public-private partnerships at EU level that can finance critical components such as public 5G Standalone and Mission Critical Networks, ensuring secure and resilient high-speed connectivity. A clear framework should allow large energy users to co-finance or pre-finance specific grid reinforcements needed for their connection, as well as invest in high-impact solutions like GETs and energy storage.

Grid Permitting Processes

Slow and complex permitting processes are one of the main reasons grid infrastructure is not keeping pace with Europe's rising electricity demand and clean energy deployment. Lengthy procedures, taking up to 12 years, delay critical upgrade and increase costs for developers and consumers. We recommend to:

- *Digitalise the permitting process and extend the one-year permitting acceleration measures introduced in the revised RED[9] to grid infrastructure, including GETs and innovative networks.* Applying the same principles to grid permitting, for both demand and generation projects, would ensure consistency and coherence across the energy system. This includes establishing clear, enforceable and significantly shorter timelines for all permitting processes, classifying the development of grids as being in the overriding public interest, offering dedicated infrastructure areas, as well as digitalising permitting processes and creating "one-stop-shops" within competent authorities to streamline decision-making processes. Where relevant, the Trans-European Networks for Energy framework should also issue EU guidelines and establish priority "electrification acceleration zones" for early deployment of grid infrastructure projects.

- *Equip authorities with sufficient resources and staffing* to manage the increasing volume of grid connection requests and permitting procedures efficiently.

- *Reform grid planning processes to better anticipate and accommodate long-term system* needs, recognising that current load and generation growth are outpacing grid expansion efforts. This requires a more forward-looking approach to system planning that considers future demand growth to reduce delays and facilitate the energy transition.

[9] Article 16a of Directive (EU) 2023/2413 sets a 12-month permitting limit for renewables in acceleration areas, or 2 years for offshore projects, with limited extensions.

Grid Planning

A forward-looking and transparent grid planning framework is essential to support Europe's energy transition and industrial growth. Current plans are too short-term and fragmented, limiting investment and slowing infrastructure upgrades. We recommend to:

- *Enhance transparency and long-term visibility of electricity demand, capacity and flexibility in grid development plans,* building on the recommendation in a recent European Parliament's motion for resolution on grids,[10] as well as 2024 Council conclusions.[11] This visibility should extend to a 20-year horizon for TSOs, while for DSOs it should extend to a 5- to 10-year horizon. This is key to enable anticipatory investments, support scalable grid infrastructure, and align with industrial and national development planning. Current 5-year Network Development Plans (NDPs) are insufficient to provide transparency on long-term energy system needs.

- *Require TSOs and DSOs to publish machine-readable hosting capacity maps, detailing current and planned grid capacity*. This aligns with recent European Parliament's calls own- and would support more efficient site selection by industry. When implemented granularly and updated monthly, as is already done in Belgium, such maps can enable targeted investment in areas where the grid can accommodate new load, reducing administrative burden. Policies should actively encourage systematic access to machine-readable data about the grid and grid problem statements. This necessitates not only that grid operators and utilities proactively make written information about their electric grids available (with robust cybersecurity and privacy protections and shared based on appropriate protocols and security), but also the development and widespread adoption of standardized data and evaluation frameworks for AI models. This would allow innovators and other parties to spot larger trends or potential vulnerabilities and propose novel solutions before major disturbances occur.

- *Amend the Regulation on the Governance of the Energy Union*[12] to introduce regular reporting of Member States' grid investment, planning and development in their National Energy and Climate Plans (NECPs) to foster accountability, enable anticipatory investments and drive progress.

- *Ensure DSO participation in NECPs and fully integrate distribution-level planning with TSOs into NDP* to align infrastructure needs across all grid levels.

- *Strengthen the framework for NDPs and TYNDPs*[13] *by integrating checkpoints during the regular two-year update cycle.* These checkpoints would assess if major policy or market changes would require an earlier revision or update of the NDP. Examples of such events are rising electricity demand, falling storage costs or rise in distributed generation, storage or distribution. Such interim assessments are key to ensure grid development stays aligned with evolving system needs.

[10] Point 14 in European Parliament resolution of 19 June 2025 on electricity grids: the backbone of the EU energy system, accessible here.
[11] Point 4 in Council conclusions of 30 May 2024 on Advancing Sustainable Electricity Grid Infrastructure
[12] Regulation (EU) 2018/1999.
[13] TYNDP stands for the Ten-Year Network Development Plan

- *Foster voluntary, confidential, contract-based data-sharing between users, distributors and producers of electricity to enable better grid planning.* Customers should be able to share with TSOs confidential, non-binding, location-specific estimates of their expected electricity demand needs, including projections extending up to 10 years. For such voluntary data sharing to happen, focus should be on organisational and technical measures to protect the commercial sensitivity of any data possibly intended to be shared, as well as on the ability to update such estimates as needed. This approach would provide TSOs with the critical visibility needed to justify and plan for anticipatory investments, ensuring the grid is ready before bottlenecks emerge.

Grid Connection

Certainty of grid connection dates is essential for unlocking investment in Europe's digital and renewable energy sectors. It directly affects project timelines, cost planning, and overall feasibility. For this reason, the European Commission, supported by the Agency for the Cooperation of Energy Regulators (ACER), should issue common requirements and operational benchmarks for Member States on grid connection principles and process efficiency. Grid access reforms should be carried out according to clear criteria and defined timelines to ensure that customers can rely on the grid capacity contracted and enable the long-term investments associated with the project. Mechanisms should be put in place to discourage speculative connection requests that accumulate in the connection queues without intention of bringing the project to life.

We recommend in particular EU guidelines to:

- *Require a transparent and non-discriminatory framework for managing connection queues*, prioritising projects based on clear, objective and measurable criteria (e.g. land control, permits, creditworthiness) and added value to the grid (e.g. competitiveness, relevance to national climate goals, flexibility, digitalisation potential, alignment with smart readiness indicators), with strong safeguards to prevent arbitrary decision-making and ensure accountability. Member States should move away from the 'first-come, first-served' model, where connection applications are processes in order of arrival regardless of readiness, often causing delays and inefficient grid use. They should instead opt for a 'first-ready, first-out' approach, removing speculation from the grid and prioritising projects that are ready first for connection, as well as providing value to the grid and the public. To this extent, we recommend to explore and adopt best practices from emerging active queue management models across and beyond the EU to ensure fair, efficient, and future-ready access to the grid. The UK, for instance, applies regional technology quotas for queue management, based on grid decarbonisation needs. It then prioritises the most mature projects within each quota. This reform has helped remove speculative projects from the connection queue and accelerate the connection of both demand projects and ready-to-build generation or storage assets. We also highlight the importance of implementing a closely monitored model that regularly tracks progress against key permitting milestones.

- *Deploy generative AI tools and data transparency to accelerate grid integration and permitting.* To streamline permitting processes and support efficient grid planning, Member States should promote the use of generative AI tools that assist companies and licensing experts in drafting permitting documents using previously available data for human review and improvement.

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About DIGITALEUROPE

DIGITALEUROPE is the leading trade association representing digitally transforming industries in Europe. We stand for a regulatory and investment environment that enables European digitalizing businesses across multiple sectors and citizens to prosper from digital technologies. We wish Europe to grow, attract and sustain the world's best digital talents, investment and technology companies. Together with our members, we shape the industry policy positions on all relevant policy matters and contribute to its development and implementation. Our membership represents over 45,000 businesses who operate and invest in Europe. It includes corporations and scale-ups which are global leaders in their field of activity, as well as national trade associations from across 30+ European countrie

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