



## European Grids Package: Modernising Europe's Energy Infrastructure for Security, Business and Digital Innovation

**The European Grids Package** is a **sweeping EU initiative** to upgrade and expand Europe's energy grid, recognizing that modern, well-connected power networks are *essential for the continent's competitiveness, decarbonisation, and energy security*<sup>1</sup>. Launched by the European Commission in December 2025, the package combines new legislation and policy guidance aimed at **fast-tracking grid investments, streamlining permits, integrating digital technologies, and improving cross-border coordination**<sup>2</sup> and they respond to urgent challenges: **aging and congested networks, slow project approvals, fragmented national planning, and massive connection backlogs** that are jeopardizing Europe's clean-energy transition<sup>3</sup>. For businesses and industries, a stronger grid means more **reliable, affordable power** to electrify transport, heating, and manufacturing, which is a crucial factor in maintaining Europe's economic competitiveness in a low-carbon future<sup>4</sup>.

Needed Grid Investment by 2040

**€1.2 trillion**

Estimated investments required to modernise EU electricity grids by 2040 (about 60% for distribution networks)

Renewables Stuck in Queue (2024)

**1,700 GW**

Total new wind & solar capacity awaiting grid connections across 16 European countries – over 6× Germany's generation capacity

Renewable Energy Wasted (2024)

**72 TWh**

Wind and solar output curtailed due to grid bottlenecks (costing roughly €8.9 billion in compensation) in one year

Capacity Boost via Smart Grids

**~2×**

Potential increase in network capacity by 2040 from deploying grid-enhancing digital technologies (while cutting costs ~35%)

<sup>1</sup><https://www.secureenergyeurope.org/news-2/eies-insights-european-grids-package>

<sup>2</sup><https://fsr.eui.eu/the-european-grids-package-at-a-glance-mapping-the-proposed-changes/>

<sup>3</sup><https://www.secureenergyeurope.org/news-2/eies-insights-european-grids-package>

<sup>4</sup><https://www.cleanenergywire.org/factsheets/qa-eu-grid-package>

## Strengthening Investments, Incentives and Financing Mechanisms

Europe's power grids require **unprecedented levels of investment** in the coming years, and the Grids Package squarely addresses how to mobilise these funds. The scale of the challenge is sobering: the Commission projects roughly **€1.2 trillion** must be spent by 2040 to upgrade electricity networks for climate neutrality goals. That includes replacing aging infrastructure, building new lines and substations, and integrating digital and storage technologies. Importantly, much of this money needs to flow into distribution grids (over €700 billion worth) where upgrades are most urgently needed<sup>5</sup>. **Closing this investment gap** will require both **regulatory reforms** to incentivize grid companies to invest proactively and **innovative financing mechanisms** to attract capital.

A key reform in the package is to **strengthen the obligation and oversight of grid operators (especially TSOs) to execute needed projects on time**. Under EU law, TSOs already produce **Ten-Year Network Development Plans (TYNDPs)** identifying future infrastructure needs, but historically, many planned projects have stalled or fallen behind. The new proposals explicitly highlight the importance of **"anticipatory investments"** building capacity *ahead* of demand surges and seek to enforce this through national regulators. In other words, grid operators should not wait until power shortages or bottlenecks emerge; they must invest earlier to avoid higher costs later. National energy regulators (NRAs) will be empowered and encouraged to hold TSOs accountable if they lag on critical projects. Currently, only about half of EU regulators can unilaterally amend or enforce grid development plans a fragmented situation, the package aims to improve so that *every* country's regulator can push forward necessary investments and penalize undue delays.

To align financial incentives, the package promotes **revising grid tariff methodologies** across Europe. It stresses that tariffs set by regulators should **reward both capital expenditures (CapEx) and operational expenditures (OpEx)** in grid upgrades. This is the **TOTEX approach**, treating a euro spent on advanced software or efficiency (OpEx) as equally valuable as a euro spent on a new transformer (CapEx). Historically, many regulators only allowed returns on physical assets, unintentionally discouraging "soft" investments like IT systems, cloud platforms, or grid-enhancing tech. By updating tariff rules to cover **digital tools, smart grid equipment, and even oversizing for future demand**, the EU wants to **de-risk innovative investments**. For example, if a distribution utility invests in an AI-driven control system that reduces outages, it should be able to recoup that cost through rates just as if it built a new power line. Similarly, the Commission's guidance on **anticipatory investment** signals that slightly *over*-building capacity now (e.g., a larger cable or substation than immediately needed) is prudent and should be financially encouraged, since it saves money versus constantly reinforcing in piecemeal fashion.

Beyond tariffs and regulation, the Grids Package calls for **creative financing solutions** to inject more capital into grid infrastructure. One idea is to **mobilise public-private partnerships and co-investment** models. For instance, large industrial energy users or data center operators could be allowed to co-finance local grid reinforcements or energy storage that they urgently need, in exchange for favorable connection agreements. Another measure targets the money that grid operators earn from **network congestion when** transmission lines are bottlenecked. TSOs collect "congestion rents" from cross-border power trading. New EU rules would require that at least **25% of such congestion revenues be reinvested in priority interconnector projects**<sup>6</sup>, instead of disappearing into general budgets. The package also proposes clearer **cost-sharing mechanisms for cross-border lines**, ensuring countries that benefit from a new interconnector help pay for it. This "fair cost allocation" is crucial for projects like linking the Iberian Peninsula (Spain-Portugal) to France, links which bring Europe-wide benefits but have stalled partly over disputes about who shoulders the expense.

At the EU level, officials are looking to leverage the **European Investment Bank (EIB)** and other tools to support grids. In late 2025, the EIB launched a €1.5 billion **Grid Manufacturing Facility** to guarantee loans for European grid-component manufacturers<sup>7</sup> reflecting alarms about supply chain bottlenecks (like a global shortage of transformers). The Commission's upcoming **Clean Energy Investment Strategy** is expected to complement the Grids Package by channeling more funds and guarantees into green infrastructure. The package itself

<sup>5</sup><https://www.digitaleurope.org/resources/european-grids-package-a-digital-backbone-for-europes-energy/>

<sup>6</sup><https://www.cleanenergywire.org/factsheets/qa-eu-grid-package>

<sup>7</sup><https://www.digitaleurope.org/resources/european-grids-package-a-digital-backbone-for-europes-energy/>

acknowledges that relying solely on ratepayers (via tariffs) may be insufficient and risk high consumer bills<sup>8</sup>. Thus, it hints at **new funding streams**, for example, bundling projects into special investment vehicles, or structuring **Contracts for Difference** so that some public support is tied to grid availability<sup>9</sup>.

For Europe's business community, these investment measures are vital: without modern grids, even the best renewable projects or electric vehicle rollouts will be *"stuck waiting for grid connections,"* as the EIB warned. Already, **renewable developers across Europe face massive delays**, an estimated **1,700 GW of wind and solar projects were stuck in connection queues in 2024** due to insufficient grid capacity and slow upgrades<sup>10</sup>. By firming up obligations and financial rewards for grid expansion, the Package aims to unlock the funds needed to build a stronger network, thereby enabling new clean energy businesses to flourish. In short, it tries to ensure the **grid is no longer the bottleneck** of Europe's energy transition, but rather its **backbone**, with investment conditions that attract capital and speed up project delivery.

### Aligning Grid Planning & Investment at All Voltage Levels

Because electricity flows don't respect national borders or voltage silos, **better coordination in planning** is another pillar of the European Grids Package. Currently, grid development is **planned largely country-by-country**: each TSO drafts its own ten-year plan, and distribution expansions are mapped by myriad local DSOs, often with different assumptions and timelines. This patchwork can lead to mismatches and missed opportunities for example, a country might under-invest in cross-border links that would benefit neighbors, or transmission upgrades might lag behind a surge of electric vehicles on local networks. *"Europe's energy transition demands that we think beyond national borders,"* noted EU Energy Commissioner Dan Jørgensen. To that end, the package pushes for **top-down, integrated planning** so that Europe's grid is developed as a cohesive whole, not just a sum of parts.

One flagship proposal is to have the **\*\*European Commission**, together with ACER (the EU regulators agency) and the ENTSO-E/G (grid operators' associations), develop a unified **"EU energy system scenario"** every few years. This top-down scenario will look at **electricity, hydrogen, and even carbon dioxide networks together**, mapping what infrastructure Europe needs by 2040 and 2050 under its climate targets. Crucially, it introduces a European baseline for cross-border **"energy highways"** – major corridors deemed strategically important for the bloc. In fact, the Commission has already identified **eight flagship grid corridors** under an **Energy Highways Initiative**, which will get fast-tracked support in the next 6–9 months. For example, the **Harmony Link** (a high-voltage cable between Poland and Lithuania to reinforce the Baltic grid) and the **Bornholm Energy Island** project in the Baltic Sea (an offshore hub linking Denmark, Germany, and Sweden)<sup>11</sup>. By prioritising such projects at the EU level, the Package aims to **speed up interconnections** that bolster regional energy security and renewables sharing. The EU-wide scenario also acts as a backstop: if national plans fail to propose solutions for an identified gap (say, no TSO addresses a needed link), the Commission can **trigger a "gap-filler" project proposal** to ensure that critical infrastructure is not overlooked.

At the **operational level**, the Package seeks to **align planning processes across all voltage levels, transmission and distribution**, which historically have been separate worlds. One concrete step is the creation of a **permanent EU Distribution Network Planning Platform by 2026**, in cooperation with the EU DSO Entity (the federation of distribution operators). This platform will collect and share data on upcoming **distribution-level investments and needs across Member States**, giving visibility to how local grids are evolving. It means, for instance, that if a cluster of new battery gigafactories or data centers is expected in a region, both the distribution utility and the upstream transmission operator can plan capacity increases in concert, with guidance from the EU level. The package also proposes synchronizing **timelines and scenarios**: today, national grid plans use different scenario assumptions and publication dates, which "do not always add up to the optimal solution at the European level," an EU official observed<sup>12</sup>. Going forward, the aim is that **national energy**

<sup>8</sup><https://www.secureenergyeurope.org/news-2/eies-insights-european-grids-package>

<sup>9</sup><https://fsr.eui.eu/the-european-grids-package-at-a-glance-mapping-the-proposed-changes/>

<sup>10</sup><https://www.cleanenergywire.org/factsheets/qa-eu-grid-package>

<sup>11</sup><https://www.secureenergyeurope.org/news-2/eies-insights-european-grids-package>

<sup>12</sup><https://www.cleanenergywire.org/factsheets/qa-eu-grid-package>

**and climate plans (NECPs)** feed into a harmonised set of multi-scale grid scenarios. The Commission suggests that each TSO's **10-year plan** should incorporate **multiple scenarios aligned with the NECPs**, rather than one central scenario, to better account for uncertainties like technological change or decentralization. It also insists that **distribution system operators have a meaningful role in crafting these scenarios and in the European TYNDP**, contributing their data on local demand growth, renewable connections, and infrastructure needs<sup>13</sup>. Moreover, the planning horizon may be extended, e.g., **20-year outlooks for transmission and 5–10 year outlooks for distribution**, to give a longer-term vision beyond the current decadal view.

The **expected payoff** from coordinated planning is large efficiency gains. Studies by energy think tanks show that if Europe plans its grids jointly (integrating power, storage, and hydrogen across borders), it could **significantly reduce overbuilding**. One analysis found that a fully integrated EU infrastructure scenario for 2050 would eliminate the need for **505 GW of backup power capacity**, 15% of onshore wind, and 9% of hydrogen electrolyzers, compared to an approach where each country plans in isolation – yielding *up to €750 billion in savings* on infrastructure by mid-century<sup>14</sup>. In the near term, ENTSO-E has calculated that extra cross-border lines identified in European planning could cut operating costs by reducing renewable curtailment by ~30 TWh per year by 2030 (more than Slovakia's annual demand). These numbers underline that **better planning isn't just bureaucracy, it translates to real money saved and more efficient use of resources**. For European industries and consumers, that means *lower electricity costs* in the long run and a more reliable system.

Finally, the Package also emphasizes **data-sharing and transparency** in planning. It supports voluntary, confidential sharing of demand and project data among grid operators, large users, and energy producers to improve forecasting<sup>15</sup>. However, recognizing that such data (e.g. factory expansion plans or new generation projects) can be commercially sensitive, it calls for **EU-wide data governance standards and safeguards** to protect confidentiality while still allowing essential information exchange. In sum, aligning grid planning at all levels, from local feeder lines up to continental super-grids, will help Europe build the right projects in the right places at the right time, **avoiding duplication and bottlenecks**. This integrated approach directly supports Europe's strategic goals: it strengthens energy *independence* (through a robust, meshed network that can weather shocks) and helps ensure that **the green industries of the future have the electricity infrastructure they need, when they need it**<sup>16</sup>.

### Accelerating Permitting for Grid Infrastructure

Even when investments are available and plans in place, **lengthy permitting procedures** have been a notorious obstacle to grid development in Europe. It's not uncommon for **major power lines or substations to require 5 to 10+ years to get all the necessary permits** in some cases **up to 15 years** before construction can even begin. These delays stem from complex approval processes often involving multiple authorities, extensive environmental impact assessments (EIAs), and local opposition. With climate targets looming, such timelines are untenable. The Grids Package therefore proposes a suite of measures to **radically speed up the permitting of energy infrastructure** – taking inspiration from recent EU efforts that successfully shortened permitting for renewable energy projects.

First, the Commission wants to elevate grid projects to the same priority level as renewables. In the revised **Electricity Market Directive (EMD)**, it is **clarifying that major grid projects are "of overriding public interest"**, similar to renewables, which can help streamline judicial reviews and unlock emergency procedures to avoid delays<sup>17</sup>. The package also amends the **Renewable Energy Directive (RED)** to introduce a new, faster **permit-granting framework specifically for electricity networks, energy storage, and EV charging infrastructure**. This includes establishing **single digital permit application portals** in each country, one-stop shops where project developers can submit all required documents and track approvals in one place, rather than

<sup>13</sup><https://www.digitaleurope.org/resources/european-grids-package-a-digital-backbone-for-europes-energy/>

<sup>14</sup><https://www.cleanenergywire.org/factsheets/qa-eu-grid-package>

<sup>15</sup><https://www.digitaleurope.org/resources/european-grids-package-a-digital-backbone-for-europes-energy/>

<sup>16</sup><https://www.cleanenergywire.org/factsheets/qa-eu-grid-package>

<sup>17</sup><https://www.digitaleurope.org/resources/european-grids-package-a-digital-backbone-for-europes-energy/>

navigating a maze of agencies. By digitalising and centralising the process, it becomes easier to monitor timelines and ensure accountability for timely decisions. The goal is to eliminate duplicative steps and provide **clearer deadlines** for each stage of permitting.

One bold proposal is to **set maximum timeframes for grid permitting**. The Commission has floated a **2-year overall time limit** for permitting priority grid projects, and stakeholders like DIGITALEUROPE urge going even further by *reducing this to 1 year* in line with the accelerated timelines recently adopted for renewable energy installations. By comparison, today a new high-voltage line might spend a decade in planning and approvals; cutting that to a year or two would be revolutionary. Achieving this requires **streamlining environmental rules** as well. While environmental protection remains important, the Commission notes that many rules were written without considering the urgent need to expand grids for clean energy. Thus, it proposed that **certain grid projects, storage facilities, and upgrades could be exempted from full Environmental Impact Assessments or benefit from simplified assessments**<sup>18</sup>. For example, upgrading an existing line with stronger cables or adding a transformer at an existing substation might skip a lengthy EIA process, on the rationale that the environmental footprint is limited and the climate benefits of a quicker upgrade are significant. Likewise, the package calls for **targeted exemptions and faster procedures** for grid projects at both TSO and DSO levels, especially when they integrate modern technologies (grid-enhancing tech) or are needed to connect renewables.

Another critical aspect is **building administrative capacity**. The EU can set rules, but permits are granted by local authorities that may be understaffed or overwhelmed. The Package therefore emphasizes **national capacity-building**, urging Member States to **equip permitting authorities with more resources and technical expertise** to handle grid applications quickly. The Commission plans to monitor progress, and best practices (like concurrent processing of permits, or use of automatic approvals if deadlines lapse) will be promoted across countries. There is also a push for **fully digital** permit processing (from application to approval) to eliminate paper delays. By 2025's end, many states will have implemented one-stop digital portals for renewable projects; now those portals will expand to cover grid infrastructure as well.

The cumulative impact of these changes is to **dramatically compress project lead times**. Instead of a wind farm or factory waiting a decade for the grid reinforcement it needs, the aim is that new lines and substations get approved in a year or two and built soon after. **Permitting delays are a major cost driver**, for instance, more than half of the priority transmission projects for 2030 are still waiting for permits, and slow approvals contributed to nearly **€11 billion in extra costs in 2024** due to inefficient grid operations and curtailments across Europe. By fast-tracking permissions, those costs can be avoided and **renewable energy can be delivered faster to consumers**, enhancing energy security.

Importantly, faster permitting is balanced with *public acceptance and environmental stewardship*. The “overriding public interest” label helps in legal terms, but Member States will still need to engage local communities early to minimize opposition. The Package encourages focusing on “**grid projects that build well**” meaning designing new infrastructure with climate resilience and minimal ecological impact in mind, to preempt conflicts<sup>19</sup>. It's a delicate balance: Europe is effectively saying **climate change and energy security are emergencies** that justify extraordinary streamlining, while still aiming to uphold high environmental standards. If successful, this approach will remove a significant bottleneck: **the time to permit critical grid upgrades** will shrink, bringing new capacity online years sooner than before. That is good news for businesses waiting to connect, for renewable developers facing deadlines, and for Europe's ability to meet its clean energy goals on schedule.

### Enabling Efficient and Timely Grid Connections

Even once grid infrastructure is built, Europe faces another crunch point: the **process of connecting new energy projects (like wind farms, solar parks, factories, or EV charging hubs) to the grid**. In recent years, lengthy **connection queues** have formed in many countries – a symptom of both grid capacity limits and administrative first-come-first-served practices. Developers often apply for connections early to “reserve” capacity, leading to **queue backlogs** where many proposed projects are inactive or speculative, yet they block others from

<sup>18</sup><https://www.cleanenergywire.org/factsheets/qa-eu-grid-package>

<sup>19</sup><https://www.cleanenergywire.org/factsheets/qa-eu-grid-package>

proceeding. The Grids Package tackles this issue by redefining how projects are queued and processed, aiming to **connect new users faster and more efficiently**.

A headline change is the shift from “first come, first served” to **“first ready, first served”** for grid connections<sup>20</sup>. Under the new guidance, **projects in the queue will be filtered and prioritized based on their maturity and progress**: those that are shovel-ready (secured permits, financing, etc.) should not be held back behind early-stage or idle applications. **Maturity criteria** and **milestones** will be introduced – for example, a renewable project might need to show it has obtained its environmental permit or begun construction by a certain deadline, or else lose its connection slot. **Regular monitoring and purge of queues** are recommended, meaning grid operators will periodically remove projects that aren’t meeting milestones, freeing up capacity for active ones. Additionally, measures like **reservation fees** could be charged – a fee that developers forfeit if they fail to advance their project – to discourage speculative queue hogging. These steps directly address the astounding backlog: as noted, **1.7 terawatts (TW) of renewable projects were waiting in EU connection queues in 2024**. By instating a discipline of “use it or lose it” in queue positions, the Package intends to **clear out dormant projects and accelerate the ones ready to build**.

The Package also improves the **connection process itself** through **digitalisation and transparency**. **Advanced online application portals** are envisioned, where developers can apply for grid access and then **track the status of their request in real time**. This is akin to parcel tracking but for your grid connection increasing transparency and reducing the frustration of uncertain, opaque waits. The Commission even suggests using **automated tools and AI** to pre-validate connection applications by checking grid models for available capacity<sup>21</sup>. If an area is saturated, the system could instantly inform the applicant or calculate alternative options, rather than taking months of studies. Furthermore, **“traffic light” capacity maps** will be published and frequently updated to show where the grid has spare capacity (green light), where it’s limited (yellow), or full (red). The **user-friendly grid capacity maps**, updated at least monthly, allow businesses and renewable developers to identify promising locations and plan investments accordingly. By 2026, as part of the broader Grid Action Plan, the EU aims to roll out **“Capacitypaedia”**, a pan-European platform aggregating all national capacity maps and connection data in one place. Such transparency is a game-changer – it empowers investors with knowledge of where the grid can accommodate them and helps avoid wasted efforts on projects in deadlocked regions.

Another noteworthy proposal is to **move away from the strict sequential queue for certain high-value projects**. The guidance suggests **defining “grid-friendly” projects** that should get priority access because they support the system. For example, a new battery storage farm or a flexible industrial load that can help balance the grid might be fast-tracked for connection, since it *reduces* the need for grid expansion rather than increasing it. Similarly, some stakeholders urge giving renewables priority over, say, connections for new data centers or crypto-mines that consume lots of power without providing energy to the grid<sup>22</sup>. While the Package stops short of picking winners and losers explicitly, it opens the door for **national frameworks to rank connection requests** by their system benefit. Member States are encouraged to set criteria to identify projects that align with policy goals (e.g. climate-friendly generation, or those that use smart charging technology to mitigate impact) and **ensure these are not stuck behind less beneficial projects**<sup>23</sup>. This approach must be applied carefully to be fair and transparent, but it reflects a shift in philosophy: *not all kilowatts are equal* when it comes to who should get on the grid first.

By implementing these connection reforms, Europe aims to **significantly cut the wait time for new energy projects to access the grid**. The days of endless queue inertia should end; active projects will move forward or make way for others. For renewable energy companies, this means fewer lost opportunities and costly delays. For industrial players looking to electrify operations (like converting a factory’s gas boilers to electric or installing a fleet of EV chargers), the grid connection should become more of a **streamlined, predictable process** rather than an open-ended hurdle. In the big picture, unclogging the connection queues will turn Europe’s massive

<sup>20</sup><https://www.secureenergyeurope.org/news-2/eies-insights-european-grids-package>

<sup>21</sup><https://www.digitaleurope.org/resources/european-grids-package-a-digital-backbone-for-europes-energy/>

<sup>22</sup><https://www.cleanenergywire.org/factsheets/qa-eu-grid-package>

<sup>23</sup><https://www.digitaleurope.org/resources/european-grids-package-a-digital-backbone-for-europes-energy/>

pipeline of proposed clean energy into *real, operating capacity on the grid*. This is crucial for meeting renewables targets and reducing dependence on fossil fuels – an urgent energy security priority. Indeed, *connections* have become as critical as generation: a solar farm on paper does nothing for Europe’s power supply until it’s actually plugged into the grid. The Grids Package explicitly recognizes this by issuing an entire **Commission Guidance on efficient and timely grid connections**<sup>24</sup>, elevating what used to be seen as a technical detail into a top-tier policy concern. With transparent data, digital tools, and smarter queue management, Europe can connect new energy sources and demands *cheaper, faster, and more fairly*, lighting the way for the continent’s clean energy boom.

### Strategic Relevance for Europe’s Energy Security and Digital Future

The European Grids Package is more than a technical reform – it is a strategic initiative at the nexus of energy, economy, and security. **A robust, digital grid underpins energy security**: it allows power to flow where needed in times of crisis, integrates a diversity of energy sources, and is more resilient to disruptions. The package acknowledges an *“increasingly complex threat environment”* for energy infrastructure from cyber-attacks to geopolitical pressures – and **bakes in resilience measures from the ground up**<sup>25</sup>. For instance, it **integrates physical and cyber-security requirements early in the planning of cross-border projects**, promoting a *security-by-design* approach. New cross-border lines and substations will need to assess vulnerabilities (to extreme weather, cyber threats, sabotage, etc.) as part of their design, ensuring that critical “backbone” corridors have backup systems and high security standards. The Package also calls for transparency in infrastructure ownership to avoid reliance on “unreliable foreign actors” in Europe’s grids, reflecting concern about adversarial state or non-state entities gaining influence over vital energy assets.

Another strategic element is **reinforcing Europe’s energy independence and system flexibility**. By expanding interconnections between member states, the EU can tap renewable energy where it’s abundant and deliver it to where it’s needed, reducing the need for fossil fuel imports. A more unified grid means, for example, **excess wind power from the North Sea can be sent to factories in Central Europe, or Spanish solar exported north on a cloudy day**<sup>26</sup>. This interconnectivity is not just theoretical it directly correlates to energy security. The war in Ukraine and other geopolitical events have underscored the importance of **redundant and diverse supply routes**. The Grids Package’s focus on **flagship interconnectors and meshed networks** will help ensure that no Member State is isolated or overly dependent on a single energy source. (Notably, Cyprus – one of the last EU countries without any electricity interconnector has made the Grids Package a priority during its EU Council presidency, as it seeks to link to the European grid.) Stronger grids also enable **higher shares of domestic renewable energy**, decreasing reliance on imported gas or oil and improving the EU’s trade balance and supply stability.

The **digitalisation drive** in the Package has strategic implications beyond energy, too. By promoting cutting-edge smart grid technologies, Europe is investing in its digital infrastructure and innovation capacity. The initiative aligns with the EU’s broader digital strategy – from 5G rollout to AI – since a smarter grid will rely on ubiquitous connectivity and data analytics. It’s telling that the package’s champions include not only energy companies but also the digital industry: they see an upgraded grid as *“a digital backbone for Europe’s energy”* that can support new services and industries<sup>27</sup>. For example, a fully digitised grid could enable advanced demand-side management, vehicle-to-grid services with millions of electric cars, or the seamless integration of distributed energy resources, all of which can spawn new business models and tech solutions. In this way, **energy digitalisation becomes an engine for European innovation and industrial leadership**, not just a sectoral fix.

Finally, the Package recognizes the importance of **supply chain security and domestic manufacturing** for critical grid components. Europe currently depends on a few suppliers (often outside the EU) for things like high-power transformers, cables, and power electronics, a vulnerability if supply is disrupted. The new policy direction encourages measures such as **common EU strategic stockpiles of key components**, standardisation to make

<sup>24</sup><https://fsr.eui.eu/the-european-grids-package-at-a-glance-mapping-the-proposed-changes/>

<sup>25</sup><https://www.secureenergyeurope.org/news-2/eies-insights-european-grids-package>

<sup>26</sup><https://www.cleanenergywire.org/factsheets/qa-eu-grid-package>

<sup>27</sup><https://www.digitaleurope.org/resources/european-grids-package-a-digital-backbone-for-europes-energy/>

equipment more interchangeable, and policies (like the coming **Industrial Accelerator Act**) to stimulate European manufacturing of grid technologies<sup>28</sup>.

In conclusion, the European Grids Package is a comprehensive response to the recognition that **Europe's clean energy future rests on the cables, substations, and smart systems of a reimagined grid**. Its importance cannot be overstated: without a modern grid, renewable energy targets will slip out of reach, electric vehicles will have nowhere to charge, and industries will face high energy costs and reliability issues. Conversely, **with the reforms in this Package, faster permitting, harmonised planning, massive investment, digital upgrades, and innovation in operations, Europe's grid can become a driver rather than a brake for the green transition**<sup>29</sup>. The benefits will be felt in multiple ways: enhanced energy security through stronger links and resilience; economic growth from new infrastructure projects and technology deployment; lower energy prices and fewer curtailments as the grid efficiently moves inexpensive clean power where it's needed; and a competitive edge for European businesses powered by reliable, digitally managed electricity. The road ahead is not without challenges, the proposals must be negotiated by the European Parliament and Member States, with final adoption expected by 2026–2027. Implementation will then hinge on national commitment and on-the-ground execution. But the vision is clear: **by placing grids "front and centre" at this critical juncture, the EU is laying the groundwork for an energy system that can support its climate ambitions and economic prosperity for decades to come.**

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<sup>28</sup><https://www.secureenergyeurope.org/news-2/eies-insights-european-grids-package>

<sup>29</sup><https://www.cleanenergywire.org/factsheets/qa-eu-grid-package>