Grids package consultation

CurrENT's response to the EC's public consultation

General Questions

Secure supplies of clean and affordable energy are critical for European competitiveness, preparedness, security and the EU's decarbonisation efforts towards 2030 and 2050. Ensuring a well-integrated and optimised European energy grid is crucial to accelerating a cost-efficient clean energy transition.

The mission letter to Commissioner Jørgensen calls to work for the production of "more clean energy" and "the upgrade of the grid infrastructure". Specifically, it is requested to "look at the legal framework on European grids with the aim to help upgrade and expand grids to support rapid electrification [and] speed up permitting" and highlights the need to "upgrade our grid infrastructure and develop a resilient, interconnected and secure energy system".

Q1) To what extent do you agree that existing EU legal framework for grids delivers on the following objectives?

	Strongly disagree	Slightly disagree	neutral	Slightly agree	Agree	Don't know
*Market integration		x				
*Interconnections	x					
*Competition / Affordability of energy prices	x					
*Energy security		x				

Question: Please explain your reply providing, where possible, qualitative and quantitative evidence.

Current's response: The existing EU legal framework has in the past delivered great results for Europe in terms of market integration, interconnections, affordability and energy security. However, this framework is insufficient to guide, support, and drive the massive

acceleration of grids capacity that Europe will need in the coming decades, while remaining a competitive global powerhouse. In addition, the way the grid is being used is changing, due to new high intensity users of the grid, such as data centers, electric vehicles, and the electrification of power intensive industries, which further accelerates the need for a grid optimisation and expansion.

Europe can accelerate the build-out of grids capacity by both optimising the existing grid and developing and deploying new conductor technologies with 5-10 times the capacity of existing technologies. Innovative grid technologies, including grid-enhancing technologies and high-capacity conductors, can increase capacity of the grid without replacing existing infrastructure, such as towers, greatly reducing cost, permitting time and project delivery timelines.

According to a report by Compass Lexecon, deploying innovative grid technologies could result in a reduction in conventional expansion costs of 700 billion euros by 2040. However, the uptake of new and innovative grid technologies that can deliver these benefits are not sufficiently supported under the current legal framework.

While the current framework rightly promotes cross-border infrastructure and Projects of Common Interest (PCIs), it does not sufficiently address the need to develop projects within individual Member States' transmission and distribution networks. Significant congestion on internal networks continues to drive up system costs and limit the integration and utilisation of low-carbon energy resources.

To support the achievement of EU and national energy and climate goals, it is essential to introduce improved regulatory incentives for the efficient development of internal grid infrastructure, as well as financial support mechanisms for projects that do not necessarily span multiple Member States.

Furthermore, while the Renewables and Energy Efficiency Directives require Member States to reduce grid losses, implementation has been inconsistent. In particular, there is a lack of harmonised processes for evaluating the cost of losses across technologies, and no mandated thresholds for acceptable loss levels. Addressing these gaps would ensure a more effective and coherent approach to loss reduction across the EU.

Q2) In your view, what are the main barriers to grid infrastructure development necessary for the energy transition to happen, and at sufficient pace? [rank them from 1 (most important) to 8 (least important)]:

	1 *(most important)*	2	3	4	5	6	7	8 (least important)	Don't know
*Suboptimal transmission network planning	X								
*Suboptimal distribution network planning		x							
*Lengthy permitting			X						
*Insufficient financing	x								
*Insufficient supply chains			X						
*Inefficient use of existing infrastructure	x								
*Regulatory uncertainty			X						
Other (please specify below)									

Question: Please explain your reply providing, where possible, qualitative and quantitative evidence.

Current's response: We observe that system operators do not consistently consider the full range of available solutions, particularly innovative technologies, even when these have been successfully demonstrated in EU-funded programmes such as Horizon. Proven solutions can take anywhere between 5 and 50 years to be adopted, delaying progress and limiting the efficiency of investments.

To improve planning and investment decisions, it is essential to evaluate solutions based on their total cost and system impact over the full project lifecycle. This includes:

- A fair valuation of grid losses over the lifetime of an asset, using appropriate €/MWh rates.

- Inclusion of congestion costs during outages required for infrastructure upgrades, which is particularly relevant for conductor uprating projects. Technologies like Advanced Conductors (e.g. ACCC) and High-Temperature Superconducting (HTS) cables can deliver significant capacity increases using existing towers or ducts.
- Consideration of the lower installation costs of HTS cables, which require less space, narrower rights-of-way, and minimal civil works.
- Accounting for the time value of money, as faster deployment of technologies such as modular Power Flow Controllers (mPFC), Dynamic Line Rating (DLR), and Advanced Conductors can bring earlier system benefits.
- Ensuring that artificial market barriers such as rules preventing Transmission System Operators from investing in storage assets do not obstruct efficient solutions that could be readily implemented.
- Adapting to emerging needs such as the electrical architecture of data centres and AI campuses. Superconducting cables can enable medium-voltage solutions to replace high-voltage infrastructure, simplifying permitting, improving operability, and reducing dependency on foreign supply chains.
- Better coordination with Distribution System Operators (DSOs) to avoid overbuilding high-voltage infrastructure in urban areas. HTS solutions, for example, can deliver transmission-level capacity at medium or low voltages, reducing costs, timeframes, environmental impact, and public disruption.
- Modernising planning processes with these considerations will enable more effective use of EU funds, accelerate the energy transition, and enhance the resilience of Europe's electricity networks.

Supply chain resilience is becoming a critical issue for the EU's energy transition. In the context of a global race to build out electricity infrastructure, Europe lacks sufficient control over its supply chains. The forthcoming Grids Package must be aligned with the Critical Raw Materials Act and the Net-Zero Industry Act and consider the strategic recommendations of the Draghi Report.

To strengthen Europe's energy and industrial sovereignty, the EU must reduce reliance on imported raw materials and components from outside the EU, and foster a robust and competitive European manufacturing base.

The slow pace of technology adoption by TSOs and DSOs not only delays infrastructure delivery, but it also undermines Europe's competitiveness and innovation objectives. Improved coordination between energy, industrial, and innovation policy is essential to address these interlinked challenges and ensure the EU leads in both clean energy deployment and technological leadership.

Permitting challenges must be addressed not only in terms of acceleration, but also in terms of solution choice and societal impact. The focus should not solely be on speeding up procedures, but on ensuring that the most appropriate, low-impact solutions are selected from the outset solutions that reduce disruption, lower costs, and accelerate delivery timelines.

It is essential to safeguard the rights of citizens to voice concerns about infrastructure projects. At the same time, TSOs and DSOs must be held accountable for selecting projects with unnecessarily high societal and environmental impact when viable, lower-impact alternatives exist. A fair and transparent evaluation of all available options, including innovative technologies, should be a core requirement of the permitting and planning process.

This approach would help maintain public trust, reduce opposition, and ultimately speed up project delivery while respecting social and environmental concerns.
Concerning financing, finance mechanisms for innovative grid technologies must be adapted to reflect their specific characteristics and risks. These technologies often face higher upfront costs, longer regulatory approval timelines, and uncertainty around market access. Current funding instruments, including CEF and Innovation Fund, are not always well-suited to support smaller-scale or nationally scoped projects, even when these deliver significant system-level benefits.

EU-level funding should provide greater flexibility, including support for single-country projects that enhance grid performance, and should explicitly prioritise innovation and system efficiency, not just cross-border capacity.

EU infrastructure planning

Requirements for planning of transmission network development on a national and European level are included in the internal market legislation (for electricity as well as hydrogen and decarbonised gases) and the TEN- E Regulation. They require the TSOs to put forward network development plans with at least a 10-year outlook for grid

development biannually. At the European level, this is done through the Ten-year network development plan (TYNDP), currently developed by ENTSO-E and ENTSO-G.

**The following questions Q3 – Q6 apply to both electricity and hydrogen, please specify the sector you are referring to when answering these questions:*

Current's response: Electricity

Q3) To what extent do you agree with the following statements?

	Strongly disagree	Slightly disagree	Neutral	Slightly agree	Strongly agree	Don't know
*****The current framework in relation to the TYNDP and national transmission development plans provides for integrated and coherent planning at national and EU level		X				
*****The TYNDP identifies all cross-border infrastructure needs	X					
*****The TYNDP identifies all relevant projects to match the actual infrastructure gaps	X					
*****The TYNDP should have a more top-down European approach to identify cross-border infrastructure needs, meaning going beyond a project bottom-up approach				x		

and ensuring that the planning aligns with EU and Member States' climate and energy objectives						
*The TYNDP should have a more top-down European approach to better link identified needs and priority projects of European interest					X	
*Projects at national level should align and support priorities of European interest					X	

Question: Please explain your reply providing, where possible, qualitative and quantitative evidence:

Current's response: Europe has committed to economy-wide carbon neutrality by 2050, which will require full decarbonization of the electricity sector well before 2040. The TYNDP should, going forward, make plans for an optimal 2050 system and then prioritize projects with the highest early contributions, considering their lead times. The main reference grid should be the 2050 grid for a decarbonized Europe, not 2030 or 2040. The current TYNDP approach is too incremental and may not result in the most efficient pan-European system.

ENTSO-E should fully implement ACER's recommendation for a living roadmap document and align with EU Council Conclusions from May 2024. This plan should cover 10 and 20-year horizons, ensuring effective and efficient use of EU's electricity grid infrastructure to mitigate costs for households and companies.

In addition, short-term solutions are needed to manage uncertainty and address gaps in current network planning and delivery. While anticipatory investments are a step in the right direction, they are not sufficient on their own. There must be a pathway for faster deployment of proven technologies that can rapidly address deficiencies in network capacity or unforeseen changes in system needs.

Currently, the application process for network planning is too slow to accommodate such solutions. The TYNDP cycle takes two years, the application process itself around one year, and if Connecting Europe Facility (CEF) funding is sought, another year is added. As a result, projects that could be built in under two years and deliver gigawatts of additional capacity are effectively excluded, because it takes more than six years to obtain PCI status and secure funding three times longer than the project's actual delivery timeline.

This mismatch between planning and deployment timelines prevents the system from correcting forecasting errors, adapting to network delays, or responding flexibly to urgent capacity needs. The framework must be adjusted to enable the fast-track deployment of short-term, high-impact projects, especially those leveraging innovative grid technologies.

The TYNDP lacks consideration of expected technological advancements by 2040-2050, limiting its ability to reflect an optimal future grid. CurrENT recommends aligning with the Draghi Report and systematically including innovative grid technologies in reference grids. The cost of delay must be reflected in TYNDP project assessments, and flexible solutions must be fairly valued. Rapidly deployable solutions can optimize existing grids, reduce emissions earlier, and enhance grid resilience.

The CBA Implementation Guidelines should expand benefit indicators to include the Energy Efficiency First Principle and assess the efficient use of critical raw materials. The Infrastructure Gaps report should evaluate all scenarios for a more accurate representation of future grid challenges and opportunities.

The selection of a suitable benchmark technology may be necessary to complete the process of the system needs assessment, but as it is pivotal, its importance and selection should be clearly discussed and justified. Projects must identify the technological alternatives they considered and the justification for rejection accounting for the energy efficiency first approach.

The TYNDP scenario identifies cross-broder need but fails to full identify the internal network needs and ensure that the best and most deliverable/ usable cross border projects are being selected. Cross-border is not efficient if you cannot deliver the power to/from the border.

Q4) The needs identification at EU level should (you can choose more than one option)

- Cover cross-border projects within the EU

- Cover internal reinforcements in Member States necessary for cross-border projects
- Cover connections with third countries
- Cover non-infrastructure solutions (e.g. grid enhancing technologies)
- Follow a cross-sectoral approach
- Other: Consider existing technologies and new technologies that are on a trajectory to be fully available in the time period covered by the process. It should also be the responsibility of an independent industry body to challenge / ratify which technologies are to be included.

Q5) Do you agree with the following statement?
"The frequency of the identification of system needs process (every two years) is fit for purpose"

Current's response: No

Please specify: Yearly, in a more simplified form

Q6) Do you agree with the following statement?
"The frequency of the scenarios building process (every 2-years) is fit for purpose"

Current's response: No

Please specify: Yearly, in a more simplified form

Please explain your reply providing, where possible, qualitative and quantitative evidence:

Current's response: The two-yearly timing of both the needs and scenarios, and in fact the timing of the entire TYNDP process seem to be built around a balance of the scale of the undertaking of producing a TYNDP and the speed of change that would require an update of either the needs or scenarios. When the main technologies for new infrastructure were lines and cables and their construction time was around 10 years this aligned well.

However, both the speed of changing circumstances and the introduction of newer and faster technologies means a two-yearly cycle is too slow. If a new need can only be identified every two years and then a project must be devised to response to this, it can take 4 years to come up with a potential project. The recent Russian crisis or other security

of supply incidents concerns or requires a new need assessment and solutions identified to be immediately, and wider uncertainty is also justifying more regular assessments. With potential solutions within a year this means that a solution may only be submitted and quantified, 3 years after it could have been completed and offering benefits and savings to society and network users.

Recognising the workload issue with a more frequent assessment, an annual update of the short-term needs early would address this and meet the necessity of more regular updates where it is more impactful. This would require only near-term data updating to both scenarios and needs. This could be supplemented by a decision based on the scale of change e.g. the Russian Crisis to do a more comprehensive update of the long-term scenarios and needs.

However, the frequency of the identification of system needs and the building of scenarios, is in itself not necessarily the main issue.

The problem is that the existing needs assessment relies on a CBA to determine whether there is sufficient value from the project to justify its costs. At present the technology used for this comparison is an overhead line, taken as the best practice reinforcement of choice by TSOs, which is a relatively high-cost asset.

Therefore, this leads to fewer networks needs or lower target cross border capacity increases. This arises as cheaper solutions which could have been justified to increase network capacity further are not considered in the current methodology. This is compounded, as the methodology currently only considers network capacity and not availability or resilience, which many of these technologies inherently improve capabilities without additional cost.

Q7) Do you agree with the following statement?
"The governance framework of the TYNDP, i.e. the role of all individuals involved, should be revised"

Current's response: Yes

Q8) In your view, how can the needs for CO2 cross-border infrastructure in the EU be reflected in the PCI/PMI selection process under the TEN-E Regulation? Are there other ways the TEN-E Regulation could support the development of future CO2 cross-border infrastructure? Please explain (text below)

Please explain your reply providing, where possible, qualitative and quantitative evidence:

Current's response: No answer

Electricity network planning at national level

At a national level, transmission and distribution grid operators are obliged to establish respective network development plans ("NDP") at least on a biannual basis, pursuant to requirements of Articles 51 and 32 of the Directive (EU) 2019/944. Plans should set out planned investment, taking into account future development of supply and demand, including renewables generation, flexibility and electric vehicles (EVs) recharging points.

Q9) Concerning the national transmission and distribution network development plans, do you agree with the following statements?

	Yes	No
*The existing legal framework for transmission network development plans is fit for purpose		x
*There is a sufficient alignment between national transmission development plans between Member States		x
*There is a need for better alignment between national transmission and distribution network development plans across the EU	x	

If yes, please choose among the following elements those that can be improved:

- Common scenarios
- Alignment of frequency of the planning
- Alignment of planning scope and outlook period
- Common minimum features for transmission and distribution network development plans
- Other: We do not agree that the existing legal framework for transmission network development plans is fit for purpose and we believe there is insufficient linkage between national and cross border plans. National transmission and distribution development plans address the needs of the internal network to support national needs (e.g. national connection policies, economic growth, etc.) and these needs are not necessarily (or legally) linked to identifying projects that support optimum cross border

capacity growth. There is also a lack of consistency in the legal frameworks at national level to compel the use of technologies that drive the most efficient network build e.g. lowering losses, increasing utilisation, supporting EU climate, security, and competitiveness targets.

Each project in national development plans should have a description of alternative technologies they could have used and a clear demonstration of why they haven't selected them with a Cost-Benefit Analysis, as well as a justification of the efficiency first principle as stated in the Grid Action Plan.

Q10) Concerning the distribution network development plans, to what extent do you agree with the following statements?

	Strongly disagree	Slightly disagree	Neutral	Slightly agree	Strongly agree	Don't know
*The existing legal framework for distribution network development plans is fit for purpose		X				
*The coverage of small distribution system operators (DSOs) in the network planning is sufficient under the existing legal framework	X					
*There is sufficient transparency of distribution network development plans	x					
*The implementation of the distribution network development plans is sufficient and their objectives met		X				
*Distribution grid operators are equipped	X					

with sufficient capacity to properly plan distribution grids						
*There should be a stronger coordination of distribution network planning at EU level					X	

Transparency on electricity grid hosting capacity

Article 31(3) of Directive 2019/944 (EU) requires that distribution grid operators provide system users with the information they need for efficient access to, and use of, the system, in particular on capacity available for new connections in their area of operation, information on connection requests as well as on how the available grid hosting capacity is calculated. The EU Action Plan for Grids further strives to enhance transparency by creating a common understanding on the grid hosting capacity calculation across Europe.

Q11) Do you consider additional measures necessary to reduce grid connection lead times? Should there be differentiated approaches for different types of uses (industry decarbonisation, residential heat, charging infrastructure)?

Current's response: Yes

If yes, please explain your reply providing, where possible, qualitative and quantitative evidence:

Current's response: To provide some context on our response, new connection requests for limited modifications can cause years long delays on some projects. Innovative Grid Technologies can optimize grid capacity and accelerate processes when there is a modification to an existing connection. Even for limited modifications, Innovative Grid Technologies can serve as a complement to address system changes and unlock additional grid capacity (see compass Lexecon report on speed and capability of technologies at: https://www.currenteurope.eu/events/event/study-launch-current-and-compass-lexecon-supported-by-breakthrough-energy-prospects-for-innovative-power-grid-technologies-2/, as well as Consentec report and also CurrentEurope technologies/case studies at: https://www.currenteurope.eu/technologies/ of https://www.currenteurope.eu/technologies/member-case-studies/).

Optimally, when developers are making a modification request, they could propose solutions based on these technologies that can resolve the issues and maintain the timelines for other interconnected parties while increasing capacity.

The Energy Efficiency First principle should be a key criterion, as innovative grid technologies can deliver faster, lower-cost, and more flexible solutions that integrate seamlessly into the grid. These technologies, which can be deployed rapidly and improve the performance of the existing network, must be part of the solution. Transparency in the criteria for assessing connection requests based on their potential to alleviate congestion could support this, especially if projects can specify the use of innovative grid technologies. However, National Regulatory Authorities must ensure that such criteria do not inadvertently reduce the perceived need for reinforcement, thereby undermining the uptake of these technologies.

Finally, the Action 6 of the EU Action Plan for Grids provides that ENTSO-E and EU DSO Entity agree on harmonised definitions for available grid hosting capacity for system operators and to establish a pan-EU overview and work with the Commission towards harmonised definitions. But Commission should also provide for a harmonised calculation method. In addition, they should apply Innovative Grid Technologies to grid hosting, which can be achieved in a year and then see what the grid hosting capacity would be. This meets the objective to connect energy transition projects as early as possible toward decarbonisation and also to optimize the network before considering new linear reinforcement.

With regard to the approach for different types of grid connection (e.g. industry decarbonisation, residential heat, charging infrastructure), we do not see the necessity to introduce different processes offering grid connections, and the same range of solutions would apply. What is more important is to avoid one type of user being given a bias over another either in order or timeline as this will create an inequitable industry bias and is not aligned with the principles of fair trade.

Permitting

Directive (EU) 2023/2413 (Renewable Energy Directive – RED III), Directive (EU) 2024/1788 (Directive on Gas and Hydrogen Markets), Regulation (EU) 2022/869 (TEN-E Regulation), and Regulation (EU) 2024/1735 (Net-Zero Industry Act) establish provisions for the acceleration of permitting procedures for renewable energy generation, storage and energy networks including CO2 assets. Whilst some RED III provisions have yet to be

transposed by Member States due to upcoming deadlines, permitting procedures are perceived as one of the main cause of delays in project implementation.

Q12) In order to accelerate permitting for energy networks, storage and renewables and CO2 assets, to what extent do you agree with the following statements?

	Strongly disagree	Slightly disagree	Neutral	Slightly agree	Strongly agree	Don't know
The permitting provisions of the TEN-E regulation are clear and easy to implement	X					
Permitting procedures should be fully digitalised					X	
Availability and sharing environmental and geological data (and other technical data required) should be ensured					X	
One-stop shops for network permitting should be introduced					X	
Environmental assessments should be simplified and streamlined		x				
Legal deadlines for permitting procedures need to be shortened				X		
Deadlines for the permitting of networks should be shortened or established where missing				X		

Deadlines for the permitting of Projects of Common Interest and Project of Mutual Interest should be shortened and clarified to reflect the urgency in implementing these projects					X	
The permitting procedures for storage should be simplified					X	
The permitting procedures for distribution network projects and small-scale renewable projects, as well as repurposing, refurbishment and repowering should be simplified					X	
The permitting procedures for hybrid projects (combining different technologies, including storage) and other innovative solutions should be simplified					X	

Other Please specify:

Current's response: Permitting requirements should be proportionate to the nature and impact of the project. In cases where conductors are being replaced but existing towers and routes are maintained, full permitting procedures should not be required. Streamlined or exempt permitting processes for such low-impact upgrades would

significantly accelerate delivery without compromising environmental or societal safeguards.

In parallel, and as part of the permitting or pre-permitting process, TSOs and DSOs should be required to demonstrate that they have thoroughly assessed all viable technology alternatives. This ensures that infrastructure decisions are based on a fair comparison of cost, societal and environmental impact, deployment time, and system benefits.

Such measures would encourage the adoption of efficient, lower-impact solutions and help deliver critical grid capacity faster and with greater public acceptance.
Facilitating investments in grid infrastructure.

Article 16 of the TEN-E Regulation facilitates investments with cross-border impact through a cross-border cost allocation (CBCA) framework where the relevant national regulatory authorities (NRAs) jointly agree on CBCA decision. Where there is no agreement among the NRAs, they may jointly request ACER to decide on the investment request including the CBCA.

Q13) To what extent do you agree with the following statements?

	Strongly disagree	Slightly disagree	Neutral	Slightly agree	Strongly agree	Don't know
*The current cross-border cost allocation (CBCA) framework is fit for purpose			x			
*An investment request within the CBCA framework could also cover several projects ('bundling') to facilitate cost sharing amongst more Member States beneficiaries			x			

*The CBCA framework should be developed further to facilitate that investment costs are shared amongst countries, beyond hosting Member States, in proportion to the expected benefits			x			
The role of involved actors (Member States, NRAs, ACER, TSOs) should be revised to facilitate the process			x			

Q14) To what extent other instruments or tools (beyond CBCA) should be considered or modified to facilitate financing of cross-border infrastructure?

	Strongly disagree	Slightly disagree	Neutral	Slightly agree	Strongly agree	Don't know
*Inter-Transmission System Operator Compensation (ITC) mechanism			x			
*Sharing of congestion income			x			
*Common/regional regulated asset base (RAB)			x			
*Ex post conditionalities			x			

Other: Benefit sharing would stimulate the necessary development of good system reinforcements by TSO and DSOs

Funding the necessary grid reinforcements and adaptations will require mobilisation of significant financial resources. Grid operators, both at the transmission and distribution levels, are faced with an unprecedented increase in the volume of capital expenditure possibly affecting credit rating and access to capital.

Q15) In your view, which financial obstacles are most relevant for investments in infrastructure projects?

	Strongly disagree	Slightly disagree	Neutral	Slightly agree	Strongly agree	Don't know
*Access to debt				x		
*Access to equity				x		
*Access to counter-guarantees					x	
*Regulatory risk					x	
*Access to public funding (EU/national)					x	

Other: Use of Innovative Grid technologies can reduce the overall cost of the investment needs by 20 – 40% and therefore ameliorate the issue.

Q16) If needed, what financial measures could be considered to further support transmission infrastructure? Please specify.

Current's response: De-risking innovation and opening access to funding and delivery mechanisms are essential to accelerate the deployment of innovative grid technologies. Public guarantees should be used to de-risk private investment in grid infrastructure and technologies. This would help mobilise the necessary capital for a timely and resilient energy transition.

Risk and performance guarantees should be established to mitigate the specific financial risks faced by grid operators when trialling or deploying innovative technologies. These guarantees would support greater uptake by reducing perceived investment risk.

Access to EU-level funding should be improved by revising eligibility criteria. The requirement for cross-border involvement should be removed in cases where projects clearly deliver system benefits. Many impactful initiatives within single Member States are currently excluded, despite their importance for achieving EU-wide energy and climate goals.

Benefit-sharing mechanisms should be introduced to ensure that Transmission System Operators are properly incentivised.

Q17) If needed, what financial measures could be considered to further support distribution infrastructure? Please specify.

Current's response: De-risking innovation and opening access to funding and delivery mechanisms are essential to accelerate the deployment of innovative grid technologies. Public guarantees should be used to de-risk private investment in grid infrastructure and technologies. This would help mobilise the necessary capital for a timely and resilient energy transition.

Risk and performance guarantees should be established to mitigate the specific financial risks faced by grid operators when trialling or deploying innovative technologies. These guarantees would support greater uptake by reducing perceived investment risk.

Access to EU-level funding should be improved by revising eligibility criteria. The requirement for cross-border involvement should be removed in cases where projects clearly deliver system benefits. Many impactful initiatives within single Member States are currently excluded, despite their importance for achieving EU-wide energy and climate goals.

Benefit-sharing mechanisms should be introduced to ensure that Distribution System Operators are properly incentivised.

Q18) If needed, what financial measures could be considered to further support hydrogen infrastructure? Please specify.

Q19) If needed, what financial measures could be considered to further support CO2 infrastructure? Please specify.

Supply chains

Constrained supply chains and a lack of skilled workforce are being cited the major hurdles hindering grid development. The 2023 Action Plan for Grids included concrete action to address the often-fragmented technical requirements for grid components through a common specifications workstream, as well as the need for greater visibility on future investments planned. The Union of Skills package adopted on 5 March 2025 targets the identified gap in skills - particularly those needed for the energy transition, investing in people for competitiveness, reinforcing the Competitiveness Compass and the Clean Industrial Deal.

Q20) To what extent do you agree with the following statements?

	Strongly disagree	Slightly disagree	Neutral	Slightly agree	Strongly agree	Don't know
*The current network development plans at EU and national level provide sufficient visibility for the supply chain for the purpose of investment planning		x				
*There is a need for better visibility to ensure sufficient investment in the supply chains					x	

Current's response: We strongly support the need for better system visibility. However, this should be defined as a functional system need, not tied to a specific technology. Requirements should focus on the service delivered, allowing for a wide range of solutions, including innovative grid technologies, to meet those needs effectively.

Q21) To what extent do you agree with the following statements?

	Strongly disagree	Slightly disagree	Neutral	Slightly agree	Strongly agree	Don't know
*There is a need for further harmonisation of equipment requirements within the EU, for the purpose of scaling up supply chains and their repair capacities			X			

Current's response: Standards play an important role in ensuring interoperability and safety, but they should not become a barrier to innovation. Standards should be based on functional requirements, not used to dictate specific technologies. When only the largest supply items are standardised often through processes that take five years or more other technologies are unable to enter the market.

Requiring full reliance on standards before deployment risks blocking technological progress. The regulatory framework should remain flexible enough to enable the adoption of new solutions that meet the same functional objectives, even if they are not yet covered by existing standards.

Q22) Is there a need for additional EU action to address supply chain bottlenecks in the energy sector, following recent initiatives?

Current's response: Strongly agree

Q23) Is there a need for additional EU action in the field of skills for the energy sector, following recent initiatives, such as the Union of Skills?

Current's response: Strongly agree

Digitalisation and resilience

Digitalised and resilient grids are essential from a security of supply perspective. Actions were put forward also as part of the Action Plan for Grids adopted in 2023. By the end of 2025, a common Technopedia Platform operated by the ENTSO-E and the EU DSO entity should materialize, providing an overview of existing grid enhancing technologies. Enhancing the security and resilience of cross-border energy infrastructure projects is

crucial for ensuring a reliable supply of energy. It is also a key priority of the current Commission mandate, especially in the context of emerging risks such as climate change impacts and malicious attacks on critical energy infrastructure.

Digitalisation

Q24) Do you agree that there is a need for additional EU action concerning visibility and quantified benefits of innovative, digital and grid enhancing technologies?

Current's response: Strongly agree

Q25) In your view, should there be further measures to increase the efficiency of the existing grid?

Current's response: Yes: x

If yes, please specify:

Current's response: The Grids Package must include a 'Grid Preparedness and Innovation Strategy' to support resilience, modernisation, the uptake of innovative grid technologies and ensure that Europe's electricity grids are ready for whatever the future holds. The strategy should increase support for European manufacturing of critical grid components and technologies, aided by localized supply chains and innovative funding strategies

The strategy should first and foremost start with a comprehensive assessment of where Europe is falling behind on the roll-out of grid capacity required to meet decarbonisation and electrification targets, and where innovative grid technologies can help fill this gap.

Building on this assessment, the strategy should provide a clear, coordinated vision for accelerating the development, testing, and meaningful mass deployment of innovative grid technologies at both transmission and distribution levels, involving key stakeholders across the whole value chain including: National Governments, TSOs, DSOs, technology developers, regulators, research bodies, and financial institutions.

Clear targets and milestones for innovation uptake should be aligned with the Grids Action Plan and the 2040 climate target trajectory.

The Grids Package must ensure the ambitious targets laid out in the Net Zero Industry Act of 40% of deployment needs include the production of innovative grid technologies in Europe by 2030. In order to reach climate neutrality by 2050, the right steps must be taken now to ensure the target remains in reach.

Expanding the rollout of 'Output-based' incentives schemes across Europe that reward system operators for deploying innovation and improving the efficiency of existing infrastructure

- Mandate the use of alternative incentive schemes that support the deployment of innovation into grids.
- Expediate the rollout of Output based incentives schemes across Europe, by allowing for proven success of alternative incentive schemes in a European context to negate the need to pilot such incentive programs
- A mandated, transparent review and selection process that details all alternatives that were considered, the extent to which they were considered, and reasons for their non-selection in PCI projects

The creation of a parallel approval process to allow technologies that can be deployed rapidly, under 3 years, to be recognised and approved for PCI status, hence making the technology eligible for CEF Funding.

Mandate the use of TOTEX Cost-Benefit Analysis that accurately reflects the benefits of rapid deployment, yearly spend, and benefits accrued

Finally simple regulatory/policy adjustments to ensure that projects must identify that efficiency first measures e.g. grid enhancing technologies and other innovative grid technologies have been considered first with a scientific justification when they are not selected either as best option, or to reduce/improve the scope of other technological options. This recognise that often a combination of grid enhancing measures can work collaboratively to provide a more powerful solution and not be assessed in isolation. Finally, sufficient data with project proposals coupled with an open consultation approach would allow third party review and optioneering to meaningfully contribute to the decision making and approval process of new projects.

Security and resilience

Q26) To what extent do you agree with the following statements?

	Strongly disagree	Slightly disagree	Neutral	Slightly agree	Strongly agree	Don't know
*The current EU legal framework, beyond the TEN-E Regulation, sufficiently addresses resilience and security criteria for cross-border infrastructure projects including recent and emerging risks such as climate change impacts	x					
*Projects of common interest (PCIs) and Projects of mutual interest (PMIs) should be subject to additional security criteria to reduce exposure and/ or enhance readiness against physical and cyber risks		X				
*The existing EU legal framework for grids, beyond the TEN-E Regulation, allows to avoid non-trusted actors' participation in critical cross-border infrastructure projects		x				

Question Other (please specify)

Current's response: Europe needs to invest in its electricity infrastructure, by both optimising the existing grid and building new lines with a much higher capacity, to support the mass uptake of renewables produced all over the European continent. Increasing interconnection and building a pan-European grid can only be achieved at a European level, rather than acting alone.

It's fundamental to reinforce physical infrastructure, but there is no immediate need to expand current cybersecurity measures, which are already well-established and robust.

At present, there is limited capacity to assess and verify the participation of non-trusted actors in the system. This issue should be addressed through clear and consistent EU-level mechanisms that ensure security without creating unnecessary barriers to innovation or investment.

Flexibility

Pursuant to the existing EU regulatory framework, distribution network development plans shall provide transparency on the medium and long-term flexibility services needed and consider alternatives to grid development (such as flexibility, demand response or innovative grid technologies). There is also ongoing work between TSOs, DSOs, ACER and the Commission following up on the most recent revision of the Regulation (EU) 2019/943 on the internal market for electricity in 2024, mandating the regulatory authorities or dedicated authorities to conduct biannual assessment of flexibility needs. The relevant methodology, explaining inter alia the link to the network planning should be adopted in Q3 2025.

Q27) In this context, do you agree that the existing framework is sufficient for considering flexibility needs in network planning and development

Current's response: Strongly disagree

Simplification

Q28) In view of simplifying the PCI/PMI selection process, to what extent do you agree with the following statements?

	Strongly disagree	Slightly disagree	Neutral	Slightly agree	Strongly agree	Don't know
***The current frequency of the PCI/PMI selection process (every 2 years) should be decreased e.g. every 3 years	X					
***Project with PCI/PMI status should not be required to reapply for each PCI/PMI process, provided certain conditions are met (e.g. sufficient maturity, progress)				x		
***The application process should be further simplified					x	

Question: Please specify your reply providing, where possible, qualitative and quantitative evidence.

Current's response: Lengthening the application timeline may allow for more detailed assessments, but in practice it will delay the delivery of projects. A project would then require at least six years to access CEF funding, compared to less than five years under the current process. This creates a bottleneck for urgently needed infrastructure.

In addition, the current framework doesn't benefit projects that can be built in shorter timeframes, even when they offer substantial system benefits. This limits flexibility and responsiveness, particularly at a time when grid capacity needs to be scaled up rapidly.

Finally, it is still difficult for innovative grid technologies to access CEF funding, despite the dedicated Smart Grid PCI category, and despite their proven importance in enabling a flexible, efficient, and resilient energy system.

Q29) In view of additional simplification measures, to what extent, do you agree that there is potential for simplification in the following areas?

	Strongly disagree	Slightly disagree	Neutral	Slightly agree	Strongly agree	Don't know
*TYNDP process: Scenario building					x	
*TYNDP process: infrastructure gap identification					x	
*TYNDP process: Project assessment					x	
*Offshore network development planning process					x	
*PCI/PMI project monitoring and reporting					x	

Question: Please specify your reply providing, where possible, qualitative and quantitative evidence.

Current's response: CurrENT would consider simplification to mean the building of grid capacity more quickly, and therefore any simplification measures must include the consideration of non-wire alternatives and innovative grid technologies.