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ENTSO-E Response to the European Commission Public Consultation on the European Grid Package

Disclaimer

The following input has been prepared by ENTSO-E for the European Commission Public Consultation on the European Grid Package (open from 13 May to 5 August 2025).

For questions regarding this response, please contact System Development Program Manager Lea Dehaudt at Lea.Dehaudt@entsoe.eu.

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				

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

Preliminary note: ENTSO-E's answer must be read as concerning the electricity transmission grid and TYNDP, unless indicated otherwise.

The European Grid Package should prioritise regulatory simplification of the Regulation and introduce targeted amendments to the relevant EU legal framework. Its objective must be to streamline permitting processes, enable shortening of project implementation timelines, and facilitate access to more affordable financing for electricity infrastructure projects of strategic pan-European relevance.

Market Integration

Recent revision to the electricity market design have updated key market rules. Before considering any further change, it is crucial to allow sufficient time for the proper implementation of the new rules. Market rules must be in line with secure operation of the system, which should remain the priority. More interconnection capacity is critical for an effective functioning of the internal electricity market. Interconnection projects in regions aiming at achieving the 15% interconnection targets established in the Regulation should start urgently to facilitate a true EU electricity market, in coordination with the strengthening of national grids. Timely development of national and European networks is essential to enhance market integration and security of supply.

Interconnections

The EU legal framework recognises the strategic role of interconnections and ENTSO-E welcomes their recognition as essential for reducing energy costs on the long-run, paving the way towards the IEM, and as one potential vector of mitigation of price crises. Areas for improvements are:

- Simplification of permitting processes to improve effectiveness and efficiency.
- TYNDP finds where investments would minimize overall system costs at EU level, while NDPs as planning instrument at national level identify projects to integrate RES, guarantee the adequacy of the system and security of supply. The development of Europe's cross-border network and of national networks goes hand in hand and must take place in a coordinated manner. Regulation should not hinder network development; in that light the impact of the CEP Art 16 70% rule should be explored.
- Tackling supply chains challenges, especially by updating the public procurement rules supporting the establishment of a strategic manufacturing base for grid technologies in Europe while allowing for diversified sourcing for critical technologies and components to reduce lead time constraints and address rising costs.

Competition/Affordability of Energy Prices

TYNDP 2024 finds over €800 billion of grid investments needs by 2050, on top of investments in national grids. The EU legal framework must be improved to better support the scale of investment required while ensuring affordability for consumers, including via an increase of parts of the next MFF dedicated to PCIs/PMIs.

Tools must be put in place to lower investment risk and facilitate access to financing for European TSOs, e.g. by ensuring that investors have adequate returns on investments. Attracting long-term investment is essential to keep debt-financing costs, and therefore tariffs levels, as low as possible.

TSOs focus on keeping costs low, and numerous measures are already implemented to provide affordable tariffs. In the short term there are only limited cost reductions possible for TSOs as the investment level is high and needs to increase further. Optimising the use of the existing grid before building new lines, tendering of investments, and implementing innovative and digital solutions are examples of concrete measures.

Regarding affordability for customers, distribution of costs based on transparent, cost-reflective, and non-discriminatory principles will reduce the cost burden for any single customer group, contributing to long-term affordability. EU regulations on grid tariffs should give more freedom to NRAs to set cost-reflective and non-discriminatory tariffs tailored to each specific situation.

Energy Security

The EU legal framework provides a solid foundation for power system security. It enables harmonised operational rules, adequacy assessments, and coordinated risk preparedness via ENTSO-E. However, it remains fragmented across security of supply, physical infrastructure protection, and cybersecurity. With regards to State Aid Framework, even the latest updates do not simplify enough the introduction of Capacity Mechanisms for Member States, thus not fully addressing national adequacy concerns.

To strengthen resilience, the framework must better address interdependencies in the cyber-physical systems, enable joint cross-border protection planning, incident response, and investment prioritization, especially for assets that are increasingly exposed to physical and cyber threats like interconnectors and subsea cables. Also, measures including protection and resilience 'by design' must be integrated from the earliest stages of all infrastructure projects.

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								8	
*Suboptimal distribution network planning									x
*Lengthy permitting	1								
*Insufficient financing	1								
*Insufficient supply chains	1								
*Inefficient use of existing infrastructure								8	
*Regulatory uncertainty				4					
Other (please specify below)									

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

The main barriers to grid infrastructure development are those that slow down building the grid:

Permitting: ENTSO-E found in TYNDP 2024 that more than half of the transmission projects needed by 2030 are still waiting for permits today. Planning obligations and requirements stemming from material law for project promoters in permitting procedures, in particular regarding environmental assessments, have increased significantly, leading to additional burdens and workload for permitting authorities. In addition, delays in building the required infrastructure continue to result from public opposition. To gain acceptance, transparent

planning processes, efforts to engage with local citizens to address people's concerns and needs and to jointly develop approaches for the project implementation need to remain high on the agenda.

Generally, it should be ensured that any new measure on permitting helps increase effectiveness and efficiency in permitting procedures. Simplifying material requirements and procedures should be a priority. More transparency is also desirable on how much time projects actually spend in permitting processes. The EU could learn from Member States where permitting process are most efficient. Finally, all permitting exemptions granted to RES generation units should be valid also for the transmission and distribution grid infrastructure connecting them.

Financing: Massive grid investments are needed, TYNDP 2024 finds that over 800bn euros are needed by 2050 in cross-border and hybrid grid investments in addition to national network developments. For TSOs to be able to leverage the massive need for debt financing at lower costs, TSOs should be supported in strengthening their capital structure, in preserving their financial attractiveness and in benefitting from guarantee mechanisms.

Supply chains: a survey of TSOs showed that by 2030 over 150,000 km of transmission lines are expected to be completed onshore and offshore to enhance Europe's grid. Installation of more than 14,000 circuit breakers, 4,800 GIS switchgears and 1,900 power transformers are expected, while also 800 shunt reactors and 71 phase shifting transformers are to be completed. Projected numbers show an unprecedented increase in the amount of assets needed, significantly increasing the pressure on the asset supply chain and increasing their price and lead times. Updated public procurement rules should support the EU's goal of establishing a strategic manufacturing capacity for net-zero technologies in Europe, aiming to meet at least 40% of annual deployment needs by 2030 while at the same time supporting the diversified sourcing for critical technologies and components in order to tackle unavailability and rising costs. ENTSO-E is working in collaboration with manufacturers and the EU DSO Entity on a number of issues relating to supply chains. These include the potential for streamlining the structure of specifications on HVDC systems, exploring ways to address differences in cable prequalifications and testing, and finding ways to address the challenge of a skilled workforce.

The lack of skilled workforce is increasingly becoming a supply chains bottleneck:

- In a survey conducted by ENTSO-E 88% of TSOs, representing 364 million people, identified skilled workforce as a supply chain bottleneck.
- The IEA indicates a 1.5 million job gap in the power grid sector until 2030 worldwide.
- The EU highlights that the energy transition will create over one million new jobs by 2030, but there's a major shortage of skilled workers.

An additional barrier not mentioned in the options above is the regulatory framework for cost-sharing. The current CBCA process is not fit for purpose while at the same time being rather time consuming. Cost-sharing tools should be a voluntary mechanism, not a prerequisite for accessing funding (e.g. CEF funds).

The planning of the transmission network at European level is overall efficient in identifying gaps in infrastructure. Promoters do pick up on needs identified in the TYNDP, perform additional prospective assessment and propose new projects in the next cycle, where and when economic signals are robust enough to support investments. ENTSO-E compared needs identified in TYNDP 2022 with new projects proposed to TYNDP 2024 and found that 25 of the projects that are new in TYNDP 2024 aim at addressing a gap identified in TYNDP 2022, 10 by targeting cross-border reinforcement and 15 by reinforcing internal networks or replacing ageing infrastructure. The challenge that the EU needs to tackle urgently is to lower the barriers that may prevent new initiatives becoming reality by the time they are needed.

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

☒Electricity ☐Hydrogen ☐Both

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 and ensuring that the planning aligns with EU and Member States' climate and energy objectives		x				
*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	

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

First it is necessary to clarify the scope and purpose of the TYNDP:

- The TYNDP is a pan-European coordination exercise. It ensures alignment and coordination at European level of cross-border infrastructure.
- EU Regulation does not mean for the TYNDP to be a masterplan: the TYNDP does not identify infrastructure projects. Instead, it plays a strategic role in identifying economic opportunities to reduce overall system costs at European level and ensure affordability, and in guiding project development, following a top-down European approach.
- Project promoters may then develop projects to address these opportunities consistently with NDPs, after an environmental and economic assessment of possible options.
- When new or updated infrastructure is identified as the solution, promoters may submit transmission or storage projects for assessment in the TYNDP.

On the top-down European approach: TYNDP scenarios are NECP-based, therefore EU & Member States' objectives are already reflected in the TYNDP. For improved top-down planning, the EC should strive to ensure better alignment/harmonization of NECPs between each other in terms of content, format, time horizon and timing of publication, between gas and electricity, and with the EU climate targets. It would make scenario-building more efficient and would benefit cross-sectorial planning, conciliating even more EU and national infrastructure development.

ENTSO-E recognizes the importance to ensure alignment as far as possible between the pan-European perspective and national planning instruments, while preserving the competence of Member states and respecting the principle of subsidiarity. Promoters do lean on needs identified in the TYNDP, perform additional prospective assessment and propose new projects in the next cycle. 25 of the projects that are new in TYNDP 2024 aim at addressing a gap identified in TYNDP 2022, 10 by targeting cross-border reinforcement and 15 by reinforcing internal networks or replacing ageing infrastructure.

What is needed is to ensure alignment between TYNDP findings and NDPs. ENTSO-E believes that the decision to investigate / invest in new projects should always be taken at the national level, considering pan-European studies but also studies performed at regional and national level, in line with the relevant national framework and the principle of subsidiarity. It is also worth keeping in mind that NDP generally cover a shorter time horizon than the TYNDP. However, there is room for improvement while still observing Member States' right to take investment decisions.

To inform European and national decision-makers, ENTSO-E's Regional Investment Plans and TSOs' NDPs can support and substantiate more the coherence between NDP and TYNDP, providing evidence on whether there is a follow-up on needs identified in the TYNDP (and if needs are not addressed yet, for what reason), the role of national networks and development plans (constraints, costly remedial actions and reinforcements) and the overall articulation of the implementation of projects.

Starting from the system needs identified in the TYNDP and the Regional Investment Plans, regional Groups could monitor whether needs are addressed, in coordination with key European and national stakeholders at the regional level.

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

X Cover cross-border projects within the EU

X Cover internal reinforcements in Member States necessary for cross-border projects

X Cover connections with third countries

☐ Cover non-infrastructure solutions (e.g. grid enhancing technologies) x☐ Follow a cross-sectoral approach

X Other

In Other:

ENTSO-E sees that there is a misunderstanding among stakeholders as to the role of the TYNDP with regards to deciding which solution is the best option to address a cross-border gap. The TYNDP system needs study identifies only economic opportunities, not solutions to address them. Therefore, the answer 'cover non-infrastructure solutions' is not a relevant option to answer this question, but rather a possible answer to the next step: how to address the needs once they have been identified. Addressing tomorrow's challenges will require the parallel development of a diverse range of solutions, including infrastructure and non-infrastructure solutions.

ENTSO-E values the important role of grid enhancing technologies, that is why it contributes to the Technopedia and Smart Grid Indicators that monitor the implementation of such technologies and promote an effective implementation by TSOs. As an example of how TSOs consider non-infrastructure solutions, the Spanish Network Development Plan 2021–2026 provides an example of how electricity TSOs select the best alternative when a need has been identified. Possible solutions with the least environmental and economic impact are assessed first, and only when no other alternative is feasible are new investments being considered. The use of the methodology results in the improvement of 20 % of the existing network (more than 8000 km) including over 700 km of Dynamic Line Rating in the Spanish system, 300 km of change of conductor, 8 synchronous condensers, 3 STATCOM and 2 battery systems as full integrated equipment to enhance the use of the transmission system.

A cross-sectorial approach is paramount in scenario building, energy scenarios are by definition multi-energy carrier scenarios to also relate to the decarbonisation targets, for electricity the interaction with natural gas, heat and in the future hydrogen (and derivates) is most crucial in relation to electricity infrastructure planning. Heat infrastructure is typically local, so it makes sense to look into scenarios with the intent to facilitate coordinated EU wide infrastructure planning for electricity, natural gas, and hydrogen. Engagement of stakeholders representing various sectors is also paramount at this stage and is ensured by the Stakeholders Reference Group.

Currently cross-sectorial scenarios serve as basis for sector-specific system needs assessments. One single integrated model, fitting for all applications and types of study, would

entail challenges in terms of modelling, quality and computation. Vertically integrated models at transmission and distribution level are best placed at TSO-DSO national framework, which feeds into the TYNDP models. On the other hand, ENTSO-E intends to work on enhancing the cross-sectoral collaboration on processes further, based also on the learnings from the already available horizontally interlinked models. While today coordinated sector analysis based on common scenarios makes sense to capture each sector specificities, once each sector data and modelling methodology gets reach similar robustness and matureness additional steps towards integrated analysis can be taken based on anticipated benefits versus complexity.

Q5: Do you agree with the following statement?

The frequency of the identification of system needs process (every 2-years) is fit for purpose.

☒Yes ☐No

Q6: Do you agree with the following statement?

The frequency of the scenarios building process (every 2-years) is fit for purpose.

☒Yes ☐No

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

The TYNDP is a tool to inform investment decisions. Therefore, it is important that the information is consistent and as up-to-date as possible. The fast evolution of the policy and technological framework requires regular updates of scenarios. From experience in recent scenario building cycles, evolution of national policies and strategies happen each year, potentially in more than one EU Member State.

A yearly scenario building exercise would not be desirable nor possible, considering the time needed for scenarios development and proper stakeholder engagement. A yearly exercise may also create instability for subsequent processes.

The frequency of the scenarios and of the analysis of system needs must be aligned, as only the complete process with up-to-date scenarios and a system needs analysis provides stakeholders and decision makers complete information on economic opportunities for cross-border capacity reinforcement, on internal constraints and on infrastructure gaps.

Q7: Do you agree with the following statement?

The governance framework of the TYNDP, i.e. the role of all individual involved, should be revised.

☐Yes

If yes, please explain

☒No

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 your reply providing, where possible, qualitative and quantitative evidence.

N/A

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	

In case of YES answer to the last question, 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

**** If other, please specify:***

Regarding the first statement 'The existing legal framework for transmission network development plans is fit for purpose': the legal framework varies between EU Member States. Transmission NDPs vary in scope, planning horizons and frequency of release. Alternating the release of NDPs with the release of ENTSO-E's TYNDP may further strengthen the alignment between national and European planning. However, given that the National Development Plans are sometimes intertwined with various other products and processes at national level, a thorough impact assessment of the further alignment would need to be taken first, as the impact of such requirement have impact beyond the NDPs as such.

Regarding the 3rd statement 'There is a need for better alignment between national transmission and distribution network development plans across the EU', ENTSO-E agrees that alignment between transmission and distribution plans at national level is important. The situation varies

across Member States, with good alignment already in some countries, and should progress further. This should be addressed at national level.

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

Other:

Cooperation at national level between DSOs and TSOs supports the planning of infrastructure at European level. TSOs exchange information with DSOs to build national models and datasets, that then feed into the TYNDP.

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)?

☒Yes

☐No

☐Don't know

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

ENTSO-E welcomed Action 6 of the EU Grid Action Plan which focused on harmonizing definitions for available grid hosting capacity and establishing a pan-EU overview. ENTSO-E is working with EU DSO Entity on this topic and stands ready to provide further support.

In addition, since January 2024 ENTSO-E and EU DSO Entity work in collaboration on the Joint Task Force for Digitalisation of Energy System EU Action Plan (DESAP). The initiative is driven by the European Commission's action plan for Digitalising the energy system – EU action plan (COM/2022/552). The European digital plan is contributing to achieving parts of the EU's energy policy and aims to develop a sustainable, secure, transparent, and competitive market for digital energy services. Accordingly, it is pursuing several objectives, including enlisting a set of business user requirements of the Digital Twins addressing present and future challenges of energy systems from both TSO and DSO perspectives; defining a set of use cases addressing the current and future challenges of a digitalised European electricity grid and helping to enhance the grid's smartness; and identifying the current state of implementation of Digital Twins technologies in the power sector to guide prioritising challenges and developing requirements. Cases to support connection request fall within the scope of the project.

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 cleat 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: EU Institutions should promote infrastructure corridors? Positive administrative silence should be stablished where applicable?

Generally, it should be ensured that any new measure on permitting helps to increase effectiveness and efficiency in permitting procedures, e.g. via simplifying material requirements, instead of creating new ones. It is important to align new frameworks and directives with existing ones, mitigating the risk that different rules regulate different parts of a project or that the same processes are partly regulated by several directives/frameworks.

The delays in building the required infrastructure often result from public opposition. To gain acceptance, transparent implementation processes are key. An approach we refer to as “better projects”, presented by ENTSO-E and the Renewables Grid Initiative, aims at developing locally tailored, transparent and participatory planning processes. A better project should be understood as a process that starts with improved stakeholder engagement and includes the implementation of additional measures which result from stakeholder input. The regulatory framework should recognize and encourage this approach, which induces additional investment costs, that are generally compensated by benefits of anticipated or timely commissioning of projects.

While PCI/PMI status may facilitate procedures, it does not generally allow to be exempted from all regulation relating to the granting of authorizations. Planning obligations and material requirements for project promoters in permitting procedures, in particular with regard to

environmental assessments, have increased significantly, leading to additional burdens and workload for permitting authorities.

Specific considerations:

- On digitalisation: While digitalisation of administrative procedures do fasten the process, oral hearings and site visits with the court can be valuable for the permitting process.
- On one-stop-shops: The efficiency of the one-stop-shop process varies across countries, in some countries it is not operating efficiently or is not implementable (e.g. Germany, Sweden). In addition, the one-stop-shop process is not currently applicable to the appeals related to PCI in each Member State.
- On deadlines: shortening deadlines alone does not lead to faster permitting if the underlying material requirements for applications remain unchanged. These requirements often involve substantial preparation time. Therefore, accelerating procedures would likely require a review and possible simplification of the material requirements themselves (first and foremost in environmental legislation).

Alignment is needed among pieces of legislation dealing with energy and the environment:

- Simplifying and harmonising the existing environmental protection rules, such as the (currently) diverging assessment and exception standards under the Birds Directive and the Habitats Directive, will allow for a more practical application of the rules for project promoters.
- In addition, it is deemed necessary to build on the positive accomplishment of the Emergency Regulation (especially the provisions listed in Art. 6 of Reg 2022/2577), and the improvement included in the latest revision of the RED.
- Furthermore, REDIII, article 15(e) allows Member State to exempt energy infrastructure projects located in acceleration areas from the environmental assessment requirements of the EIA Directive, the Habitats Directive, and the Birds Directive. To ensure the full effect of the accelerated permitting process under REDIII art. 15(e) MS should also be allowed to exempt such projects from requirements in the Water Framework Directive (WFD), since WFD plays an equally significant role in determining permitting timelines.

The transposition and implementation of 'Areas for grid and storage infrastructure necessary to integrate renewable energy into the electricity systems' foreseen in RED III has not yet taken place in most Member States. The Commission could issue guidance, as for the renewable acceleration areas, in order to ensure proper implementation.

Additional considerations:

Litigation can entail significant delays in the development of grid projects. To minimise delays, EU legislation could require national courts to give priority to litigation related to grid projects and issue judgments within specific deadlines. Additionally, procedures for grouping relevant disputes could be introduced (e.g. under national law several decisions could be subject to judicial review/appeal), to avoid the fragmentation of disputes that entails further delays in the implementation of projects.

- Last, we call on policy makers to align the Environmental Liability Directive with recent changes to the Renewable Energy Directive and the Emergency Regulation. Today, liability provisions under EU environmental law can differ depending on the legal basis applied. This creates uncertainty for project promoters. Clarifying and aligning these provisions would improve legal predictability and facilitate faster approvals

(*) Please specify:

Planning obligations for project promoters in permitting procedures, in particular with regard to environmental assessments, have increased significantly, leading to additional burdens and workload for permitting authorities. It should be ensured that any new measure on permitting introduced in the TEN-E context helps to increase effectiveness and efficiency in permitting procedures for energy infrastructure in general. Emphasis should be placed on simplifying material requirements and procedural steps.

In general, learning curves on both sides (project promoters and permitting authorities) should lead to more streamlined and efficient processes in the future. To foster mutual learning and provide for more efficient and effective permitting procedures, exchange of good practices within Member States and beyond should be encouraged.

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	

Other:

(1) The current CBCA process is not fit for purpose while at the same time being rather time consuming. Cost-sharing tools should be a voluntary mechanism, not a prerequisite for accessing funding (e.g. CEF funds) and should align the regional focus with local and regional energy and climate plans, targets, and investor interests. The CBCA can be applied if deemed as economically efficient option but must not be enforced as the default. To make it workable as a voluntary cost-sharing tool, improvements are needed - particularly a more holistic reflection of the various types of benefits that grid development projects can entail and the long-term conditions under which benefits can be ensured for Member States that contribute without making direct investments It should be noted that cost sharing, which can run into billions, has a strong political element that should not be neglected, thus requiring involvement of all relevant policy makers from an early stage.

(2) A voluntary regional planning approach, as basis for an eventually binding agreement, including bundling of projects, can be further explored to facilitate cost-sharing agreements among the relevant Member States, especially in cases where the realization of cross-border infrastructure addresses the need to achieve energy targets shared among several Member States (such as the case of offshore targets). This approach allows for greater flexibility and better reflects interdependencies between projects. However, decisions on cost-sharing must remain voluntary and taken at Member State level, ensuring space for negotiation.

(3) While the objective of aligning cost-sharing with expected benefits is valid, the framework must be developed further as a voluntary tool, not a mandatory mechanism. A key improvement is the early engagement of all relevant stakeholders, TSOs and project promoters allowing for a transparent, consensual process and proper alignment of project data - particularly as projects interact and impact neighbouring countries. In the case where contributions from other parties are desired, this could be coordinated through regional initiatives or multilateral MS initiatives. Political consensus and early buy-in are essential for effective outcomes, and regional approaches are better suited than pan-European ones to understand and address local benefits and interdependencies.

(4) To make the CBCA framework more effective as a voluntary cost-sharing mechanism, the roles of actors involved (i.e. Member States, NRAs, ACER, and TSOs) should be revised and focus on the regional level first. Cost-sharing decisions must remain voluntary and respect national responsibilities, especially where TSOs are legally obliged to make grid investments. Political consensus and joint roadmaps (e.g. NECPs, Maritime Spatial Plans) are key to aligning planning processes and securing buy-in. Transparent data provision by TSOs is essential, and cost-sharing discussions could be facilitated via existing regional cooperation structures such as NSEC and BEMIP, which are well placed to coordinate sea basin cooperation. The framework should also strive for fairness, transparency, firmness of agreements, equal- and reciprocal treatment between technology or perimeters and easy implementation, avoiding reliance on unpredictable sources like congestion income and minimising administrative burden. After all, cost-sharing frameworks are currently triggered too late in the project lifecycle. Member States, TSOs, NRAs, and EU bodies must be involved early in the project design phase to enable meaningful coordination, political buy-in, and shared commitment. Earlier engagement improves project feasibility and unlocks timely agreement on a consensual and ultimately binding decision.

(*) Please specify:

N/A

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:

Regarding ITC and CI:

TSOs believe that discussions on cost-sharing solutions for infrastructure are above all a policy choice which rests with NRAs and Member States. While TSOs are in principle economically neutral to the choice of one cost-sharing model over another, this choice may impact the investment environment for new infrastructure projects and thus lead to delays and sub-optimal investment decisions. Below are several considerations which hopefully provide some useful perspective to the policy-debate.

The landscape of cost sharing mechanisms is quite broad. Since ITC and congestion income (CI) mechanisms were created for separate and specific purposes, even though they may have consequences for cost sharing, ENTSO-E is of the opinion that an assessment of making adjustments of ITC, CI and CBCA needs to be done separately, against how the individual mechanisms fulfil their goals.

The purpose of the ITC mechanism is to cover the cost of existing infrastructure and losses related to transits. The aim is not to enable financing of new infrastructure. Therefore, with regards to cost sharing there is no need to change ITC. Nevertheless, any new investment decision will have a direct effect on flows and thereby ITC costs, which needs to be considered in the CBA. As a result, ITC considerations could be more closely integrated into investment decision-making.

In terms of general improvement of the ITC mechanism ENTSO-E has developed several papers (such as a common methodology for losses costs).

ENTSO-E believes the current rules on CI are largely fit for purpose. Until now, Congestion Income rules have ensured that increasing cross-border capacity and maintaining available capacity remain as affordable as possible for tariff payers. Adding new uses for CI would create competition between non-complementary end-uses, which may ultimately increase grid tariffs. CI should not be used as a means to provide an alternative to traditional funding instruments

(equity, debt, EU funds, etc.). The funding gap is a consequence of policy choices, and therefore should be addressed separately.

If there are concerns about unintuitive flows, this is already tackled in last amendment of CACM CIDm and is currently being implemented by ENTSO-E and JAO within the Cross-CCR CID Project. CIDm requires the TSOs to assess the results of the CID application. Before this is finalized, it is premature to consider further changes to the sharing keys or other parameters used in the CID.

Regarding Common RAB

It is a measure that could potentially change the regulatory framework landscape in Europe. We see several potential issues in terms of responsibilities, governance, tariffs, remuneration, ownership, etc.

The concept of a common/regional RAB will not solve the underlying issue of how to share the investment costs and allocate finally to grid users (as the financing problem will remain the same) which is dependent on a political decision.

Regarding Ex-post conditionalities

Agreements should be as stable and predictable as possible to safeguard investors security; if amendments are taken ex post, the triggers of changes need to be predefined to guarantee the maximum of visibility of the future liabilities and allow for planning of TSOs and states budgets. In any case, any ex-post conditionality must remain voluntary.

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	

All the above-mentioned tools intended to lower the risk profiles and facilitate the financial sourcing of EU TSOs are appropriate and ought to be mobilised to support the massive investments in the power transmission networks. In addition to the obstacles above, would like

to build on and emphasize additional topics below that we think are of importance to TSO's in relation to the financial obstacles for infrastructure:

- TSOs need to raise debt and equity at an unprecedent scale for the needed grid investments, therefore regulatory frameworks need to provide adequate risk-return profiles or incentives to ensure that TSOs remain or become attractive to long-term investors and maintain investment-grade ratings.
- TSOs are competing with other industries (eg. defence) for capital. In order to raise the necessary equity, investors expect adequate returns on their investment through appropriate regulatory frameworks. Sufficient equity is needed to maintain strong capital structures as a basis for investment capacity and risk resilience. The Return on Equity /Rate of Return is the key element to attract investors but also to keep the costs for tariff payers low for the debt financing. Flexibility in terms of state aid or joint procurement processes might also be worth considering.
- It should be considered to reinforce the current Connecting Europe Facility for Energy (CEF-E) or create new complementary funds. The size of the CEF-E budget has not kept up with the investments in infrastructure required. While CAPEX has tripled in the EU, the CEF-E budget has remained at a similar level and has been spread over different spending objectives (including CCS, hydrogen). The CEF-E budget therefore needs to be increased to still be fit for purpose. To ensure fair and effective prioritization of grants, award decisions should focus on infrastructure projects that significantly contribute to decarbonization and deliver benefits that are not easily attributed to individual countries in cost-sharing schemes. Within this framework, system cost reductions—such as lower redispatch needs—can also be considered, provided that criteria remain streamlined and aligned with these guiding principles.
  Reducing bureaucracy: The processes for applying for and managing subsidies should be simplified and standardized to reduce the administrative burden. Leadtime for application and decision taking should be shortened. Since the mandate and necessity of the investments in the transmission grid are beyond question, proof of profitability or solvency should be omitted.
- Administrative Burdens: Application processes for development bank support are often too burdensome. TSOs, as 'Government-related entities' should benefit from fast-track or simplified procedures. Currently, the efforts needed to gain e.g. access to EIB financing have some barriers related to time and cost. They should be eased for TSOs in general but also particularly by recognising their status as 'Government-related entities' or comparable assets with low financial risk.
- Plans from policy makers and European institutions (e.g. the modifications proposed by ACER to collaterals for initial margins) which require additional financial liquidity from TSOs and bear additional risk, should be provided and recognized by regulatory regimes.
- It is important to point out that these messages concern TSOs corporate risk profiles and corporate financing, according to the specific characteristics of regulated entities entrusted with missions of general interest, special rights and obligations concerning transmission grids and system operation.

- An additional question to be explored concerns the possibilities of using 'project financing' for certain major network projects, while respecting the TSOs' legal obligations and allowing the financial and accounting deconsolidation of such 'project financing' schemes.

Lastly, given the diversity in TSO ownership models and national financing contexts, a flexible, tailored approach is essential to ensure all TSOs can access the right mix of financial measures.

Note: Some TSOs expressed a preference for selecting “slightly agree” rather than fully supporting the chosen answer for access to counter-guarantees. They consider this factor to be somewhat less critical compared to others such as access to debt, equity, regulatory risk, and access to public funding.

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

To support the over €800 billion in cross-border and hybrid grid investments needed by 2050 (according to TYNDP 2024), TSOs require stable, predictable regulatory frameworks that ensure adequate return on capital, and attractive risk/return profiles to mobilise private financing. Strategic public support such as EIB-backed guarantees, grants, and national development bank lending should be expanded to de-risk investments. Access to innovative equity instruments like mezzanine and quasi-equity must be facilitated to maintain investment-grade ratings.

Below some examples of related measures:

Changes in regulatory frameworks

- Regulatory frameworks should more than ever enable both sufficient cashflows and competitive financial returns to achieve TSOs necessary capital structures.
- Regulatory frameworks need to provide adequate risk-return profiles to ensure that TSOs remain or become attractive to long term investors and maintain 'investment grade´ credit ratings.
- Regulatory frameworks must be further developed in such a way that TSOs can also use innovative and equity-replacing financing instruments with the longest possible maturities and whose costs are accepted by national Regulators.
- A sufficient regulated share of equity is needed to maintain TSOs strong capital structures in a lasting period of high investments. The regulated Return on Equity (RoE) or Rate of Return (RoR) is the key element to attract equity and debt investors but also to keep the capital costs (including debt) affordable for tariff payers.
- Non-dilutive equity investments such as mezzanine or quasi-equity financing (promissory bills or profit-participation rights) subscribed by long-term financial investors e.g. national pension funds or equivalent, could also be interesting financing options.

EIB and National Development Banks

- Some TSOs already have National Development Banks among their shareholders. TSOs would welcome further investments in equity from such long-term financial investors, or even from the EIB. Equity-related financial instruments, possibly through blended finance schemes or innovative instruments, could be good alternatives not requiring a change in the capital structures of TSOs.

Subsidies and grants

- Guarantees from Government organizations or National development Banks or the EIB have a supportive effect as they positively impact eligible TSOs risk profile, thus lowering the costs for tariff payers.
- Development Banks could provide guarantees together with Export Credit Agencies for lenders to secure their commitments in large infrastructure projects.
- TSOs should get better access to EU funds and grants. In particular with a reinforcement of the current Connecting Facility for Energy or create new complementary funds to still be fit for purpose.
- Where part of an investment is financed by third parties who will not bear any operational risk (such as EU grants, CEF funding, connection assets fully or partly paid by grid users), the TSO should be compensated for the part of operational risks not included in the usual return on investment applied to its regulated asset base.
- Creation of dedicated envelopes for transmission grid investments should be considered in the relevant EU funds to avoid 'access competition' with other contributors to the energy transition and ensure TSOs ability to get access to sufficient EU funding.
- Prioritize CEF Energy fundings for energy infrastructure projects that are most efficient in decarbonizing the energy system and deliver benefits that are not easily attributed to individual countries in cost-sharing schemes.
- The process for applying and managing subsidies should be simplified and standardized to reduce the administrative burden that generates costs and disincentives.

These measures are critical to delivering a resilient, decarbonized grid while keeping tariffs affordable for European citizens. The recently published EC guidance on anticipatory investments is perceived positively by the TSO community.

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

N/A

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

N/A

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

N/A

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				

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				

Other:

Question 20: The TYNDP, when considered alongside national development plans, provides some level of visibility regarding TSO projects. While the TYNDP was not originally tailored to address supply chain management in detail, the 2024 edition introduces a dedicated section that begins to explore TSOs' investment pipelines. This marks a positive step forward. With continued focus and gradual enhancements, the TYNDP could play an increasingly useful role in supporting supply chain considerations in future. It is important to note that visibility is not regarded as the key factor by the manufacturers when addressing the capacity issue, the lack of commitment and funding are. Furthermore, European manufacturers should be incentivised to prioritise sales to European operators through the upcoming public procurement legislation, in response to calls from the industry to 'buy European' and help address supply chain bottlenecks while keeping the energy transition affordable and realistic.

Question 21: Further harmonisation of equipment requirements within the EU, for the purpose of scaling up supply chain and their repair capacities, depends heavily on the type of asset being

harmonised, as well as on other requirements such as voltage level, climate and pollution, and the stock of equipment already installed, given that the renewal cycle for transmission networks is in excess of 40 to 80 years, and for distribution networks 20 to 50 years. As harmonisation of grid technology is a very long, tedious and costly process, the areas where it delivers an added value should be carefully assessed. Not all types of electrical equipment can be harmonised across the EU, due to historically grown network and stability requirements that may vary across regions. Harmonisation also has its pitfalls – diversity in technological approaches can also make a system less prone to external threats, i.e. technical faults, cyber or physical security. Harmonisation should thus not be pursued for harmonisation's sake.

While harmonizing equipment at a technical level could potentially increase the quantity of assets manufactured in some sectors, the question remains as to what impact it will have on the European suppliers of European TSOs and DSOs if it is carried out at breakneck speed.

However, to ensure the resilience of electricity grids, and in line with proactive European policies (NZI Regulation), we need European suppliers with sufficient production volumes in Europe while still keeping in mind the affordability of assets.

The pace of harmonization must be coordinated with all stakeholders: manufacturers and grid operators. We need to allow time for the development of supply production chains, particularly in Europe, otherwise "harmonization of equipment requirements within the EU" could have the opposite effect, reinforcing our dependence on other parts of the world, where structural production costs are sustainably lower than in Europe.

In addition, a significant percentage of total assets are shipped outside the EU, and by streamlining our specifications we cannot be sure that we will increase the amount of assets for EU TSOs and DSOs. Finally, the meaning of 'harmonisation of equipment requirements' is also not perfectly clear and we call for more clarity.

Question 22: While addressing supply chain bottlenecks in the energy sector is essential, any additional EU action should prioritise simplification and avoid overregulation. The focus should be on streamlining existing frameworks rather than introducing new rules that risk creating further complexity and burdening operators.

In particular, overly rigid and complex procurement rules — combined with mandatory "European preference" requirements — risk causing delays and driving up costs for critical infrastructure. In the current context of strained global supply chains, with long lead times, rising prices, and fierce competition for key components, limiting access to non-European suppliers will only slow the delivery of infrastructure vital for achieving Europe's decarbonisation and competitiveness objectives. It is also important to recognise that many foreign suppliers, including from Asia, often outperform some European producers on sustainability criteria.

Measures such as derisking investments in additional supply chain capacities can be effective, but they should be tied to concrete commitments from manufacturers to prioritise the European market in terms of capacity allocation — ensuring accountability, impact, and affordability.

Overall, the EU should take a balanced and cautious approach: supporting the scaling up of European production capacity while ensuring procurement rules remain flexible and efficient, so

that infrastructure can be delivered on time and at a cost that supports both decarbonisation and competitiveness.

Question 23: TSOs strongly believe additional EU action is needed to address the critical shortage of skilled workforce in the electricity grid sector. We call for an NZI Academy for Grids.

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

☐Strongly disagree

☐Slightly disagree

☐Neutral

☒Slightly agree

☐Strongly agree

☐Don't know

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?

☐Strongly disagree

☐Slightly disagree

☐Neutral

☐Slightly agree

☒Strongly agree

☐Don't know

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.

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?

☐ Strongly disagree

☐ Slightly disagree

☐ Neutral

☒ Slightly agree

☐ Strongly agree

☐ Don't know

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

☒ Yes

☐ No

If yes, please specify:

The adoption of smart, innovative technologies can positively impact grid efficiency but more over effectiveness which should be the target concept. However, it should be noted that technology implementation is highly dependent on the specific characteristics of each national grid. The successful deployment of a technology (or a process) within a national context should not be assumed as feasible scalability at European level. A careful assessment of potential gains should be considered by paying particular attention to national contexts.

To this extent, platforms showcasing technology applications, such as Technopedia, play a valuable role. They support visibility of national projects and use cases, helping the adoption of smart technologies, while still promoting system operators' perspective on the feasibility of implementation and clarity on the quantified benefits. Additional work within the framework of Smart Grid Indicators also intends to support directing to the right investments to enhance observability, controllability, coordinated operational management, optimized service provision, congestion and stability management and coordinated development planning. The work is still ongoing with more progress expected by end of 2025.

Last, while energy efficiency gains are key to achieve the energy transition and do limit the need for new infrastructure, it is key to highlight that increased efficiency of the existing grid should in any case be seen as a complementary measure, not a substitute, to the deployment of infrastructure. It has been well pointed out in the TYNDP, that future targets cannot be met by merely optimizing the current infrastructure.

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		x				

readiness against physical and cyber risks						
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					

Reasoning for the selected answers:

Q1: There is a good framework for protection of national critical infrastructure, but the EU wide resilience perspective is less specifically addressed and, in the case it is addressed, the requirements might not be aligned (e.g., cybersecurity, environment). It is not so much a matter of creating an additional EU legal framework, but rather of effectively implementing the existing one and creating a stronger cooperation at EU level (e.g. union/regional testing). The recent European directives (NIS2, NCCS, CER) improve cybersecurity and physical protection, but do not yet fully address interdependencies in cyber-physical systems. Moreover, regarding SoS, it is important to recognize that it is not solely about cybersecurity and the physical protection of critical infrastructure: it is equally essential to have clear rules that ensure the system can operate safely that will also imply a good functioning of the electricity market.

Q2: Risk-assessment is typically performed by TSOs in the project design phase (e.g. for the coming HVDC interconnection between Spain and France, where the location was changed after unacceptable geological risks in the Gulf of Biscay). Protection and resilience (by design) measures must be present in any project from the design stage and must form an integral part of the project in order to mitigate risks from an all-hazard perspective. Regarding a structured risk assessment, relevant provisions must be considered, e.g., restricting access to certain actors, technologies, etc. That could ensure long-term European sovereignty over key technologies and solutions.

Q3: This type of provision would be valuable and helpful, but we have to acknowledge that it's a complex topic, with strong and objective criteria very likely difficult to establish. Currently, there is no European regulation that excludes non-trust actors in projects, and it falls short of providing a comprehensive, enforceable mechanism to exclude such non-trusted entities from critical cross-border grid infrastructure projects—particularly in the energy domain.

Other (please specify)

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?

☐ Strongly disagree

☐ Slightly disagree

☐ Neutral

☒ Slightly agree

☐ Strongly agree

☐ Don't know

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				

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

On the frequency of the process:

- The two years frequency of the PCI selection process ensures regular opportunities to get access to EU support. A 3-year frequency may result in longer waits for critical infrastructure to be included, potentially slowing progress toward national and EU energy goals. It may also result in the submission of more immature projects, entering the process so as not to miss the window.
- Projects in construction stage should keep their PCI/PMI status without needing to apply again.

On streamlining the process:

- On the application process itself, TSOs find it straightforward and do not see a substantial need for simplification.
- The methodology applied during the PCI/PMI seems to be mature enough and could be edited only in case of request for amendments instead of in every cycle.
- The ranking could be taken out from the process. It can be noted that the scoring and ranking method has not been made open in the frame of the last methodological consultation for the 2nd PCI/PMI cycle.
- Different approaches could be applied to electricity and H2, in adequacy with their respective sectorial deployment and pace. A distinction could also be made between mature and less mature projects. A possibility would be to set the electricity list based on eligibility, assuming all projects are mature, and have a ranking only for less mature categories (H2, digitalisation).
- In addition, monitoring activities of PCIs and PMIs should be as efficient and lean as possible. Instead of answering a yearly questionnaire, the monitoring could focus only on specific changes in regard of the project and its implementation.

On eligible projects: The criteria to admit PCI/PMI candidates could be rethought.

- PCIs could include projects that unlock the use of transmission capacity without necessarily increasing cross-border capacity. These include projects reinforcing the grid within a Member State to enable a cross-border capacity increase.
- For PMIs, criteria could consider questions such as with which countries does Europe want to connect, and the risk of creating a dependency on imports. The case of integrated commercial projects (generation projects located in 3rd countries whose energy is entirely delivered to an EU Member State) or projects internal to non-EU countries that are necessary for the realisation of a PMI could also be discussed.
- Finally, a new category of projects consisting of measures additional to the existing grid (e.g. digitalization, increased resilience to climate change or cybersecurity) could be considered. ENTSO-E sees high expectations from stakeholders to see such measures in the TYNDP, although they may not require a cost-benefit analysis.

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	

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

ENTSO-E welcomes a discussion on whether TYNDP processes could be simplified and the pros and cons of doing so. It is also good to note that the level of complexity of some products is determined by legal requirements or framework guidelines. In addition, simplification must not result in the products no longer being fit for purpose. To determine whether simplification is possible and desirable on either of the products listed above, we first need agreement on the desired scope and level of granularity of the results.

Furthermore, feedback received from stakeholders in the past and ongoing TYNDP cycles contain in general requests that would entail more complexity. For example, in the consultation on the draft TYNDP 2024 some stakeholders called for the development of an additional and alternative independent scenario, for sensitivity studies of the analysis of system needs to understand the impact of some methodological assumptions, and for integrating the expansion of internal grids in the analysis of system needs and ONDPs.

ACER's Opinion on TYNDP 2024 also includes requests that would make the TYNDP more complex, such as the introduction in the TYNDP of an analysis variant exploring where reinforcement (of internal grids) would be required to enable the identified cross-border needs based on a cross-zonal model.

Next to seeking simplification measures, it seems at least equally important to ensure that future regulatory changes do not lead to an undue increase in the complexity of the TYNDP processes.

ENTSO-E considers that the respective role of each actor involved (the EC, regulators, ENTSO-E, ENTSOG. ENNOH, stakeholders) is overall appropriate considering each party's field of expertise.

However, simplification of the overall process may require changes to the governance. This implies rationalizing the respective roles and their timings, without adding additional consultation, opinion or approval loops to the process.

In particular, ENTSO-E sees a need to introduce a validation of the TYNDP scenarios assumptions (input data) much earlier in the process, either on NECPs themselves or on the input data compiled by TSOs that will feed into scenarios. Currently the EC decision on scenarios takes place at the very end of the scenario building process, at a time when scenarios are already used

for the next steps of TYNDP. In TYNDP 2024 the EC decision was released barely two weeks before the draft system needs, and CBA results were put for public consultation. EC approval would be more effective if the EC's position on the scenarios was made public much earlier in the scenario-building process. After the EC has endorsed the data and methodologies, ENTSOs would then run the models to produce the final scenarios based on the endorsed data and methodologies.