

Eurelectric Action Plan on Grids

A Eurelectric position paper

November 2023

Eurelectric represents the interests of the electricity industry in Europe. Our work covers all major issues affecting our sector. Our members represent the electricity industry in over 30 European countries.

We cover the entire industry from electricity generation and markets to distribution networks and customer issues. We also have affiliates active on several other continents and business associates from a wide variety of sectors with a direct interest in the electricity industry.

We stand for

The vision of the European power sector is to enable and sustain:

- A vibrant competitive European economy, reliably powered by clean, carbon-neutral energy
- A smart, energy efficient and truly sustainable society for all citizens of Europe

We are committed to lead a cost-effective energy transition by:

investing in clean power generation and transition-enabling solutions, to reduce emissions and actively pursue efforts to become carbon-neutral well before mid-century, taking into account different starting points and commercial availability of key transition technologies;

transforming the energy system to make it more responsive, resilient and efficient. This includes increased use of renewable energy, digitalisation, demand side response and reinforcement of grids so they can function as platforms and enablers for customers, cities and communities;

accelerating the energy transition in other economic sectors by offering competitive electricity as a transformation tool for transport, heating and industry;

embedding sustainability in all parts of our value chain and take measures to support the transformation of existing assets towards a zero carbon society;

innovating to discover the cutting-edge business models and develop the breakthrough technologies that are indispensable to allow our industry to lead this transition.

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KEY MESSAGES

- Eurelectric strongly supports the initiative announced by the European Commission to release a European Plan for Grids. To achieve a successful energy transition, regulatory obstacles to the grid's expansion and digitalisation must be removed.
- Scarcity of grid capacity is already leading to delays in renewable project connections in several EU Member States and slowing down the decarbonisation of key sectors (e.g., heating, transport). Power grids risk becoming a possible bottleneck for integrating RES, flexible loads, and additional base load, rather than an enabler. This underscores the imperative to prioritise distribution grids on the EU's political agenda to ensure security of supply.
- The power sector sees the following objectives and concrete actions (see the full list in annex) as essential elements for a comprehensive and effective European Action Plan on Grids:
 1. Reset the mandate for national regulatory authorities (NRAs) to develop a forward-looking regulatory framework for anticipatory grid planning and investment.
 - Regulation and regulators should shift from an outdated incremental approach to a forward-looking one to keep pace with the EU's dynamic energy system. Currently, most regulatory frameworks in Europe are more focused on preventing excessive investment than ensuring the grid meets society's evolving needs.
 - Further regulatory clarification is needed to prevent system operators (SOs) from facing financial penalties due to underutilised grid capacity built in an anticipatory way, which may be wrongly perceived as inefficient.
 - Investment in distribution grids should be increased to at least €36 billion per year until 2030 and up to €65 billion per year until 2050 on average. These cover:
 - Costs related to hardware infrastructure (lines, substations), implying a greater deployment of CapEx (Capital Expenditure) that would only be possible within a modern regulatory framework and with competitive returns.
 - Costs related to the digitalisation of the grid. It is essential to enable more flexibility in adjusting CapEx and Operating Expenditure (OpEx) as timely as possible.
 - Costs related to human expertise and resources must be included. The power industry is dedicated to supporting skill initiatives, including Pact for Skills partnerships, training programs, reskilling and the promotion of technical careers.
 - Promoting anticipatory grid planning implies to successfully implement network development plans at national level and align them with national energy and climate plans (NECPs) over 5-10 years, extending to 2050. NECPs should also include a binding network plan for national energy and climate targets.

2. Secure and mobilise the necessary financial capabilities

- While private capital remains the main route for investment in grids, EU funding is a complementary tool to trigger further investments in projects and alleviate the risk of increased tariffs which could result from increased investments. Presently, the many EU funds do not consider distribution system operator (DSO) needs enough. This can be observed in the very limited allocation of grants to projects led by DSOs. To improve the situation, we notably suggest to:
 - Create a dedicated programme in the next Multiannual Financial Framework (MFF) to support decentralised grid facility related projects.
 - Provide clearer information and directives for Member States to include the grid when the Commission launches new funding opportunities.
 - Guarantee that regulated business can genuinely benefit from grants by issuing Commission guideline and revising the Common Provisions Regulation for Grant-Funded Assets.

3. Ensure the best level of stakeholder engagement to accelerate project authorisation and deployment

This implies:

- Simplifying the permitting process for grid upgrades, whether physical or digital. Following the example set by the Renewable Energy Directive (RED), it is essential for the Commission to establish clear policy guidelines emphasising that the grid is critical infrastructure of public interest. This should prompt administrators to process grid enhancement requests within defined and strict, defined timeframes. Commission guidelines on the implementation of the RED and its reform in the long run are required.
- Providing transparency regarding the grid's role and connection procedures to gain public acceptance, whether from generators or consumers. Existing tools like capacity maps offer information on grid status and must be generalised. In turn, the involvement of stakeholders in network development plans is useful for all stakeholders and would provide the most complete information on the grid's needs. Empowering consumers can also be done via flexible connection agreements to expedite their connections in areas where the grid is awaiting development.

4. Build a sustainable, digitalised and resilient grid

- . Any sustainability initiative should assess its raw material supply, supply chain risks and life cycle perspective.
- Ensuring a resilient grid to extreme weather events can be achieved by increasing coordination and communication between network operators (transmission system operators or TSOs, and DSOs), increasing climate adaptation measures and by safeguarding grid stability on islands.
- Finally, grids need to be digitalised to cope with increased grid complexity and renewables integration. Consequently, we call for speeding-up the smart meter roll-out, ensuring data interoperability, securing fair competition for data sharing and promoting innovation in the AI Act. Furthermore, it is key to harmonise cybersecurity legislation and to incentivise innovation projects with flexible frameworks.

Eurelectric Action Plan on Grids

- In July 2021, the European Union (the EU) unveiled a new legislative package under the European Green Deal, known as the “Fit for 55 Package”. This set of proposals aims at updating and revising existing legislation to enable the EU to reduce its net greenhouse gas emissions by at least 55% by 2030 compared to 1990 levels and achieve climate neutrality by 2050. Most of the legislative files from this package reached a political agreement in 2023, resulting in ambitious targets such as raising the renewable energy share in the energy mix to at least 42.5% by 2030.
- In May 2022, in response to the hardships and global energy market disruption caused by Russia's invasion of Ukraine, the European Commission has set a new legislative plan, the REPowerEU which notably includes a communication called the “EU Solar Energy Strategy” highlighting the new objective to massively and rapidly deploy renewable energy to reduce the EU's dependency on fossil fuels. This strategy aims to increase the total photovoltaic capacity to over 320 GW by 2025 (more than a doubling the capacity compared to 2020) and nearly 600 GW by 2030. In a nutshell, REPowerEU has added 41 GW of wind power and 62 GW of solar PV to the Fit-for-55 targets, bringing the cumulative renewables capacity target to 753 GW by 2030.
- Considering the above-mentioned legislative changes, and as stressed in [Eurelectric study “Connecting the Dots”](#), **the coming years should be marked by a general increase of the total electricity demand, a fundamental change of the generation mix with a large majority of renewable sources connected at distribution level, and a shift towards a more decentralised energy system.** One will also observe a rapid and distinct transition toward a significantly more electrified society with the use of technologies like heat pumps or electric vehicles, which will be connected at the distribution level. As a result, with the increasing number of resources connected for both energy injection and withdrawal, as well as their different and sometimes imbalanced location, energy flows within distribution grids are becoming increasingly bidirectional.

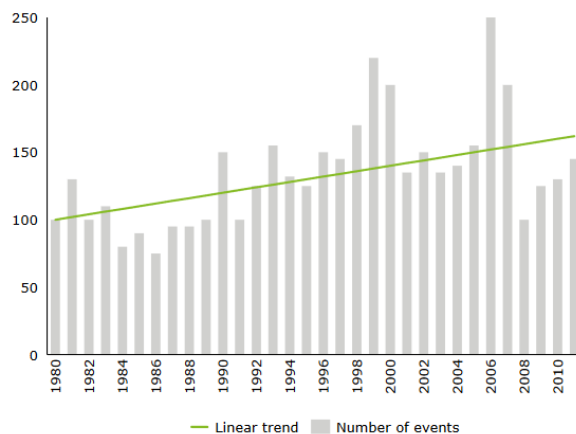


Distributed energy resources connected at distribution level – a massive increase

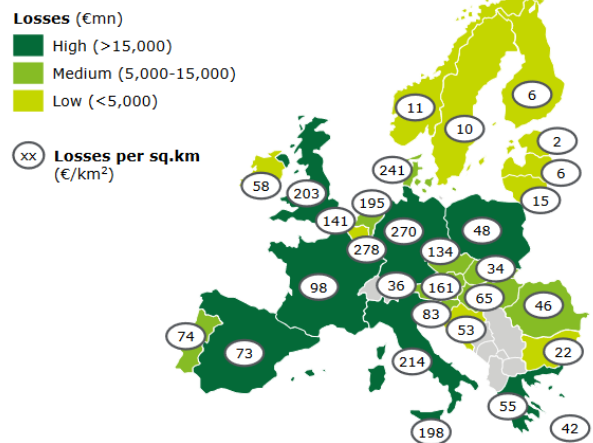
Source: [Eurelectric Power Barometer 2023](#)

- Simultaneously, the escalating risks posed by both cyber threats and climate-related disruptions underscore the pressing need for enhanced resilience in our infrastructure.

Natural disasters in Europe⁽¹⁾
(number of events)



Impacts of extreme weather and climate related events in Europe⁽¹⁾ (1980-2017)



Left: Evolution of the number of natural disasters in Europe
Right: Losses from climate-related events in Europe (1980-2017)

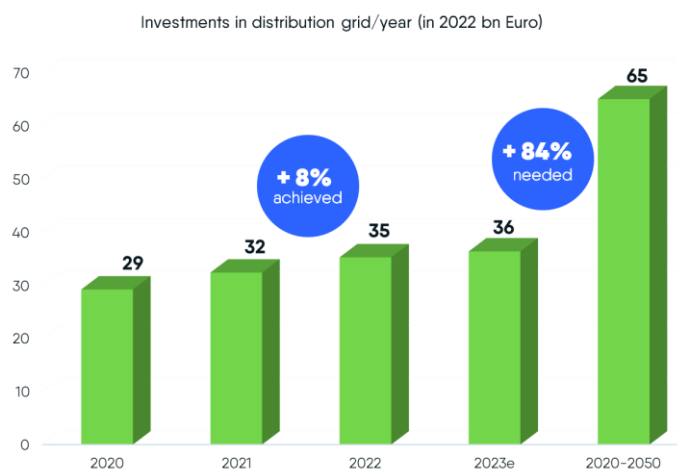
Source: [Eurelectric's "Connecting the Dots" study, 2021](#)

- **To achieve a successful energy transition, the European distribution grid must be prepared at an accelerated pace and with new capabilities.** There is a major interdependency between the essential expansion of Renewable energy sources (RES) and the increase of demand and the imperative to address them within both the transmission and distribution levels of the grid. In essence, if policies accelerate the deployment of renewables and the electrification of transport or heating, the corresponding grid upgrades must also be accelerated. By 2030, over 80% of the additional RES capacity¹ will be connected at distribution level. Europe must reinforce and expand its grid infrastructure to add capacity to meet the new policy goals. **This entails doubling the amount of new grid connections and a multi factor capacity increase in some jurisdictions by 2030** to collect the new power supply and distribute it to European citizens and businesses. Concurrently, while developing new infrastructure, existing grids should be optimised to the fullest thanks to investments into smart, digital and flexible solutions.
- **Grids must expand and be digitalised significantly, and any existing obstacles to this expansion and innovation in national regulatory regimes must be removed.** Today, most regulatory systems only recognise investments when the connection demand is already submitted i.e., DSOs can only reactively build grid and cannot anticipate, even when growth targets for the grid are known, as outlined by the EU's ambitions and demand growth forecasts. This results in DSOs grid investments 'tailing' the demand, whereas the recently agreed European policy targets provide sufficient certainty regarding the electrification required to facilitate the transition. The issue is not limited to investment recognition. The regulatory regimes applicable to access, connection, network planning and grid development are responsible for such reactive approach to grid development. Most regulatory frameworks in Europe seem to be more focused in preventing excessive investment than in ensuring that the grid delivers all the services that are required by society. **It is therefore crucial to evolve national regulatory**

¹ By 2020, with regards installed capacity, we foresee that 1286 GW of RES capacity (829 GW of solar and 457 GW of onshore wind) will be connected at distribution level i.e., 64% of the total energy capacity (including fossil fuel), and 80% of the total installed RES capacity (source: [Eurelectric Power Barometer 2022](#))

frameworks and permitting procedures, allowing DSOs to make anticipatory investment and build grids on publicly agreed forecast, itself being based on publicly agreed forward-looking objectives and incentives. In a nutshell, DSOs need more financial and human resources in order to be able to both react to enable grid connection and realise well-coordinated grid expansion and/or reinforcement programmes for the whole network.

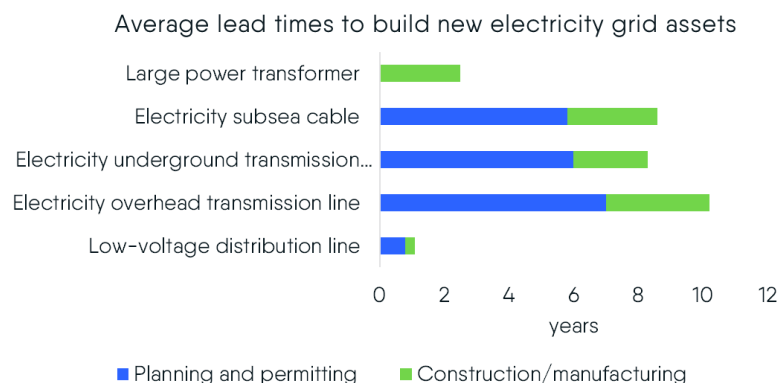
- As shown in Eurelectric’s [Decarbonisation Speedways study](#), the EU currently invests €23 billion per year in grid infrastructure, which falls significantly short. Till now EU legislation and related funding (CEF) have focused mostly on how to boost interconnections at the transmission level rather than recognising the important role of the distribution grid in the energy transition. **Investment in distribution grids should be increased to at least €36 billion per year until 2030** and, on average, up to €65 billion per year until 2050 to meet the additional demand anticipated within the EU’s decarbonisation agenda.



The need to increase drastically investments in grid infrastructure for a decarbonised EU
 Source: [Eurelectric’s “Decarbonisation Speedways” study, 2023](#)

- **Scarcity of grid capacity is already noticeable in several EU Member States², leading to delays in the development, completion, and connection of renewable projects and slowing down the decarbonisation of key sectors (e.g., heating, transport).** This, in turn, results in welfare losses for energy consumers. Waiting times for grid connections can range from 7 to 10 years in certain very congested areas, whereas constructing a renewable energy project can take as little as a few months. Therefore, it is critical to upgrade the existing grid infrastructure, invest in the additional infrastructure required, and unlock the potential of flexibility services procurement to procure flexibility services to meet the energy demands of the EU.

² Netherlands, Spain, Germany, Poland, Bulgaria and Ireland, as indicated in [Eurelectric report “ Power System of the future: keys to delivering capacity on the distribution grid”](#), September 2023



Sources: Aggregated and anonymised data from an EU-wide DSO survey conducted by Eurelectric, and based on a sample of DSOs of all sizes ; and IEA data (2023)

- o In this context, power grids risk shifting from a key enabler to a possible bottleneck for connecting and integrating RES, flexible loads, and additional base load. This underscores the imperative to prioritise distribution grids on the EU’s political agenda to secure EU citizens’ energy provision and economic activity’s security of supply.

Grids are not governed by one specific EU legislation. Issues related to infrastructure are addressed indirectly through laws related to energy sources and the electricity market. Given that the grid has become the primary enabler for the development of decentralised and clean energy, it is crucial to conduct a thorough analysis of existing legal provisions and gaps. The intent should be to ensure the satisfactory implementation of existing provisions and sensible political initiatives (e.g. EU Action Plans), but also to target improvement also via new legislation, when needed, while avoiding overlaps in provisions.

Eurelectric strongly welcomes the initiative announced by the European Commission to release a European Plan for Grids. The power industry sees the following actions (each action is further detailed in annex) as essential elements for a comprehensive and effective European Action Plan on Grids:

1. Reset the mandate for national regulatory authorities to develop a forward-looking regulatory framework for anticipatory grid planning and investment

Despite the increasing use of flexibility solutions where available, the most efficient solution to cope with scarce capacity still is grid reinforcement, i.e., physical expansion, reinforcement and renovation of the networks. This process can take several years to plan and build and therefore work must continue and be enhanced without delay. Even when they do clear such obstacles, DSOs might still face regulatory limitations to corresponding proactive investments. This is due to the possibility that investments without clear tangible demand could be deemed inefficient by the current regulations, either being disallowed by the National Regulatory Authorities (NRAs) or “penalized” in efficiency benchmarks.

The regulatory framework and regulators must move from an incremental approach that is no longer adapted to the EU’s fast evolving energy system, to a build-for-the-future approach. Similarly, anticipatory grid planning must be promoted along the development of tools and information provided to DSOs. (Action n°1)

Grasping the possibility for System Operators to make anticipatory investment is crucial. However, further regulatory clarification is needed to put it into practice, ensuring System Operators are not financially penalised in cases of underutilised grid capacity built

based on forecast, which could wrongly be equated to inefficiency. The risk sharing must be balanced accordingly as with the benefit of hindsight some assets might prove to be over “capacitized”. **(Action n°2)**

Regarding investments in the grid, there are three main categories to consider:

1. To start with, there is the extension of grid capacity meaning the **grid hardware infrastructure** (mainly overhead lines, cables and substations). Greater deployment of CapEx (Capital Expenditure) deployment would be only possible within a modern regulatory framework and with competitive returns. **(Action n°3)**
2. Then, the expenses related to the **digitalisation of the grid** for which Eurelectric has estimated a total cost of **€179 bn by 2030**. It is essential to achieve a balanced consideration of all expenses and investments, encompassing both more flexibility in adjusting CapEx and Operating Expenditure (OpEx) as timely as possible. **(Action n°4)**
3. Lastly, **human expertise and resources** must be included in expenses required for the grid’s preparation to a decarbonised EU. According to Eurelectric’s “Connecting the dots” study, making the power grids fit for the transition by 2030 will create 500.000 jobs. To achieve this, the power industry is committed to support and develop skills initiatives, such as partnerships under the Pact for Skills or industry initiatives, to develop training and reskilling programs, and to promote technical carrier. **(Action n°5)**

With regards to planning, it is essential to promote integrated and anticipatory network planning to accelerate the deployment of electrified end-use services or renewables into the system.

The traditional approach to network planning needs to adapt to the challenges of the evolving energy system in the EU. Regulations that do not consider anticipatory investments have solidified practices in an obsolete model that focuses on short term cost efficiency mostly and fails to consider the emerging paradigms.

To get started, a shift in distribution network planning should be initiated toward a forward-looking approach. This involves anticipating the implications of RES capacity and loads into the system. This planning should extend over a longer horizon, spanning 5 to 10 years, and align with the National energy planning exercises (NECPs), incorporating a perspective that extends to 2050. **(Action n°6)**

Reciprocally, NECPs should also integrate a detailed and binding network development plan required to achieve the national energy and climate targets. **(Action n°7)**

The efficient national implementation of network development plans for DSOs, as outlined in article 32(3) and (4) of the Electricity Directive is crucial. In addition to the necessary evaluation of grid extension, these plans by law should also consider complementary solutions to reinforcements, including infrastructure digitalisation and flexibility deployment. For each network development case, DSOs will have to analyse the feasibility and cost- effectiveness of any flexibility solution. DSOs will compare the current capacity of an asset or assets on the network with the projected load in the future. Therefore, when the load exceeds the capacity of the asset or assets, the DSO can determine when and what intervention (in the form of flexibility procurement or conventional reinforcement) is required. The Clean Energy Package establishes a clear requirement for modern network

planning, but there is a significant implementation gap and a lack of monitoring at the EU level. (Action n°8)

For DSOs connecting less than 100 000 connecting customers, for which the communication of a network development plan is not a mandatory exercise, we encourage a clear prioritisation of the cooperation with local public authorities – so as it stands for unbundled DSOs for setting up the local planning.

Exchange of best practices and knowledge sharing, for technical grounds, between DSOs for drafting the network development plans is encouraged and may be facilitated by the EU DSO Entity. (Action n°9)

2. Secure and mobilise the necessary financial capabilities

European DSOs will encounter a massive need for investment to enable the Energy Transition and ensure the security of supply and automation of the distribution grids. Private capitals remain the main route, while EU funding can be seen as a complementary tool to further trigger investments in projects and alleviate the potential increase of tariffs which could result from enhanced investments. EU funding could also attract and catalyse further funding from the private sector and other national public sector stakeholders (public investment bank, etc.)

A stable and predictable regulatory environment is needed to attract funding to the needed distribution investments. Any changes in the European and national regulations shall be subject to a sufficient impact assessment, taking also into account the foreseen effect on the investing environment and funding possibilities.

Many EU funds exist today under different forms, but it is observed that DSO needs are not fully considered given the very limited current allocation of funds to projects led by DSOs. The TEN-E Regulation, which provides the framework for identifying Projects of Common Interest (PCI) and specific conditions for benefitting from “CEF-Energy fund”, was recently revised notably with the intent to strengthen the role of decentralised projects. Out of the five new projects proposed for decentralised energy infrastructure, none of them has been retained for the upcoming 1st list of PCI projects under the revised TEN-E Regulation.

Additionally, much of the EU's financial redistribution is managed indirectly, with funds allocated at the national level through initiatives like the Recovery and Resilience Facility (RRF), RePowerEU, and the Modernisation Fund. To address this, we advocate for clearer directives from the European Commission to Member States on fund allocation within the existing vehicles, as well as for when new funding opportunities like REPowerEU in 2022, ensuring that the entire value chain, particularly electricity grids, is taken into account. (Action n°10)

	Funds	Cycle	Budget	Expected DSOs' benefits
Innovation	Horizon Europe	2021-2027	€ 95,5 Bn	0,7% of the total fund
	Innovation Fund	2020-2030	€ 20 Bn	Not assessed yet
Cohesion & Connection	CEF (Energy)	2021-2027	€ 5,35 Bn	4% dedicated to smart-grids
	CF & ERDF	2021-2027	€ 240 Bn	0.3% of the total budget
Loans & Guarantees	EIB	2021-2027	€ 448 Bn	3,3% of the budget
	Invest EU	2021-2027	€ 26,2 Bn	3% for electricity networks
Climate	LIFE	2021-2027	€ 5,45 Bn	0,7% of the budget
	Modernisation Fund	2021-2030	€ 14 Bn	25% of the budget
Recovery	Resilience & Recovery Fund	2021-2026	€ 723,8	Between €5,1 bn and €6,8 bn

Share of European funds allocated to DSO projects

Source: Eurelectric guide on EU financing and funding instruments for DSO projects

The main obstacles are:

- **The eligibility criteria are not sufficiently tailored to DSO projects, and the application and evaluation processes are lengthy and resource intensive.** To improve this, and within the context of the upcoming Multi Financial Framework (MFF) expected to be published by the European Commission by July 1, 2025, we call for:
 - o The introduction of a programme, “The Decentralised Grid Facility”, tailored to support decentralised energy infrastructure, with an emphasis on electricity grids. **(Action n°11)**
- **Some national level measures discourage the utilisation of EU funding** (e.g.the NRA deducts 100% of any investment financed by EU funds from the Regulatory Asset Base (RAB) /does not recognise the investment in the first place i.e. full sterilisation of funds with regards to Regulatory Asset Base (RAB) and in consequence regulated revenues).. The Commission should provide clearer guidelines to guarantee that regulated businesses are incentivised properly to apply for funds and can genuinely benefit from grants, as opposed to the present scenario where grant acquisitions result in financial losses for companies in some Member States. The general principle should be that the final profit and less account of the company is indifferent to having investments funded by grants or by raised capital. **(Action n°12)**
- **Access to information about the funding opportunities is difficult.** A first step should be the creation of an information tool with:
 - o **a list of all existing funds** with clear explanation on their purpose and the potential beneficiaries
 - o a list gathering all the awarded grid projects led by DSO **(Action n°13)**

3. Ensure the best level of stakeholder engagement to accelerate project authorisation and deployment

- **Grid is the new permitting, but grids need permits in the first place.**

Legislators are fully aware of the need to break down administrative hurdles for EU decarbonisation and permitting procedures. The initiatives undertaken to speed up permitting for renewable generation in the revision of the Renewable Energy Directive

(RED) and the Council's Regulation laying down a framework to accelerate the deployment of renewable energy are welcome. However, their effectiveness hinges on similar proposals with explicit and clear references to grid permitting, which should encompass reinforcement, expansion, or reconfiguration, within the aforementioned legislations.

(Action n°14)

DSOs face unnecessary difficulties in the permitting process due to unclear content requirements and a lack of resources for swift application processing by public authorities. DSOs also face challenges in fulfilling and investigating the environmental impact of projects. Improved cooperation between public authorities and stakeholders, clearer application instructions for grid operators and a more tailored and simpler permitting process allows for faster processing **(Actions n°14 and n°15)**. It is important to fully acknowledge and weigh in the benefits that grids have in decarbonising the society, making grid expansion a priority.

Distribution networks should benefit from simplified permit-granting processes, positive administrative silence, and clear deadlines for administration to deliver permits.

In the long-term, a one-stop-shop should be established, for high voltage projects, and where sensible or identified as practically problematic for medium voltage projects also. The one-stop-shop would provide a single contact point for the entire process and include a positive silence mechanism for non-essential procedural issues. Moreover, we recommend establishing a unified framework for all national administrations to expedite administrative proceedings. Permitting simplification must not be understood as a loss of control by the public opinion or carelessness in ensuring environmental compliance. Communication actions must be carried out to ensure public understanding of the permitting changes. **(Action n°16)**

- Promoting public understanding and acceptance of the grid

As the expansion of overhead lines, underground cables, and substations become more common, public acceptance and understanding of infrastructure projects need to grow but are most probably going to be challenged. This can be achieved through greater transparency about the grid's role, the benefits of its development, the status of available grid capacity, and ongoing projects in the surrounding area. **(Action n°17)**

- Providing the sufficient visibility to stakeholders on grid status is key for a successful and inclusive energy transition.

Enhancing transparency regarding grid congestion can also help connect stakeholders to consider alternative locations with greater grid capacity. This, in turn, can reduce connection times, as there is no need for extensive grid investments before the connection.

Capacity maps and other solutions like “ad-hoc digital connection checks” for parties seeking a connection currently developed by DSOs are tools that can serve these purposes. For the use of these tools, standardising the information category, granularity, and update frequency, will enhance grid management for all market players and customers. They should be generalised to all DSOs in Europe. **(Action n°18)**

Furthermore, offering grid users visibility into the status of their connection request is key. This can be achieved through digital portals, either from relevant public authorities or DSOs, to track progress at different steps of the connection procedure, with specified response time requirements for public administration.

Finally, involving relevant stakeholders closely in the planning process is key to improve the accuracy of DSO forecast. This includes TSOs, energy service providers, generators, and public authorities. Mandatory publication and consultation of the network development plan is essential (via a DSO or NRA website for instance) to help the grid users to better identify opportunities (e.g. flexibility assets). The involvement of stakeholders in the network plans is also crucial for flexibility mapping purposes. The plans must be a basis for DSOs to express their flexibility needs, and market players or active customers could leverage on the information contained in the plans to define, develop and provide flexibility solutions. **(Action n°19)**

- **Offering a possibility to customers to benefit from flexibility schemes while reinforcing the grid**

Flexibility involves enabling network users to shift their electricity consumption or production to non-peak hours, reduce or increase their electricity demand or production within certain limits, or even participate in demand response programs where they actively respond to signals from the grid. For such “implicit” demand response to materialise, the Commission should make sure that Member States do not mute the necessary price signals by artificially regulating retail prices. The reform of the Electricity Market Design is relatively lax compared to the Clean Energy Package about interventions to “stabilise” end-user prices, which in turn risks missing the potential for customers to reap the benefits of their consumption shifting.

To further optimise the use of the grid’s capacity, the so-called “flexible connection agreements” are to be promoted as an option, primarily on a temporary basis (e.g. agreements are based on the calendar year in its current common form in many countries) **(Action n°20)**. This flexibility in demand or production allows for better management of electricity supply and demand imbalances, optimises grid utilisation, and enhances overall grid stability and efficiency. By enabling system operators to regulate the electricity flow based on network usage levels, these flexible connection agreements play a vital role in upholding the stability and security of the power grid.

Flexible connection agreements can also provide financial incentives to customers by offering them advantageous tariff structures.

While flexible connection agreements offer significant benefits in areas experiencing congestion, it could be useful for DSOs to extend beyond such congested areas. Consequently, flexible connection agreements could become **voluntary options for all stakeholders**. It should nevertheless remain up to DSOs’ assessment whether a flexible connection agreement is an option in each specific case, and on what technical terms they can be delivered. The use of flexible connections should not imply less investment in the grid.

4. Build a sustainable, digitalised and resilient grid

There are certain elements crucial to the economic efficiency of investing in grid infrastructure. Increasing the grid capacity is only efficient if reinforcements and buildouts come hand-in-hand with digitalisation efforts. Additionally, it is key to ensure that grids built today are both resilient and sustainable in order to avoid unnecessary grid investments in the future.

- **DSOs are key enablers of a sustainable transition.** When designing policy for sustainable grids, it is crucial to have a holistic view of the environmental and climate

parameters. In other words, sustainability initiatives must not endanger decarbonisation and electrification efforts. This can be realised by:

- Regulation should **incentivise sustainable asset acquisition and formation** where reasonable and not solely favour the most cost-efficient option (**Action n°4**).
 - **Weigh in the potential supply chain risks, raw material supply and life cycle perspective** to ensure that renewable energy connections are not delayed. (**Action n°21**). The revision of Ecodesign regulation on transformers should maintain the current efficiency requirements (Tier 2). The previous revision increased the material use and price of the network asset, due to the increased demand for steel and copper.
 - **The most sustainable materials and chemicals should be used when available and viable**. Chemical regulation should enforce its risk-assessment approach and weigh in the notion of ‘essential use’. This would entail taking into consideration that for example the PFAS chemicals are essential to all parts of the functioning of the power system and that while some can substitute substances, others lack alternative options and require derogations until a viable solution becomes available. (**Action n°22**)
- **Grids need to be more resilient**. All power system assets, from generation and transmission to distribution and the final customer, are exposed to the effects of the growing number of extreme weather events. Regarding the grids, overhead power lines are exposed to high winds, when trees and other vegetation can collide with them, resulting in physical damage and electrical faults. The joints and insulation of underground cables are put under strain during heat waves, especially during sustained heat over several days. Substations, if not well located or sufficiently protected, can be damaged by floods. Wildfires, floods, and high winds can limit the ability of staff to safely access substations and other assets. European islands face specific challenges in the energy transition such as the declining system stability, lack of a large balancing area, the smaller electrical volumes, the lack of geographical/environmental diversity, the need for higher capacity margins, the need for more responsive back-up plants. To increase the resilience of the power system, it is necessary to:
- **Increase coordination and communication to strengthen the resilience (Action n°23)**. European countries and their NRAs need to appreciate that to achieve our decarbonisation targets with adapted and adequate resilience levels, they must plan with a long-term horizon and the perspective of a true Energy Union. Moreover, the power system is closely interconnected, therefore, the fluent cooperation and development of all elements, notably coordination of services between network operators (TSO and DSO), is of utmost importance, as well as in close coordination with generators and other network users.
 - **Tackle adaptation and mitigation together (Action n°24)**. Climate law, including Fit-for-55 and other related instruments, should address adaptation in partnership with mitigation and not separately. A failure to reach decarbonisation goals could result in long-term increased climate adaptation costs, and a failure to adapt to climate change could be devastating for the European economy.

- **Assess the grid stability needs for EU islands and a grid stability toolbox for island-based DSOs (Action n°25).** A special regulatory and financial support should be granted for safeguarding the grid stability of European Islands that are weakly or non-interconnected throughout their decarbonisation missions. This support should focus on ensuring grid reliability, including the availability of inertia, short-circuit capacity, and dynamic voltage support, both during and after the transition to renewable energy sources. Leveraging the experiences of island systems can offer valuable insights for both islands and mainland communities. Addressing underdeveloped grids, especially with a modified generation mix, is critical to enabling the adoption of renewables on EU islands, requiring a concerted effort by the EU and its Member States.
- **Digitalisation is necessary for DSOs to cope with increased grid complexity and renewables integration.** We call for:
 - **Speeding-up the smart meter rollout (Action n°26).** Acknowledging the essential role that smart meters play in increasing the observability of electricity flows to facilitate digitalisation efforts.
 - **Ensure data interoperability and secure fair competition for data sharing.** Envisaged measures in the Data Act must be compatible with existing data regulations while ensuring no over-regulation or duplication for distribution system operators in their capacity as data operators and to master the increasing complexity of the system. (Action n°27)
 - **The AI Act should promote innovation in the field (Action n°28).** Artificial Intelligence (AI) yields a massive untapped potential in the distribution grid sector. AI can aid DSOs in swifter processing of connection requests, streamlining installations and maintenance in the field and proactively counteract power outages. While the AI Act file has been improved extensively in the run-up to the trilogue, some additional amendments are needed to further adapt the act to its use in the energy sector.
 - **Rules and guidelines must ensure coherent and harmonised cybersecurity requirements for all stakeholders across the value chain (Action n°29).** Today, distribution system operators are compliant to multiple regulations and many standards.
 - **R&D projects could more easily benefit from flexible frameworks to ease the further scale up** and develop new solutions to the increased grid complexity. Introducing more regulatory freedom for pilot projects, namely regulatory sandboxes (Action n°30) is a way to better encompass this change. Furthermore, we welcome the EU Action Plan for digitalising the energy system where for instance the development of a digital electricity grid twin was announced, that will provide a comprehensive and real-time digital representation of the physical grid, helping to better understand the grid's behavior, vulnerabilities, and performance.

ANNEX – TABLE OF CONCRETE ACTIONS

1. Set up a forward-looking regulatory framework for grid planning and investment

Action	Concrete action	Legislation	Responsible	Use Case
1. Anticipatory investment must be promoted through the development of tools and information provided to DSOs	Amendment to article 18 of the Electricity Regulation as follows: “2. Tariff methodologies shall reflect the costs of transmission system operators and distribution system operators and shall consider both capital and operational expenditure, <u>or an efficient combination of both,</u> to provide appropriate incentives to transmission system operators and distribution system operators over <u>both</u> the short, <u>medium</u> and long run, including anticipatory investments, in order to <u>invest in network infrastructure reinforcement to facilitate the energy transition and in the additional physical and digital network elements needed to reach the objectives set out in the national energy and climate plans, and at the same time</u> to increase efficiencies, including energy efficiency, to foster market integration, <u>renewable energy production capacity</u> and security of supply, to support the use of flexibility services, <u>to enable the use of flexible connection arrangements,</u> efficient <u>and timely</u> investments, including solutions to optimise the existing grid <u>and to ensure the development of a smart grid</u> and	Ongoing revision of the Electricity Market Design Article 18 of the Electricity Regulation	EU inter institutional dialogue + NRAS in the implementation of the article 18	Examples for Anticipatory Investment : Heavy Transport Electrification, Electrification of highways, harbours, Go-to-areas etc.
2. Further clarification about the regulatory treatment is needed to operationalise anticipatory investment				Romania : The current regulatory framework in Romania does not allow a competitive return. A series of regulatory and macroeconomic risks, faced by DSOs in Romania, require an update of the current regulatory system (capital remuneration - WACC). As an example, the cost of funding alone, in the current market conditions, is
3. Set up a modern new regulatory framework with competitive returns				

<p>4. Incentivise investment in digitalisation and sustainable assets acquisition</p>	<p>facilitate <u>energy storage</u>, demand response and related research activities, <u>to reduce environmental impact, to promote acceptance</u>, and to facilitate innovation in the interest of consumers in areas such as digitalisation, flexibility services and interconnection, <u>in particular to develop the required infrastructure to reach the minimum 15 % electricity interconnection target for 2030 laid down in Article 4, point (d)(1), of Regulation (EU) 2018/1999. Any obstacle in national regulation to the necessary and efficient investments must be abolished.</u></p> <p><u>The regulatory authorities, in cooperation with transmission and distribution system operators, including other relevant stakeholders, shall develop a framework to assess whether transmission and distribution system operators adequately consider in their network development plans all types of anticipatory investments, such as investments for the development of grids linked to renewables acceleration areas, electric vehicle charging infrastructure or heat pump deployment, and adequate cost-benefit analysis methodology for assessing the impact of such investments.’</u> <u>The regulatory authorities shall ensure a balanced sharing of responsibilities between grid users and system operators in case of</u></p>			<p>significantly larger than the remuneration received by DSOs. The regulatory risk in Romania is higher than in other EU countries and introduces additional uncertainties given:</p> <ul style="list-style-type: none"> • Constant legislative changes since 2022, made with limited transparency and consultation or in a fast succession, often to correct initial design errors, causing losses to energy sector players, both financially and in terms of public perception • Frequent regulatory changes during the regulatory periods, such as WACC³, new obligations without the corresponding amendment of tariffs⁴ or provisions regarding the network losses capitalisation <p>Another significant issue is the fact that subsidiary caps constrain tariffs and hinder cost recovery. As such, a removal of tariff caps would be beneficial.</p>
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³ WACC updates in 2015 (from 8.52% to 7.7%) and in 2019 (from 6.9% to 6.39%)

⁴ 3-month meter reading obligation leading to additional unforeseen costs which operators need to claim via uncontrollable OPEX

	<p>underutilisation of grid built in a anticipatory way to avoid any financial disincentive for system operators as a result.”</p> <p>“3.Where appropriate, the level of the connection tariffs applied shall provide locational investment signals, e.g. incentives via connection tariff structure, to reduce redispatching and power grid reinforcement costs”</p> <p>8. Distribution tariff methodologies shall provide incentives to distribution system operators for the most sustainable and cost-efficient operation and development of their networks including through the procurement of services. For that purpose regulatory authorities shall recognise relevant costs as eligible, shall include those costs in distribution tariffs, and may introduce performance targets in order to provide incentives to distribution system operators to increase efficiencies in their networks, including through energy efficiency, flexibility and the development of smart grids and intelligent metering systems</p>			<p>Spain:</p> <p>In Spain, since 2013 an investment cap applies to yearly investments carried out by grid companies, both TSO and DSOs. For DSOs, the aggregate investment may not exceed 0.13 of the official forecast GDP.</p> <p>Investment plans that exceed the allocated cap will be rejected, and if the actual investment executed exceeds the allocated cap, the DSO is penalised with a lower investment limit for the following years plus a reduction in the final remuneration of the exceeded year.</p> <p>Furthermore, the regulator often incurs in delays in the notification of approval of submitted investment plans, to the point that investments are actually executed before the DSO knows if such activity would be approved or not.</p> <p>Finally there is a complete lack of rules for the execution of investment inspections by the regulator leading to arbitrary decisions for which no appeal</p>
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				can be requested other than the courts of justice.
5. Support and develop skills initiatives	The energy industry and public and private institutions and governments are encouraged to support and develop skills initiatives, through partnerships such as the Pact of Skills, to address the risk of labor and skill shortages; to develop up/re-skilling programs with due attention to digital skills; to promote knowledge sharing and exchange programs; to collaborate with educational institutions and social partners to prepare the future workforce of the grid; to hire and train personnel with regards to the special challenges that will be imposed by the transition and create qualifications that serve whole energy industry.	/	National, regional and local authorities; companies; social partners; cross-industry and sectoral organisations; chambers of commerce; education and training providers; employment services	<p>Italy (Enel): Enel and ELIS launched the "Energie per Crescere" (Energy for Growth) program in 2022, aiming to train and place 5,500 young people in Italy. With a focus on network technicians for operational roles, the program has received over 23,000 applications and helped more than 4,000 individuals gain professional qualifications for employment in Enel's supply chain companies. Now, it aims to develop specialized skills to support renewable power generation and accelerate Italy's energy transition.</p> <p>Romania (CEZ): DSOs in Romania partner with high schools to provide training for future electricians, organizing an annual national competition for electrician-apprentices.</p> <p>France (Enedis): In March 2023, Enedis, RTE, unions, and federations signed a partnership agreement to establish "The Electric Network</p>

				<p>Schools for the Energy Transition." This program aims to meet recruitment needs in the electric network sector while supporting youth and promoting inclusivity. Initiatives include introducing "electric network" classes in schools, aligning education with industry needs, and addressing gender diversity issues. The collaboration involves establishing classes in 40 vocational high schools, industry involvement in training and mentorship, and training for educational staff. The implementation of "electric network" classes will increase the pool of potential recruits, provide career opportunities, and address environmental concerns. Enedis attracts candidates through communication campaigns, diversity emphasis, and modern work arrangements, making it one of France's top employers.</p>
<p>6. Promote the realisation of long-term network planning</p>	<p>Promote best practices with regards the inclusion of a clear reference to NECPs in the network development of DSO can be facilitated at European level by the technical body for DSOs, the EU DSO Entity.</p>	<p>Proposal for the work programme of the EU DSO Entity</p>	<p>EU DSO Entity</p>	<p>Read Eurelectric guidelines to implement the network development plans for DSOs according to article 32(3) and (4) of the Electricity directive</p>

(spanning 5 to 10 years) with clear references to NECPs				
7. Integrate in the NECPs the network development plans required to achieve the national energy and climate targets	Revise the Regulation on the governance of the energy union and climate action (EU) 2018/1999 and add one dimension in the NECPs related to electricity grid (cf. articles 3 and 4 of the Regulation). The dimension will cover both network development and the related investment	Regulation on the governance of the energy union and climate action (EU) 2018/1999	European Commission	
8. Push for a transposition of the provisions in the Electricity Directive setting the Network Development Plans for DSOs	Enforce the transposition at national level of the article 32 (3) and article 32 (4) of the Electricity Directive, from the Clean Energy Package.	Eventually a formal notice from the European Commission to the relevant Member States	European Commission	
9. Encourage knowledge sharing between DSOs for drafting the Network Development Plan	Exchange of best practices for technical grounds between DSOs to draft comprehensive, integrated and forward-looking planning may be facilitated by the EU DSO Entity. It could take the form of a best practice brochure and The EU Commission could sponsored a thematic conference.	Proposal for the Work programme of the EU DSO Entity	EU DSO Entity	

2. Secure and mobilise the necessary financial capabilities

Action	Concrete action	Legislation	Responsible	Use Case
10. Make clearer directives to Member States when the commission launch new funding opportunities that takes the whole value chain into account, including the grid.	<p>Set an overarching principle that if grants are allocated to projects promoting the deployment of renewables or electrified end-use, its corresponding grid investment should be allocated to it.</p> <p>EC must ensure that EU funds that are allocated to the transition do not increase grid bottlenecks by being allocated in a manner that is skewed towards RES, EV, heat pumps.</p>	Commission guideline document	European Commission	
11. Create a programme “decentralised grid facility” specifically to support decentralised energy infrastructure	<p>Create a dedicated programme in the next Multiannual Financial Framework to support decentralised grid facility related projects, with a clear focus on fostering the transition in the distribution grid. A dedicated budget is crucial.</p> <p>With regards its financing, either it can ber integrated within the CEF framework with an increased budget or let it function as a standalone programme. Given the recent revision of the TEN-E Regulation, the latter might be more feasible.</p> <p>It is suggested to start with a pilot programme for the 2025–2027 period. This will provide valuable</p>	Revision of the Council Regulation no. 2020/2923 of 17 December 2020 laying down the multiannual financial framework for 2021–2027	European Commission	

	insights, ensuring a seamless transition when it scales up from 2028.			
12. Set clearer provisions to guarantee that regulated business can genuinely benefit from grants	<p>Guidance from the European Commission: Given the unequal treatment of DSO funding across various forms of public funding, the European Commission should issue guidelines to support Member States.</p> <p>Amending the Common Provisions Regulation (CPR) for Grant-Funded Assets: In addition to issuing guidelines on the treatment of funded assets, the Commission should, in the longer term, consider amending the CPR to:</p> <ul style="list-style-type: none"> • Provide clarity on how assets financed by grants should be recognised in national regulations. • Establish a standardised framework for the treatment of such funded assets with an emphasis on the importance of regulatory depreciation for assets financed by grants, as it relates to recovering costs over time. • The general principle for the inclusion of grant-funded investments should be that the use of grant or raised capital plus debt is indifferent as far as the profit and loss account is concerned. 	Commission Guideline + revision of the Common Provisions Regulation for Grant-Funded Assets	European Commission	<p>Romania: Predictability of regulation is very important and should be a focus for NRAs. In Romania, it is necessary to have an adequate remuneration of EU-Funded investments, by allowing WACC applicable to the total amount of investments financed via EU Funds over the assets' useful lives.</p> <p>Bulgaria: While the Bulgarian electricity distribution companies can be eligible applicants under European grant programs administered at the national level, it happens as a consequence it would create an undesirable situation related to the regulatory treatment of gratuitously acquired DSO assets by means of (full or partial) grant funding – The Bulgarian NRA does not recognize at all for regulatory purposes such (grant) assets, regardless of the source of financing. They are subtracted in RAB calculations, and</p>

				respectively, they are not considered in the process of calculating/determining the annual depreciation, working capital required, RoR on capital / WACC etc.
13. Set up an informative tool to promote awarded grid projects led by DSOs and to provide all relevant information for the application files	Create an information tool at European level with a list gathering all grid projects which have already benefitted from European support instruments and providing all relevant information about the application files	/	European Commission (CINEA?)	

3. Ensure the best level of stakeholder engagement to accelerate project authorisation and deployment

Action	Concrete action	Legislation	Responsible	Use Case
14. Clarify the regulatory treatment of grid permitting in RED	<p>Clarify the provisions related to grid development</p> <p>The RED intends to streamline the permitting for RES projects and “the related grid infrastructure projects” (recital), but it only addresses the issue of distribution network expansion half-heartedly. A Commission Guideline must clarify this wording in order to ensure the grid’s enhancement is streamlined.</p> <ul style="list-style-type: none"> • A definition of “grid permitting” (permits delivered by the administration to build or transform the grid) must be provided • The “grid permitting” must come with deadlines applying to the administration receiving the application • The “grid permitting” delays must always be excluded from the grid connection delays imposed to the DSOs • Art. 16) aims to streamline permitting for grid related to RES projects and qualifies the grid as overriding public interest. In continuity with this idea, permitting for grid expansion and/or modification, independently from RES projects development, must be streamlined. Such a guideline must be in the Grid actions plan, and later in the upcoming RED revision. • Art. 15 and 16f) aim to streamline permitting for grid related to RES projects and qualifies the 	Commission Guideline for the proper transposition of the revised Renewable Energy Directive (Long term measure)	European Commission and later the Legislator for RED’s next regulation	<p>Romania:</p> <p>The national Romanian legislation does not incentivise the building of new capacities. For obtaining various permits many Authorities are involved with specific deadlines/rules, which are sometime delayed.</p>

	<p>“related grid itself” as overriding public interest (OPI). Permitting for the grid expansion and/or modification – independently from RES project development (inside or outside RES acceleration areas), must be streamlined and granted OPI status. Such a guideline must be in the grid action plan and later in the upcoming review of the Emergency Regulation on permitting and in the “ early implementation” of RED.</p> <ul style="list-style-type: none"> • On the basis of art. 15c) that creates RES acceleration areas, Grids must benefit from their own acceleration areas. - Art. 15b) of the directive sets the mapping of areas for the deployment of RES, leaving the grid aside. Aside from RES, a close monitoring of this mapping should be done to make sure Member States allocate enough areas for grid development in an anticipatory-planning mindset. 			
<p>15. Set up a platform for permitting /grid connection procedures</p>	<p>To streamline grid permitting (i.e. permits for grid expansion or modification) and eventually the connection of assets to the grid, create a digital platform to which stakeholders -including public authorities- have access and contribute to visualise the evolution of the permit and connection requests. Authorisation procedures should be carried out entirely in digital form. Queries and comments in these procedures should also be submitted in digital form.</p> <p>This will bring transparency to the whole procedure.</p> <p>Response time requirements should be included.</p>	<p>Revision of Renewable Energy Directive (long term measure)</p>	<p>European commission</p>	

	This should be included in the upcoming revision of RED.			
16. Consider a one-stop-shop for grid permitting	<p>As in the TEN-E regulation, a unique point of contact and a unique process / request for both RES permit and grid upgrade permit should be promoted to streamline the development of projects.</p> <p>This goes along with the implementation of art. 16 of the RED.</p> <p>An administrative positive silence mechanism could be implemented for nonessential procedural issues.</p>	Implementation guideline and/or revision of the Renewable Energy Directive	European Commission	
17. Raise public awareness on the grid and promote public acceptance	<p>Communication on the role of the grid, the necessity to upgrade it and also the empowerment of consumers that it allows (e.g. via flexibility, energy sharing, etc) is necessary. Capacity maps' promotion will also help consumers to get involved in the energy system's evolution and comprehension. However, disclosure of sensitive information on critical infrastructure must be avoided in order to preserve grid security at all times.</p>	/	Local and national authorities	<p>Germany (Eon): Netanschlussmonitor (e-dis.de) Schnelle Netanschlussprüfung für Ihre Einspeiseanlage Bayernwerk Netz (bayernwerk-netz.de)</p>
18. Promote standardised capacity maps	<p>Art. 31 of the revised EMD requests "information on the capacity available" from DSOs.</p> <p>Such tools have already been developed voluntarily by DSOs in the form of capacity maps. The latter must be promoted towards all stakeholders. However, disclosure of sensitive information on critical infrastructure must be avoided in order to preserve grid security at all times.</p>	Implementation of EMD art. 31 and Initiative for the promotion of existing tools	European Commission	<p>Eurelectric has listed all the existing capacity maps communicated by its membership in annex 5 of the 'Future of the power system' paper</p>

	Public information campaigns should be carried out to ensure that changes in permitting and in grid development are perceived as improvements.			
19. Involve stakeholders in network planning to improve accuracy of forecast	<p>Art. 32 of the Electricity Directive states that DSOs shall consult “all relevant system users” on the network development plan.</p> <p>The “relevant system users” should in fact be “all stakeholders using, relying on or interested in the network” and they should have an active participation in the network development plans’ (NDP) making.</p> <p>The NDPs should further include flexibility needs of the DSOs.</p> <p>As stated above, the NDPs should include the NECPs provisions (and vice versa). However, disclosure of sensitive information on critical infrastructure must be avoided in order to preserve grid security at all times.</p>	Enforce the full implementation of revised EMD art. 32.3 and 32.4 through monitoring	European Commission	
20. Promote the use of Alternative connection agreements as a standard tool in consideration of all existing flexibility options	<p>Along flexibility markets, flexible (or unfirm) connection agreements should be a tool that DSOs can propose on a temporary (in the first place) and voluntary basis for customers in congested areas, while the grid is being updated. The faster the grid enhancement permits are delivered, the sooner the flexible connection contracts can be ended to be turned into firm connections.</p> <ul style="list-style-type: none"> - A comprehensive framework for determining the parameters of flexible connection agreements must be drafted 	Support the revised EMD art. 18 which includes an explicit reference to flexible connection agreements		France (Enedis): Flexible connection agreements optimize grid integration of new renewable installations, offering a smarter, cheaper, and faster approach. Enedis, through the "ReFlex" project, connects more renewable producers with flexible connections while curbing energy waste.

	<ul style="list-style-type: none"> - When considering the implementation of flexible connection agreements, the interaction between this mechanism and market-based local flexibility mechanisms for DSOs should be evaluated to continue creating a well-integrated and efficient system that enables the effective utilisation of flexibility resources within the distribution grid 			<p>This approach is supported by French producer federations and the French NRA, which now requires its extension across the entire network. Flexible connection is expected to save 30% of CAPEX on primary substations until 2035, enabling over 99.94% of renewable energy output. Producers are compensated when curtailed, and the framework has already added significant connection capacity while saving infrastructure upgrades. Enedis also offers flexible connection agreements to medium voltage renewable producers upon request, following seven years of collaborative work involving stakeholders and regulators. Flexible connection is crucial for Europe's renewable and EV integration, reducing costs and environmental impact. It should be enabled in various frameworks and</p>
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				decided at the national level, with customers sharing the cost of their choice between firm and flexible connections.
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4. Build a sustainable, digitalised and resilient grid

Action	Concrete action	Legislation	Responsible	Use Case
21. Weigh in the potential supply chain risks, raw material supply and life cycle perspective to ensure that renewable energy connections are not delayed	The revision of Ecodesign regulation on transformers should maintain the current efficiency requirements (Tier 2).	Ongoing drafting of a proposed revision on the Ecodesign requirements for power transformers + Net Zero Industry Act	European Commission	
22. Chemical regulation should enforce its risk-assessment approach and weigh in the notion of 'essential use'	The proposed ban of all PFAS substances should take into consideration that PFAS currently are essential to the functioning of the power system. Derogations need to be introduced for uses with no available substitution.	Ongoing proposed ban under REACH regulation Annex XVII		
23. Increase coordination and communication to	Refer to action n°7. Revise the Regulation on the governance of the energy union and climate action (EU) 2018/1999 and add one dimension in the NECPs	Regulation on the governance of the energy	European Commission	

strengthen grid resilience	related to electricity grid and its resilience and climate adaptation measures. The fluent cooperation and development of all elements, notably coordination of services between network operators (TSO and DSO), is of utmost importance, as well as in close coordination with generators and other network users. Concretely, we propose to include the EU DSO Entity, as co-author with ENTSO-E, on any new tasks relating to electricity crisis scenarios and methodologies as set in the Electricity Regulation on risk preparedness in the electricity sector. Suppliers, balancing responsible parties, and storage providers should be added to the list of consulted stakeholders.	union and climate action (EU) 2018/1999 + Revision of the Regulation (EU) 2019/941 on risk-preparedness in the electricity sector		
24. Tackle adaptation and mitigation together	New legislation and implementation of the fit-for-55 should address adaptation in partnership with mitigation and not separately.	Future legislation tackling climate mitigation	European Commission	
25. Assess the grid stability needs for EU islands and a grid stability toolbox of potential solutions that islands power system managers can use to support their grids during their clean energy transition	It is crucial to address grid stability issues in island regions in the energy transition. There are 3 main measures to overcome this: 1. Enhance Grid Stability Understanding: The Network System Operator responsible for each island electricity system should conduct a focused analysis on assessing its grid stability needs for inertia, short-circuit level and dynamic voltage, and propose detailed solutions based on generation capacity planning and different decarbonization scenarios. 2. Update Network Code and formulate Grid forming standards to reflect the decarbonisation plans of islands: While there is a general and	Network Codes, Electricity market design, European Commission Guidelines	<ul style="list-style-type: none"> • European Commission • Clean Energy for EU Islands Secretariat • Member States Islands Network Operators 	Existing Use Case – UK best practice example: National Grid ESO performed a Stability Pathfinder, first assessing system stability needs and then launching tenders in 3 phases for projects to increase stability in targeted areas of the island: inertia (across GB), short-circuit level (in Scotland) and inertia and short-circuit level (in England and

	<p>uniform approach to updating the Network Code, certain shortcomings exist. For instance, the absence of decarbonization targets for islands and criteria for integrating high levels of renewables. Provisions related to ancillary services, balancing services, and modern technologies and market practices facilitating renewable energy integration have not been fully implemented. Consequently, initiatives striving for high renewables participation on islands often rely on exceptions to the code. In some cases, the delay accumulated in specifying a "grid forming" regulation is also a barrier to a greater penetration of renewables.</p> <p>3. Assess the implementation of a Grid Stability Toolbox: encompassing a range of measures and practices to ensure the reliability of electricity grids. The Network System Operator must ensure that a sufficient volume of inertia, short circuit level and dynamic voltage support is always available, both during their RES transition and afterwards. For this to be possible, targeted policy, market and technology adjustments will be needed, possibly including also the introduction of stability products from non-traditional sources.</p>			<p>Wales, adding to what was proven as still needed from the previous phase).</p> <p>Wider application: Any weakly or non-interconnected European Island.</p>
<p>26. Speeding-up the smart meter rollout to smarten the grid</p>	<p>By implementing the revised Renewable energy directive stating that "<i>Member States shall incentivise upgrades of smart grids to better monitor grid balance and make available real time information.</i>"</p>	<p>Art. 20a of the revised RED</p>	<p>NRAs</p>	<p>In Italy, the main DSO E-Distribuzione pioneered the speedy roll-out of smart meters before it became a mandatory requirement from the NRA ARERA in 2008. In the</p>

				first year of the deployment, which started in 2001, the DSO was able to cover almost 90% of its points of delivery. Currently, the 98% of metering points in Italy are digitalized. The mandatory deployment plan designed by the NRA in 2008 and cost recovery in tariff were key enablers for the roll-out for the other Italian DSOs.
27. Ensure data interoperability and secure fair competition for data sharing	Envisaged measures in the Data Act must be compatible with existing data regulations while ensuring no over-regulation. Finalise the implementing acts on data access and interoperability act.	Ongoing drafting of the implementing acts on data access & interoperability	European Commission	
28. The AI Act should promote innovation in the field	As proposed by the EU Commission, the Artificial intelligence (AI) Act should in Art. 6 envisage to perform an individual assessment of the risk-level based of the application. While Eurelectric agrees that the electricity grids will be critical infrastructure going forward, Eurelectric also believes that AI in the distribution grid can be run subject to technical controls independent of the AI even if the AI includes or performs as a “safety component”.	Art 6. of the ongoing interinstitutional dialogue on the AI Act	EU institutions	
29. Rules and guidelines must ensure coherent and harmonised	ENISA should assess any overlaps in legislation and suggest changes. Implement the network code on cybersecurity for cross-border electricity flows	/	The European Union Agency for Cybersecurity (ENISA) + NRAs for	

cybersecurity requirements for all stakeholders across the value chain			the implementation of the code	
30. R&D projects should more easily benefit from flexible frameworks	Designate an authority to introduce regulatory sandboxes on EU-level.		European Commission	

Eurelectric pursues in all its activities the application of the following sustainable development values:

Economic Development

- Growth, added-value, efficiency

Environmental Leadership

- Commitment, innovation, pro-activeness

Social Responsibility

- Transparency, ethics, accountability



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