Call for evidence: European climate resilience and risk management

A Eurelectric consultation response

September 2025

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.

WG Sustainable Network Technology
WG RES and Storage
WG Hydro
WG Thermal & Nuclear
WG E-mobility

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Call for evidence:
European climate resilience and risk management

A Eurelectric response to a Call for evidence — Sept 2025

Climate resilience and risk management in the power sector

Eurelectric welcomes the opportunity to respond this call. Ensuring Europe's climate resilience and adequate risk management remains fundamental to addressing the greatest challenge of our time, particularly for the fastest-warming continent[1]. As Europe moves towards an electrified economy, a resilient power system will be crucial to protect citizens and safeguard competitiveness.

Climate change represents a structural shift for the sector, impacting all areas: from market price predictability and changing demand for heating and cooling, to grid operation and clean power production[2]. Both proactive and reactive adaptation measures are therefore critical. The sectors' strength lies in its long-standing experience of operating under weather-dependent conditions. The evolving challenge is to adapt and scale resilience to meet the increasing frequency and intensity of extreme weather events, supported by up-to-date investment programmes based on the latest climate reports.

Currently, the power sector faces major uncertainty when considering investments in climate-proofing infrastructure. At the same time, dedicated funding instruments and incentives remain insufficient. As a result, the sector is underinvesting in adaptation. Failure to invest could cost billions annually by 2100, alongside even greater indirect costs[3]. To plan and prioritise adaptation effectively, infrastructure actors first need to map vulnerabilities and local risks. IPCC, EU and national scenarios provide a valuable base for refining models to local and granular conditions.

For Distribution System Operators (DSOs), whose investments are recognised by national regulatory frameworks, the situation presents particular challenges. In several Member States, climate adaptation measures are not properly incentivised nor sufficiently recognised, creating a gap between government expectations and regulatory implementation.

There is no holistic view on electricity infrastructure resilience planning on EU-level. Climate adaptation is referenced in various legislations, but challenges remain to obtain an overall picture. In the National Energy and Climate Plans (NECPs), adaptation for electricity infrastructure is not explicitly mentioned, though some countries such as Italy and France explicitly address grid resilience.

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[1] *2024 European state of the Climate report, Copernicus (2024) https://climate.copernicus.eu/esotc/2024*
[2] *The Coming Storm, Eurelectric (2024), https://resilience.eurelectric.org/*
[3] *EEA 2019*

Recommendations

We welcome the EU's ambitions for a more comprehensive approach, while reducing administrative burden. To strengthen climate resilience in the power sector, we recommend:

1. INTEGRATE RESILIENCE IN PLANNING

NECPs should be amended to explicitly introduce a dimension of physical electricity infrastructure resilience. Investments should be an integral part of the Distribution Network Development Plans (DNDPs). This should be done by Member States when designing DNDPs requirements.

Legislation: *Governance Regulation (2018/1999); National transposition of the Electricity Directive (2019/944) Art. 32(3)-32(4)*

2. SUPPORT PROACTIVE INVESTMENTS

National Regulatory Authorities (NRAs) should be explicitly responsible for addressing climate adaptation of grid infrastructure and improving crisis management. Adaptation measures should be incentivised and appropriately recognised within national regulatory frameworks for DSOs.

Legislation: *Governance Regulation (2018/1999)*

3. PROMOTE RESILIENT PRODUCTS

Environmental criteria within public procurement procedures should incorporate climate adaptation aspects, ensuring that new products have longer lifetimes and contribute to overall system resilience.

Legislation: *NZIA (2024/1735) Art. 25(1); Public Procurement Directives*

4. FUND INNOVATIVE PROJECTS:

Targeted funding for climate modelling, simulation tools, measurement technologies and emergency response is essential, especially as capabilities evolve. This mechanism also supports the sector to strengthen resilience despite uncertainties tied to these long-term investments.

Legislation: *Multiannual Financial Framework, particularly the Industrial Competitiveness Fund and the Connecting Europe Facility*

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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