

ENTSO-E Strategy and Priority Work Areas





ENTSO-E Mission

ENTSO-E, the European Network of Transmission System Operators for Electricity, brings together 40 electricity Transmission System Operators (TSOs) from 36 countries. ENTSO-E members are responsible for the secure and coordinated operation of Europe's electricity system. Together, they operate a system of around 500,000 km of power lines – the largest interconnected electrical grid in the world – and serve about 520 million citizens.

Electricity is not merely a market commodity, it is an essential service, and TSOs are fully regulated public service entities whose work is essen-

tial to powering Europe. The grid is the backbone of the electricity system and has extended over the whole Continent, beyond the borders of the EU. TSOs working together guarantee a functioning infrastructure that makes the trade of electricity possible, contributes to decarbonisation goals, and ensures a reliable and efficient power supply for all members of society.

These shared public service responsibilities need close cooperation beyond national borders, which led to the creation of ENTSO-E. Today, the association serves two main complementary purposes:

Cooperation of European TSOs

The foundations of this cooperation date back to the 1950s with the creation of electrical synchronous areas and interconnections, which laid the groundwork for today's interconnected European power system. TSOs established associations to work together on their own mandates and missions, that came together into what today is ENTSO-E.

The European electricity system is one of the most stable and reliable grids in the world and is supported by the cooperation and coordination of TSOs both within the European Union and closely interconnected European countries.

ENTSO-E strives to build consensus for decision-making amongst its member TSOs as this forms the strongest foundation for cooperation.

Fulfilling EU Legal Mandates

With the adoption of the Third Energy Package in 2009, ENTSO-E's role was formally recognised by European institutions. ENTSO-E was granted legally mandated tasks to further develop the European interconnected grid and to facilitate the integration of European electricity markets. These mandates cover a large spectrum of tasks, including system operation, system development, market integration, information technologies, R&D and innovation.



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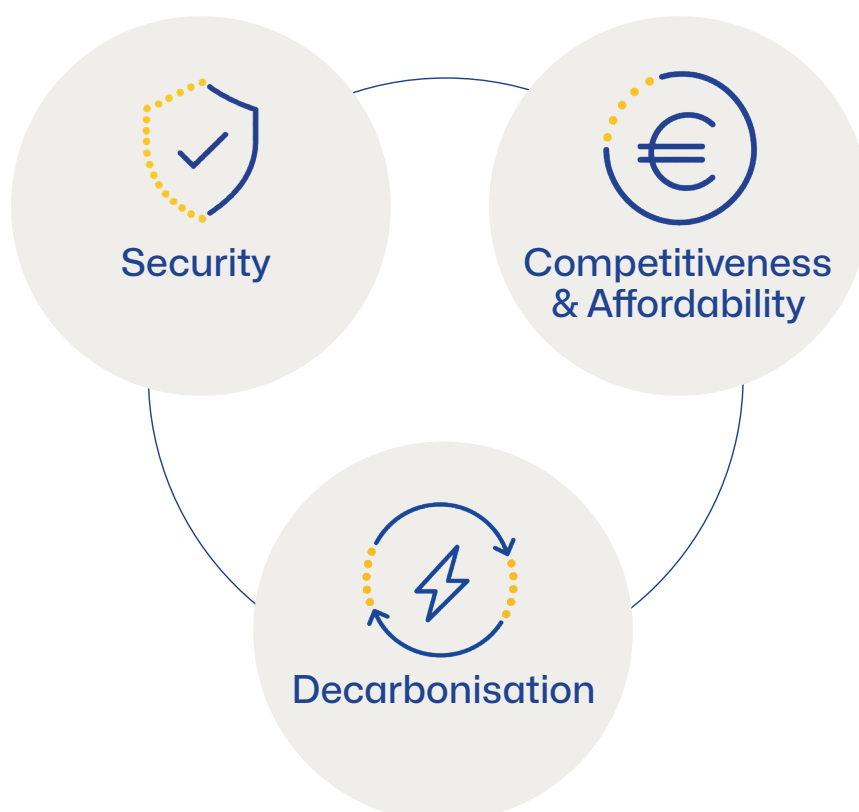
Introduction

Europe's power system is undergoing a profound transformation driven by decarbonisation, electrification, system integration and the need to strengthen energy security and economic competitiveness.

The Strategy sets out how, through ENTSO-E, Europe's transmission system operators contribute collectively to pan-European and national policy objectives. In this context, the main goal of ENTSO-E's Strategy is to deliver an association focused on clear priorities.

Over recent years, significant changes to the political, strategic and technological landscape for energy have taken place. Against this evol-

ing backdrop, an updated Strategy is needed to reflect new challenges, lessons learned, and changing expectations. With this Strategy, ENTSO-E aims to focus its efforts on those activities that deliver the greatest added value for three main key objectives: the security of the power system, the competitiveness of the economy and electricity affordability, and the decarbonisation of our society.



Main Objectives



Security

The security of the European power system must be developed across its three main dimensions: physical security, cyber security, and security of supply. Ensuring security across all these dimensions and at all times remains TSOs' prime responsibility. We now see a profound system transformation, increasing system complexity, and growing external threats, including cyber risks, and physical threats. As the backbone of the power system, the transmission grid and its secure operation are essential to powering society and ensuring the reliability of electricity supply for all Europeans. In line with its man-

date, ENTSO-E enables coordinated actions among TSOs, develops common frameworks and methodologies, and supports cooperation with relevant stakeholders to strengthen system resilience.



Competitiveness & Affordability

Maintaining a competitive and affordable electricity system is essential for Europe's economic growth, industrial leadership and social cohesion, particularly as electrification accelerates and investment needs increase. A well-functioning and efficient interconnected power sys-



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tem, based on strongly integrated markets, is key to delivering cost-effective outcomes for consumers while ensuring optimal use of infrastructure across Europe. In this context, ENTSO-E contributes by facilitating cross-border coordination, supporting the development and implementation of market frameworks, and by enabling system-wide planning that maximises efficiency and supports the functioning of the internal energy market.

Decarbonisation

TSOs play a key enabling role in decarbonising the European power system, including supporting electrification across all sectors of the economy. This transformation requires the secure

and efficient integration of increasing shares of carbon-neutral energy and new technologies into the interconnected system, while maintaining its stability and reliability. Building on its mission to ensure the efficient and secure operation of the European power system, ENTSO-E supports this transition through coordinated system planning, common operational frameworks, and activities that facilitate a technically feasible and economically efficient pathway towards decarbonisation.





Decarbonising Europe's power system means integrating new technologies and increasing shares of carbon-neutral energy, while preserving the stability, reliability and efficiency of an interconnected system.





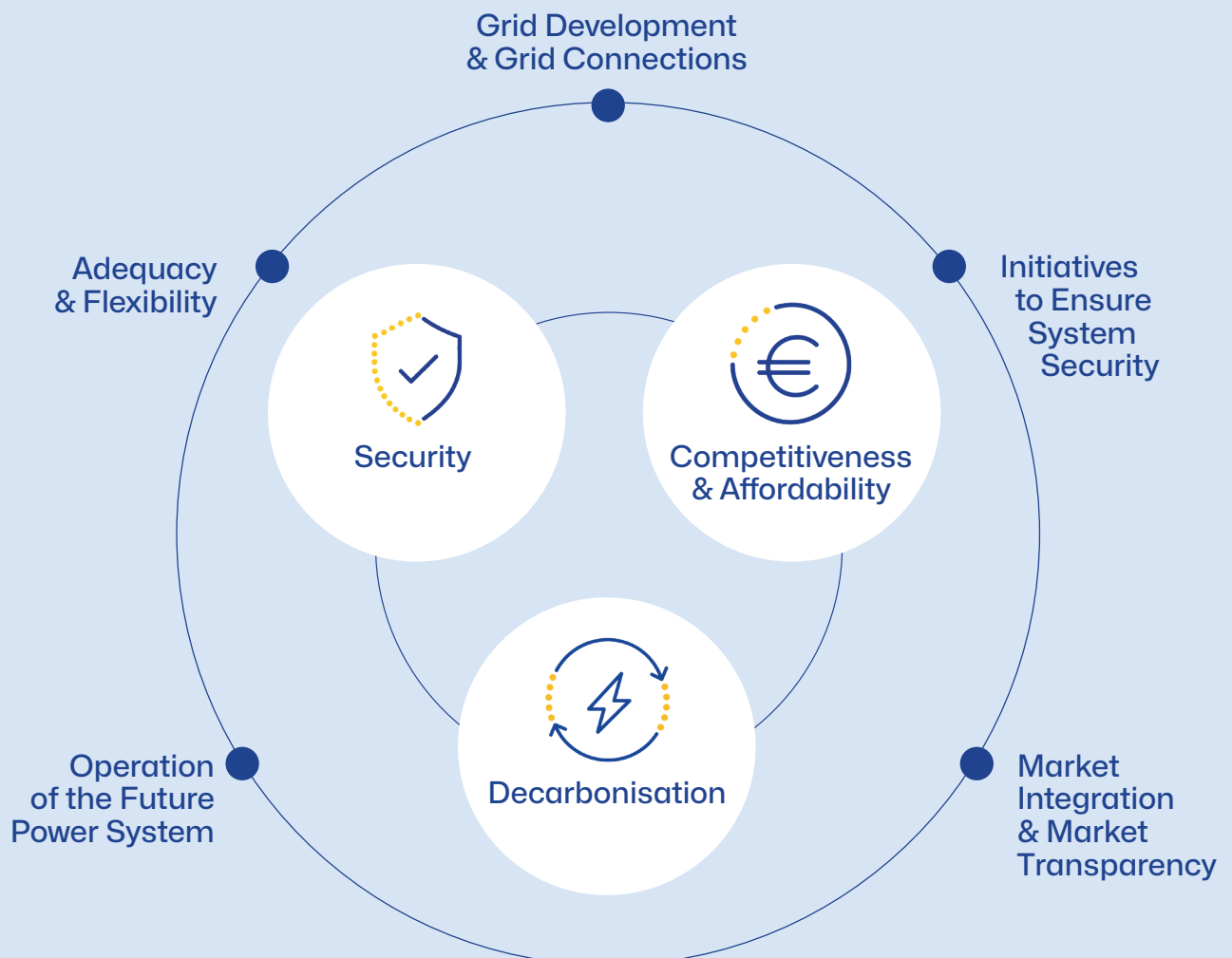
« Together, the priority work areas form the core of ENTSO-E's strategic focus for the coming years. Some priority work areas are more directly linked to specific strategic objectives.

ENTSO-E Strategic Priority Work Areas

To deliver on its strategic objectives of security, competitiveness and affordability, and decarbonisation, ENTSO-E will focus its efforts on a limited number of priority work areas. These areas reflect the key domains where coordinated action at European level brings the highest added value to TSOs, to stakeholders, and to the overall functioning of the power system.

While each priority work area addresses a specific dimension of the energy system, they are closely interlinked and mutually reinforcing.

Together, they form the core of ENTSO-E's strategic focus for the coming years. Some priority work areas are more directly linked to specific strategic objectives: for example, Initiatives to Ensure System Security and Adequacy & Flexibility to Security, Operation of the Future Power System to Decarbonisation, and Market Integration & Market Transparency to Competitiveness & Affordability. All priority work areas contribute, in different and complementary ways, to the achievement of all three strategic goals.



Initiatives to Ensure System Security: Supply, Physical & Cyber

This priority work area arises directly from the security focus of the ENTSO-E Strategy. It encompasses several activities and projects aiming to enhance operational reliability and security of the European grid. It includes, among other activities: initiatives supporting TSOs to ensure security of supply and to protect the power system against physical, cyber and hybrid threats; the development and implementation of EU cybersecurity frameworks; the contributions to defence and restoration planning; and the support of secure communication networks among TSOs. Lastly, it also encompasses new activities, such as security by design and enhanced cooperation with security authorities, strengthening ENTSO-E's role in addressing emerging risks in a changing geopolitical context.

« A secure and resilient electricity system depends on both protecting today's grid and building the infrastructure Europe needs for tomorrow.

EXAMPLES OF ENTSO-E ACTIVITIES UNDER THIS PRIORITY WORK AREA

- Defence and restoration plans
- Communication networks
- Cybersecurity Network Code
- Cooperation with security authorities
- Implementation of recommendations from incidents investigations

Grid Development & Grid Connections

Activities under this work area support TSOs in addressing key challenges related to grid development and grid connection, covering planning, supply chain, financing, and permitting aspects. It includes ENTSO-E's role in developing the Ten-Year Network Development Plan (TYNDP) and in proposing solutions for EU regulatory frameworks that facilitate timely investments and the development of internal, cross-border, and off-shore infrastructure. It also encompasses rules

and requirements enabling the efficient, timely, and system-compatible connection of grid users, including through the development and implementation of Grid Connection Network Codes.

EXAMPLES OF ENTSO-E ACTIVITIES UNDER THIS PRIORITY WORK AREA

- Ten-Year Network Development Plan
- Connection Network Codes
- Supply Chain cooperation

Adequacy & Flexibility

This work area covers ENTSO-E's activities related to assessing resource adequacy at European level and supporting TSOs at national level. It includes the development of adequacy assessments across all timeframes (from long-term adequacy assessments to seasonal outlooks), as well as the activities supporting the identification of flexibility needs at system level. Activities in this work area will aim to support greater system flexibility, to be delivered mainly through flexible generation, storage, intercon-

nections, and demand response. This will be enabled through the Network Code on Demand Response and through cooperation with DSOs.

EXAMPLES OF ENTSO-E ACTIVITIES UNDER THIS PRIORITY WORK AREA

- European Resource Adequacy Assessment
- Seasonal Outlooks
- Flexibility Needs Assessment
- Demand Response Network Code



Operation of the Future Power System

This priority work area addresses ENTSO-E activities supporting TSOs in the reliable, secure and efficient operation of an increasingly complex and evolving power system, including challenges related to system stability, inertia, voltage control, restoration and cross border emergency coordination. It includes facilitating coordination among TSOs for risk preparedness and crisis management. It covers coordinated analyses to optimise the use of existing infrastructure and enhance operational practices, as well as efforts to promote EU market design frameworks that are aligned with system needs and physical constraints, ensuring secure and efficient system operation under changing conditions.

EXAMPLES OF ENTSO-E ACTIVITIES UNDER THIS PRIORITY WORK AREA

- Crisis management plans
- Market design studies
- Technical Report on Structural Congestions
- Implementation of recommendations from incident reports
- System Operation Guidelines

« This work area covers ENTSO-E's activities to advance electricity market integration at EU and regional level.

Market Integration & Market Transparency

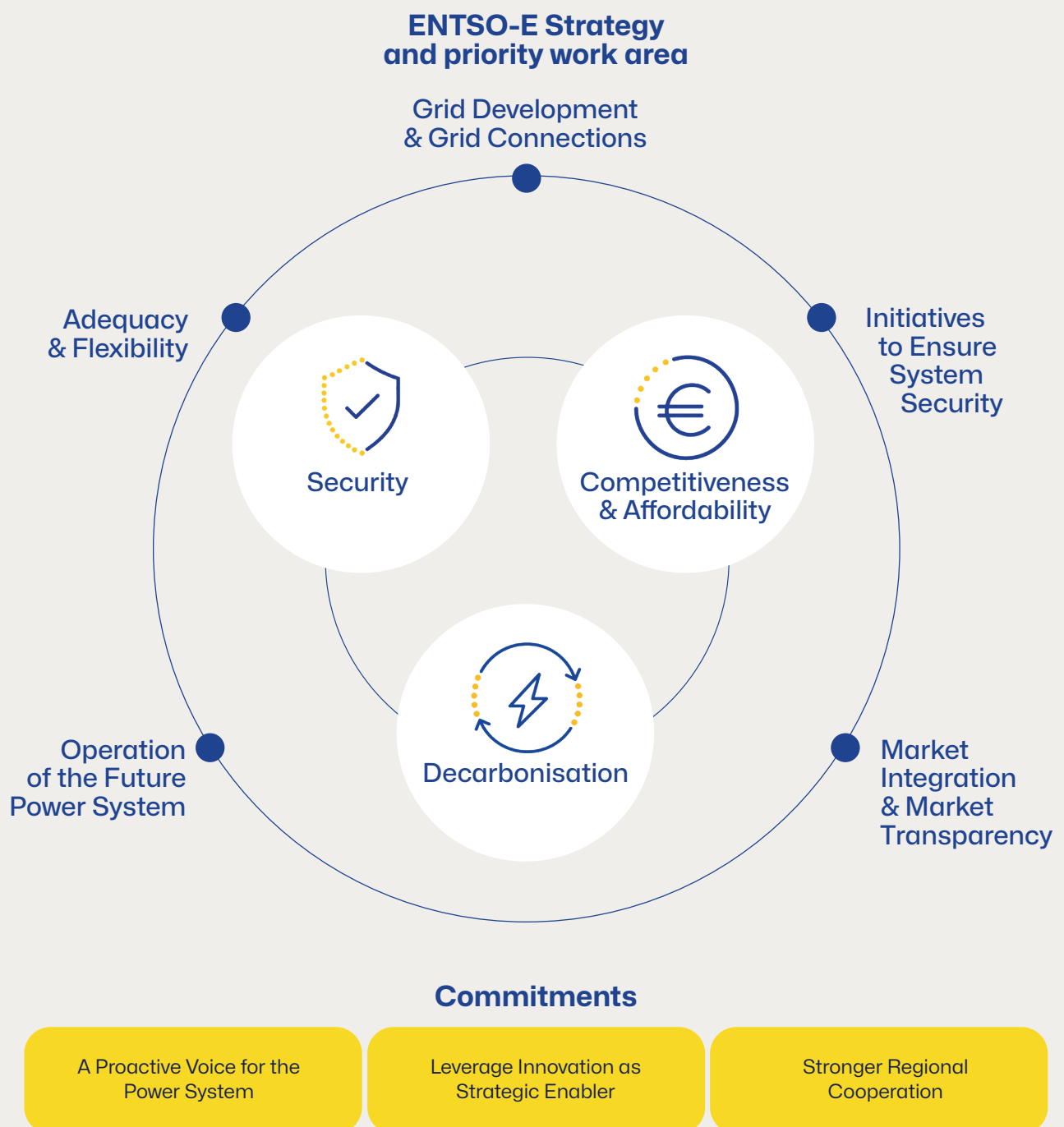
This work area covers ENTSO-E's activities to advance electricity market integration at EU and regional level. It includes supporting TSOs in implementation projects and improving related processes, products, and platforms. It also encompasses the development, amendment, and coordinated implementation of market network codes, notably in the areas of capacity allocation and congestion management, electricity balancing, and forward markets. In addition, it includes initiatives enhancing market transparency, particularly through the Transparency Platform, and facilitating cooperation among TSOs to support efficient, competitive, and well-functioning electricity markets.

EXAMPLES OF ENTSO-E ACTIVITIES UNDER THIS PRIORITY WORK AREA

- Capacity Allocation and Congestion Management Network Code
- Electricity Balancing Guideline
- Forward Capacity Allocation Network Code
- Transparency Platform operation & improvement

Commitments

In addition to the priority work areas, ENTSO-E will implement its Strategy by upholding a set of overarching commitments. These will further define how the association and its members intend to carry out their work and achieve the strategic goals.



A Proactive Voice for the Power Sector

ENTSO-E will develop strong and proactive contributions in all matters under its responsibility, contributing to European policy and regulatory developments so that system security, affordability, financability and decarbonisation objectives are effectively supported. ENTSO-E will continue to provide evidence-based inputs, technical assessments and coordinated contributions, ensuring that the operational realities and technical expertise of TSOs are clearly reflected in policy initiatives on market design, grid development and security of supply.

Leverage Innovation as Strategic Enabler

ENTSO-E will actively leverage research, development and innovation activities to support the transition towards a decarbonised, secure, and cost-efficient power system. Building on the ENTSO-E Research, Development and Innovation (RDI) Roadmap, TSOs are able to jointly develop and test innovative solutions addressing existing and emerging challenges. These include the increase in electrification and carbon-neutral energy sources, the more efficient use of existing infrastructure, the increasing role of power electronics, the integration of data centres and electrolyzers, and the need for enhanced system flexibility across all timeframes and locations. Innovation also includes advanced digitalisation, the use of artificial intelligence, cyber-resilient architectures and enhanced data sharing capabilities to support a secure system operation.

Collaborative research projects at European level enable TSOs to pool expertise, accelerate knowledge sharing, and reduce duplication of efforts, while supporting the deployment of new technologies and operational practices. These activities will ensure that innovation directly contributes to improving system reliability, facilitate decarbonisation, and maintaining affordability for consumers.

Stronger Regional Cooperation

ENTSO-E will further strengthen regional cooperation as a key enabler for system security, market integration, and efficient infrastructure planning and development. Building on existing frameworks, such as regional coordination centres (RCCs) and system operation regions (SORs), TSOs will enhance coordinated system operation, including security analysis, capacity calculation, and outage planning.

Regional cooperation is also essential to advance market integration through coordinated capacity allocation and congestion management. This supports a more liquid and efficient Internal Energy Market for the benefit of producers and consumers. In addition, ENTSO-E will continue to facilitate regional approaches to system planning, notably through the Ten-Year Network Development Plan (TYNDP), and offshore development plans (ONDPs). These activities enable the identification of infrastructure needs and optimised investment decisions across Europe.



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