

TYNDP 2026 – PLANNED SCOPE OF STUDIES AND STAKEHOLDERS ENGAGEMENT PLAN

Version for public consultation | 13 December 2024

ENTSO-E Mission Statement

Who we are

ENTSO-E, the European Network of Transmission System Operators for Electricity, is the association for the cooperation of the European transmission system operators (TSOs). The 39 member TSOs, representing 35 countries, are responsible for the secure and coordinated operation of Europe's electricity system, the largest interconnected electrical grid in the world. In addition to its core, historical role in technical cooperation, ENTSO-E is also the common voice of TSOs.

ENTSO-E brings together the unique expertise of TSOs for the benefit of European citizens by keeping the lights on, enabling the energy transition, and promoting the completion and optimal functioning of the internal electricity market, including via the fulfilment of the mandates given to ENTSO-E based on EU legislation.

Our mission

ENTSO-E and its members, as the European TSO community, fulfil a common mission: Ensuring the security of the inter-connected power system in all time frames at pan-European level and the optimal functioning and development of the European interconnected electricity markets, while enabling the integration of electricity generated from renewable energy sources and of emerging technologies.

Our vision

ENTSO-E plays a central role in enabling Europe to become the first climate-neutral continent by 2050 by creating a system that is secure, sustainable and affordable, and that integrates the expected amount of renewable energy, thereby offering an essential contribution to the European Green Deal. This endeavour requires sector integration and close cooperation among all actors.

Europe is moving towards a sustainable, digitalised, integrated and electrified energy system with a combination of centralised and distributed resources. ENTSO-E acts to ensure that this energy system keeps consumers at its centre and is operated and developed with climate objectives and social welfare in mind.

ENTSO-E is committed to use its unique expertise and system-wide view – supported by a responsibility to maintain the system's security – to deliver a comprehensive roadmap of how a climate-neutral Europe looks.

Our values

ENTSO-E acts in solidarity as a community of TSOs united by a shared responsibility.

As the professional association of independent and neutral regulated entities acting under a clear legal mandate, ENTSO-E serves the interests of society by optimising social welfare in its dimensions of safety, economy, environment, and performance.

ENTSO-E is committed to working with the highest technical rigour as well as developing sustainable and innovative responses to prepare for the future and overcoming the challenges of keeping the power system secure in a climate-neutral Europe. In all its activities, ENTSO-E acts with transparency and in a trustworthy dialogue with legislative and regulatory decision makers and stakeholders.

Our contributions

ENTSO-E supports the cooperation among its members at European and regional levels. Over the past decades, TSOs have undertaken initiatives to increase their cooperation in network planning, operation and market integration, thereby successfully contributing to meeting EU climate and energy targets.

To carry out its legally mandated tasks, ENTSO-E's key responsibilities include the following:

- › Development and implementation of standards, network codes, platforms and tools to ensure secure system and market operation as well as integration of renewable energy;
- › Assessment of the adequacy of the system in different timeframes;
- › Coordination of the planning and development of infrastructures at the European level (Ten-Year Network Development Plans, TYNDPs);
- › Coordination of research, development and innovation activities of TSOs;
- › Development of platforms to enable the transparent sharing of data with market participants.

ENTSO-E supports its members in the implementation and monitoring of the agreed common rules.

ENTSO-E is the common voice of European TSOs and provides expert contributions and a constructive view to energy debates to support policymakers in making informed decisions.

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1. Introduction

This document aims at informing and consulting stakeholders on the planned scope of studies for TYNDP 2026 and on how they can get involved in the process.

The present document is submitted for public consultation from 13 December 2024 to 24 January 2025. After consideration of the feedback received, it will be published in its final version in the 1st quarter of 2025.

Scope of the public consultation exercise: The entire content of this document is submitted to public consultation, with the exception of the framework and engagement plan for Scenarios which are included only for information. Scenarios follow a separate stakeholders engagement process organised jointly with ENTSOG.

2. Summary: main changes in TYNDP 2026 compared to TYNDP 2024

| Change | Impact |
|---|--|
| The assessment of system needs becomes an integrated study of cross-border capacity, storage capacity and hybrid offshore capacity needs. | Improved consistency |
| Planned consultation of all input data and assumptions | Increased stakeholder engagement |
| Involvement of the Scenarios Stakeholder Reference Group from the start of the scenario-building process | Increased stakeholder engagement |
| Studies focused on one policy-based scenario | Further alignment with EU targets and national plans |

3. Objectives and scope of TYNDP 2026

The TYNDP is composed of the following steps / studies, which have their own specific objectives. Together they aim at providing a European-wide vision of the future power system and investigating how infrastructure can make the energy transition happen in a cost-effective and secure way.

| TYNDP 2026 | | | |
|--|---|---|--|
| Scenarios | Assessment of system needs | | Cost-benefit analysis of projects |
| | Offshore Network Development Plans | System needs study / Infrastructure gaps | |
| What would the European energy system look like if all EU targets are met and NECPs and national strategies are implemented? | What infrastructure is needed to implement EU Member States targets for offshore RES development? | What infrastructure would maximise the cost-efficiency of Europe's energy system? | How does each individual infrastructure project impact the pan-European energy system? |

3.1 Scenarios development

About Scenarios

Scenarios are used in ENTSO-E's and ENTSG's respective TYNDPs for two main purposes: as a basis to perform the cost-benefit analysis of infrastructure projects; and as a basis for studies analysing future needs for system reinforcement / infrastructure gaps. Because their purpose is to support infrastructure planning, the scenarios must be designed to reflect the EU energy targets and national policy goals and strategies, such that they explore the uncertainties relevant to the gas and electricity infrastructure development.

Regulation (EU) 2022/869 mandates ENTSO-E and ENTSG to jointly develop scenarios that align fully with the energy efficiency first principle, the EU's 2030 energy and climate targets, its 2050 climate neutrality objective, and consider the latest available Commission scenarios, as well as, when relevant, the national energy and climate plans (NECPs).

Scope of scenario building in TYNDP 2026

The TYNDP 2026 scenarios framework will include one central scenario based on NECPs and aligned with EU targets.

TYNDP 2026 Scenarios Framework

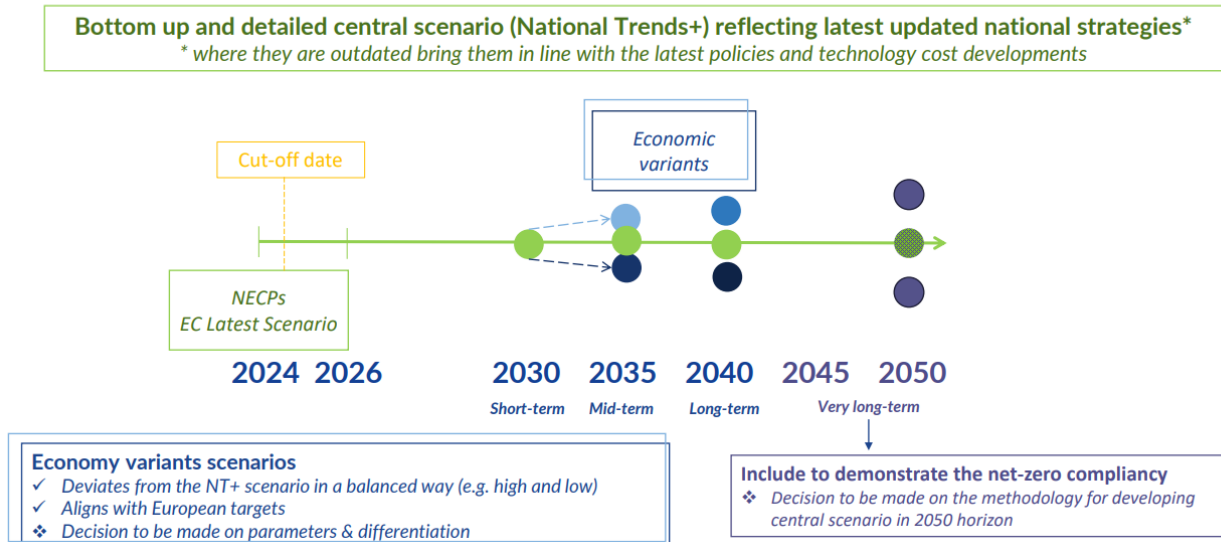


Figure 1. TYNDP 2026 scenarios framework, as presented in a stakeholder workshop on 4 July 2024. It was developed jointly by ENTSO-E and ENTSG in consultation with the scenarios Stakeholder Reference Group. Read more on the 2026 scenarios website [Download | TYNDP 2026 Scenarios by ENTSO-E & ENTSG](#).

3.2 Assessment of future system needs

About the study

The System needs study shows where reinforcing cross-border transmission capacities throughout Europe could improve the cost-efficiency of the overall European energy system. The methodology consists in determining the combination of potential increases in cross-border capacity that minimize the total system costs, composed of total network investment (including costs of related necessary internal reinforcements) and generation costs.

Needs identified in the TYNDP 2026 System needs study may lead to the refining of existing projects and to the development of new projects addressing those needs in TYNDP 2028. These projects may be developed and assessed in future national development plans and TYNDPs.

Proposed scope of the Identification of System needs study in TYNDP 2026

Time horizon: TYNDP 2026 will investigate system needs in 2040 and 2050.

The study will focus on 2040 as a priority, to provide information to interested stakeholders on cross-border needs and potential gaps. ENTSO-E considers the 2040 horizon to be the most relevant for this exercise because it is far enough in future so that project promoters, policy-makers and other stakeholders can take action, by proposing solutions to tackle identified gaps, considering that developing and building infrastructure projects take 10 years or more.

Scenarios: The system needs study will be performed on the central scenario National Trends +. Because the scenario will be built to meet EU targets, the needs identified by the study will exist beyond meeting the targets. They will answer to the question: in a future where EU targets are met, what cross-border infrastructure would maximise the cost-efficiency of Europe’s energy system?

Methodology: We expect that the methodology will be somewhat similar to the methodology applied in TYNDP 2024, with one major improvement: the identification of cross-border capacity, storage capacity and offshore corridors/hybrid capacity will be fully integrated in one single study, while in 2024 this was done in two separate but coordinated steps.

Target outcome

Deliverables

| | |
|--|--|
| Integrated and comprehensive view of the infrastructure gaps on- and offshore, at pan-European and regional level. A “gap” is defined as a missing capacity to achieve a target, or to achieve a technical-economic optimum (minimise system costs) in line with policy targets. | Infrastructure Gaps report Offshore Network Development Plan per sea basin Regional Investment Plans Related datasets and data visualisation tool Methodology report |
|--|--|

3.3 The cost benefit analysis of projects

About the CBA

A project can have various impacts on the electricity system. ENTSO-E has developed Costs-Benefits Analysis Guidelines for the European Commission that describe how best to assess these impacts for each project, considering social, economic, and environmental considerations.

This framework assesses issues such as the potential for reducing emissions, stability, flexibility, capital and operating costs, mitigation of loss of power over long-distance transmission and integration of renewable energy into existing systems, for example by connecting offshore power to a grid.

Proposed scope of the CBA for TYNDP 2026

Time horizon: The CBA will aim at covering the 2035, 2040 and 2050 time horizons.

Scenarios: The CBA will be performed on the central scenario National Trends +.

Methodology: TYNDP 2026 will implement the 4th CBA Guideline, like TYNDP 2024. ENTSO-E will develop CBA Implementation guidelines, detailing the implementation of the CBA Guidelines in TYNDP 2026.

Target outcome

Deliverables

An assessment of transmission infrastructure projects of pan-European relevance and their impact on the pan-European energy system, in 2035, 2040 and 2050.

TYNDP projects portfolio

Online project sheets and interactive data visualisation

Projects data and CBA results downloadable in spreadsheet format

CBA Implementation Guidelines (methodology)

4. TYNDP 2026 stakeholders engagement plan

This Chapter describes the planned steps to involve and inform stakeholders in the process of developing the TYNDP 2026. This stakeholder engagement plan is subject to change depending on the evolution of the project timeline and may be updated.

In the development of TYNDP 2026 ENTSO-E will engage with stakeholders using the following medium.

Consultation tools: Public consultations, [Scenarios Stakeholder Reference Group](#), workshops/webinars

Information tools: TYNDP website, ENTSO-E newsletters

4.1 General engagement plan for all stakeholders

The following abbreviations are used in engagement plans:

PC Public consultation

W Workshop or webinar

Consultation summary report Report summarising the feedback received in a public consultation and explaining how ENTSO-E will consider the feedback received, and if some feedback is not considered the reason why.

Engagement plan on Scenarios

The scenarios 2026 stakeholder engagement plan is available on the 2026 scenarios webpage: [Download | TYNDP 2026 Scenarios by ENTSO-E & ENTSG](#)

Information on the scenarios Stakeholder Reference Group is available on this [webpage](#).

Engagement plan on the assessment of future system needs

| | Q2 2025 | Q4 2025 | Q4 2026 |
|------------------------------|---|--|---|
| Topic | Input data: <ul style="list-style-type: none"> - Investment candidates and cost assumptions - Starting grid | Methodology | Studies results <ul style="list-style-type: none"> - Infrastructure Gaps report - ONDPs |
| Engagement modalities | Public consultation, and workshop or webinar | Public consultation, and workshop or webinar | Public consultation, and workshop or webinar |
| Objective | Consideration of stakeholders feedback in TYNDP 2026 | Consideration of stakeholders feedback in TYNDP 2028 | Gather stakeholders feedback to feed into TYNDP 2028 development. |
| Follow-up | Consultation summary report | Consultation summary report | Consultation summary report will provide an overview of the feedback received and its impact on TYNDP 2028 preparation. |

Engagement plan on the cost-benefit analysis of projects

| Q1 2025 | Q2 2025 | Q4 2025 | Q4 2026 |
|---------|---------|---------|---------|
|---------|---------|---------|---------|

| | | | | |
|------------------------------|---|--|--|---|
| Topic | Guidance for project promoters | for CBA input data: - Draft projects portfolio - Reference grid(s) - Scenarios input data | CBA Implementation Guidelines | CBA results per project |
| Engagement modalities | Public consultation, and workshop or webinar | Public consultation, and workshop or webinar | Public consultation, and workshop or webinar | Public consultation, and workshop or webinar |
| Objective | Implementation of stakeholders feedback in the final version of the Guidance | Consideration of stakeholders feedback in TYNDP 2026 | Consideration of stakeholders feedback in TYNDP 2028 | Gather stakeholders feedback to feed into TYNDP 2028 development. |
| Follow-up | Publication of the final Guidance in Q1 2025 Consultation summary report | Consultation summary report Final input data published by Q4 2026 | Consultation summary report | Consultation summary report will provide an overview of the feedback received and its impact on TYNDP 2028 preparation. |

4.2 Specific engagement plan for project promoters

Promoters of infrastructure projects pay a special role in the TYNDP process. The following plan outlines the key steps relevant for project promoters in the TYNDP 2026 process.

Key steps include:

- January 2025: public consultation on the Guidance for promoters
- March 2025: Window to submit projects to TYNDP 2026. At least one webinar will be organised.
- Q2 2025: Bilateral exchanges with promoters and formal notification to promoters of whether their project is accepted in TYNDP 2026, and possibility to ask for a review of the

decision in case a project was found non-compliant with TYNDP criteria. Publication of the draft TYNDP 2026 project portfolio for public consultation.

| | Q1 2025 | Q2 2025 | Q2/Q3 2026 | Q4 2026 |
|------------------------------|--|---|--|---|
| Topic | Guidance for promoters Projects submission window | Verifications of projects submissions Publication of draft project portfolio for consultation | TYNDP 2026 projects can submit project-level indicators | Draft CBA results shared with promoters Finalisation of project sheets |
| Engagement modalities | Public consultation, and workshop or webinar | Bilateral Public consultation | Workshop or webinar | Bilateral |
| Objective | Consider stakeholders feedback to finalise the Guidance | Ensure completeness and accuracy of projects data. Consult all stakeholders on portfolio as part of TYNDP key input data. | Webinar to explain to promoters how to submit valid PLIs | Inform promoters of the outcome of the CBA for their project(s) |
| Follow-up | Publication of final Guidance before the start of the Projects collection window | Stakeholders input considered in TYNDP 2026 | ENTSO-E verifies the compliance of PLI submissions | Publication of CBA results and project sheets with draft TYNDP package in Q4 2026 |

Workshops/webinars will be announced on tyndp.entsoe.eu and communicated via email to promoters subscribed to our mailing list / who have a project in the TYNDP 2026 project portfolio.

ENTSO-E has created communication channels specific to project promoters. These include:

- the webpage ‘Promoters’ corner’ on tyndp.entsoe.eu, updated regularly with relevant events and milestones for promoters and which provides access to key documents;
- the mailing list of project promoters, to which promoters can subscribe via the Promoters’ corner page to be kept informed;
- webinars for project promoters at key steps of the TYNDP process;

- documents dedicated to project promoters, such as the user guide to the TYNDP projects platform.