TYNDP 2024 GUIDANCE FOR APPLICANTS – TRANSMISSION AND STORAGE PROJECT PROMOTERS

CRITERIA FOR APPLICATIONS AND THEIR TREATMENT

Version for public consultation | 26 June 2023





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INTRODUCTION

ENTSO-E shall adopt the Union-wide 10-year network development plan ("TYNDP") every two years pursuant to Regulation (EU) 2019/943 of the European Parliament and of the Council of 5 June 2019 on the internal market for electricity. The TYNDP is a biennial plan, built upon national and regional development plans, on the needs and planned developments on a pan-European scale. It assesses needs for the transmission system within Europe and planned development projects submitted by project promoters to address these needs.

ENTSO-E invites all projects which are relevant from a European perspective to apply to the TYNDP. ENTSO-E also invites project promoters to refer to the list of projects with pan-European relevance listed in ACER Opinion 04/2023. ENTSO-E will ask Project Promoters for justification in case projects previously part of TYNDP 2022 are not submitted to TYNDP 2024.

Purpose and scope of the present document

This document sets the rules, criteria and procedure for a valid submission of an electricity transmission, energy storage facility, or hybrid¹ project in the TYNDP 2024.

Project promoters are advised to read this document so that they understand:

- the procedure and timeline;
- the technical and administrative criteria their projects will be required to meet;
- the documents and information they will be required to submit to fulfil these criteria;
- the use and circulation of the information submitted, and
- other information regarding their application, including useful contact details.

The TYNDP, in line with the above-mentioned Regulations, does not currently include "Power to X" candidate projects. However, in the revised TEN-E Regulation (2022/869) the new energy infrastructure category 'Electrolysers' has been introduced, and can now apply for PCI/PMI status.

In 2022/2023, ENTSO-E and ENTSOG joined forces in a pilot project to investigate the interlinkages between the hydrogen and electricity system by building an interlinked model (including both systems' infrastructure). In the context of this investigation, ENTSOG and ENTSO-E have identified that some projects have a direct impact on both gas and electricity side. This is the case for example of projects integrating electrolysers with other infrastructural projects (e.g. project hubs integrating renewable production with electrolyser(s) + H2 pipeline(s) and/or electricity transmission line(s)).

For this reason, interested project promoters with projects affecting both systems with a relevant capacity², are encouraged to get directly in contact with ENTSO-E within the TYNDP 2024 application period if they wish to explore the possibility of participating in discussions or potential modelling investigations related to the assessment of these projects. Interested promoters may contact franck.diawagoum@entsoe.eu. With respect to ENTSOG, interested promoters may contact <a href="mainto:mai

¹ A hybrid project is a project that serves a dual functionality of electricity interconnectors and connecting renewable generation.

² In line with the TEN-E Regulation published in May 2022, electrolysers should have an installed capacity of at least 50 MW to be eligible to apply for PCI status.

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(some) information is submitted to only one of the two ENTSO's TYNDP, the concerned ENTSO will share all the collected project information relevant for the potential joint assessment with the other ENTSO.

However, these submissions to ENTSO-E TYNDP 2024 do not automatically mean that the projects are eligible to apply for the European Commission Project of Common Interest (PCI) status. Annex III.2 of the TEN-E Regulation (published on 30 May 2022) indicates which projects can apply for the Project of Common Interest selection process.

ENTSO-E's current understanding of the definition of Power to X refers to the conclusion of the 31st Madrid Forum of October 2018. Storage and transmission as defined in Regulation (EU) 347/2013 are not included in Power to X.

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Applicable legislation

The following legislation and guidelines govern the TYNDP procedure:

- REGULATION (EU) 2019/943 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 5 June 2019 on the internal market for electricity (Regulation (EU) 2019/943);
- REGULATION (EU) 2022/869 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 30 May 2022 on guidelines for trans-European energy infrastructure, amending Regulations (EC) No 715/2009, (EU) 2019/942 and (EU) 2019/943 and Directives 2009/73/EC and (EU) 2019/944, and repealing Regulation (EU) No 347/2013;
- COMMISSION RECOMMENDATION of 24 July 2018 on Guidelines on equal treatment and transparency criteria to be applied by ENTSO-E and ENTSOG when developing their TYNDPs as set out in Annex III 2(5) of Regulation (EU) No 347/2013 of the European Parliament and of the Council (non-binding "Commission recommendation").
- 4th ENTSO-E Guideline for Cost Benefit Analysis of Grid Development Projects (submitted to the ACER, European Commission, Member States for ACER opinion 24 April 2023).

IMPORTANT NOTICE: Ultimately only the EU Regulations 2019/943 and 2022/869 lay down the binding rules governing the TYNDP procedure. The present guidance only sets out ENTSO-E's interpretation of the legislation and includes reference to other non-binding legal or administrative documents where applicable.

Link between the TYNDP and PCI process

To comply with Regulation (EU) 2022/869 Annex III 2. (3) electricity transmission, storage and hybrid projects shall be part of the latest available TYNDP to be eligible for inclusion in the Union list of projects of common interest (PCIs). Projects wanting to obtain the status of PCI must submit an application for selection as a PCI during the PCI candidate submission phase. The PCI selection is a process separate from the TYNDP process, under the responsibility of the EC Regional Groups led by the European Commission.

As seen from previous PCI processes, all PCI candidates are evaluated based on the assumptions, analysis and methodology developed in the TYNDP in order to verify if the projects fulfil the eligibility criteria defined in article 4 of Regulation (EU) 2022/869 and to assess their significant contribution to the energy infrastructure priorities of the European Union. The TYNDP cost benefit analysis results grounded on the input data provided by the project promoters during the TYNDP project application phase are expected to be the basis of the PCI

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selection process. Data provided during the TYNDP application phase must be coherent with the PCI project candidate application.

1. APPLICATION PROCEDURE AND TIMELINE

ENTSO-E is expected to adopt the draft TYNDP 2024 for submission to ACER opinion in Q4 2024. TYNDP application has several steps with mandatory deadlines, as visible in Figure 1.



FIGURE 1: ESTIMATED PHASES AND TIMELINE OF DEVELOPMENT OF THE TYNDP 2024

Time window to submit projects

All applicants must submit their project applications between 15 September 2023 and 16 October 2023 at 12.00 midday CEST. Both new projects and projects already included in previous TYNDPs must submit an application to be considered for inclusion in TYNDP 2024.

The opening of the submission window will be announced on entsoe.eu, in ENTSO-E's newsletter, via email to all project promoters of the TYNDP 2022 and via email to all promoters registered on ENTSO-E's mailing list of project promoters.

For projects that were included in the TYNDP 2022, the submission form will be pre-filled with the data available to ENTSO-E at the beginning of the submission window from previous submissions. Project promoters will be responsible for checking and, if needed, updating the data. This arrangement is meant to make it less time-consuming for project promoters to apply and does not constitute an exemption for TYNDP 2022 projects from formally applying to TYNDP 2024 or from fulfilling the administrative and technical criteria.

How to submit applications

All applications must be submitted via the **TYNDP** projects platform.

Promoters who do not yet have access to the platform can request a login and password to the ENTSO-E contact person specified in Annex 1.

Users experiencing technical difficulties with the online tool are advised to contact ENTSO-E as soon as possible, so that the problem is resolved, or the application is submitted to ENTSO-E by alternative means.

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If agreed in advance with ENTSO-E, and only in the case of unsolved technical difficulties, applications may be submitted by email or post. Applicants are advised to check with the ENTSO-E contact person that the application has been received. "Signed for" or special delivery post is recommended.

2. CRITERIA FOR INCLUSION IN THE TYNDP 2024

This section describes the technical and administrative criteria that each project of the TYNDP 2024 must fulfil. Failure to meet the mandatory administrative and technical criteria, or to provide the necessary information to demonstrate compliance with the criteria within the submission window specified in Section 1, will result in the project not being included nor assessed in the TYNDP 2024

The administrative and technical criteria below are grouped based on the type of the promoter, the type of the project (transmission or storage) and the maturity of the project.

2.1 Eligibility criteria for all projects

A TYNDP project promoter that falls under any of the following categories ³ is eligible to apply in the TYNDP 2024:

A. Promoter of transmission infrastructure project within a regulated environment according to Regulation (EU) 2019/943, which can be either:

A.1. a project promoter which holds a transmission operating license in a country represented within ENTSO-E (such as ENTSO-E members)⁴

A.2. a project promoter which holds a transmission operating license and operates in a country not represented within ENTSO-E, as long as the transmission infrastructure project is entirely or in part situated in at least one country represented within ENTSO-E and is considered as of European relevance⁵; or

A.3. any other project promoter licensed to operate within a regulated environment (such as OFTOs under the Offshore Transmission Regime in Great Britain) or equivalent; and such transmission infrastructure project is entirely or in part situated in at least one country represented within ENTSO-E and is considered as of European relevance.

B. Project promoter of transmission infrastructure projects that is

a) exempted pursuant to Article 63 of Regulation (EU) 2019/943 or applying or intending to apply for such an exemption. This exemption criteria can apply to a project promoter of a new

³ ENTSO-E reserves the right to change the category a project promoter belongs to, based on TSOs membership status of ENTSO-E or any other development, until the finalisation of TYNDP 2024.

⁴ For the list of countries represented within ENTSO-E and the list of ENTSO-E members, refer to https://www.entsoe.eu/about/inside-entsoe/members/

⁵ The project is considered of European relevance when, in the spirit of the objectives of the Regulation 347/2013 (whereas 7), namely it accelerates "the refurbishment of existing energy infrastructure and the deployment of new energy infrastructure" and contributes to the achievement of "Union's energy and climate policy objectives."

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interconnector or to a project promoter of an existing interconnector with significant increases of capacity; or

- b) yet to be regulated in accordance with Regulation (EU) 2019/943 and this project promoter is applying or is intending to apply for this regulated status / certification.
- C. Project promoters of storage projects planned to be developed in a country represented within ENTSO-E and respecting the technical limitations set in Annex II of the TEN-E Regulation or any equipment or installation essential for the system to operate safely, securely and efficiently.

2.2 Criteria for transmission projects

The notion of transmission projects includes offshore radial and hybrid projects.

Compliance with all criteria must be demonstrated at the time of the end of the TYNDP 2024 submission window.

All documentation must be provided in the English language as a scanned copy through the TYNDP projects platform. Any information which is not provided in English language and through the TYNDP projects platform will not be accepted.

It is the project promoter's responsibility to provide all the information needed for ENTSO-E to assess the eligibility of projects to the TYNDP. Therefore any confidentiality issue or any other issue should be solved by the project promoter and not by ENTSO-E.

2.2.1 Administrative criteria for transmission projects and required documentation

The following table shows the list of administrative pass-fail criteria. Pass-fail criteria means that all projects – regardless of their advancement status (e.g. "more advanced" or "under consideration") must fulfil all the criteria in this section 2.2.1 by the submission deadline. The subsequent references to National Development Plans (NDPs) not constitute a requirement for projects to be included in a NDP, but shall be merely understood as a requirement to inform ENTSO-E when it is the case.

Promoter category	A1	A2	A3+B
a. Unbundling (all ⁶)	Directive (EU) 2019/944 Directive (EU) 2019/944 b) should demonstrate it has Directive (EU) 2019/944	4 or is granted a derogation in account of the steps to comply with the steps to apply for regulate steps taken with regards to obtain	he unbundling requirements of

⁶ "(all)" after the criteria refers to projects at any advancement level, including "more advanced" and "under consideration".





Promoter category	A1	A2	A3+B
	Required documentation — on its own responsibility ⁷ , the project promoter shall alternatively: a) confirm the fulfilment of the European Union unbundling rules in line with Directive (EU) 2019/944; b) if it is yet to be regulated /certified, the project promoter joins to the application a formal letter, signed by an authorised representative of the company, indicating its intention to obtain regulated status / certification according to Regulation (EU) 2019/944 and the applicable national law requirements (through license or other means specified in the letter); or		
	c) if it is not unbundled, the project promoter joins to the application a formal letter, signed by an authorised representative of the company, indicating its intention to apply for an exemption or any steps taken with regards to obtaining exemption; or proof it has obtained the exemption in accordance with Article 63 of Regulation (EU) 2019/943.		
b. Company existence (all)	The project promoter shall be a registered undertaking or a subsidiary of a registered undertaking that has been in existence for at least 1 year before the date of submission (for more advanced projects) or less than 1 year (only for project "under consideration phase")		
	Required documentation: Already available to ENTSO-E	Required documentation: The statutes of the registered unc	lertaking
c. Financial strength	The assets of the undertaking or its shareholders shall amount to at least 1 million euros.		
(all)	Required documentation: Already available to ENTSO-E	office in 2021 or later.	e sheets submitted to the national tax ear this information is to be proven amentation.
d. Technical expertise	The project promoter has the technical expertise to realise the project by its own or by using subcontractors.		
(all)	Required documentation: Already available to ENTSO-E	Required documentation: Information on the industrial und including references from other i annual report)	dertaking and its technical expertise, relevant projects (e.g. company

⁷ Note: If requested by the European Commission or regulatory bodies the project promoter shall be able at any moment in time to prove the conformity with the EU legislation or the steps it has taken to conform with it.





The following table shows a list of **additional** administrative criteria: **at least one must be fulfilled.** There are criteria applicable for all projects and others applicable only for projects with a status under consideration or for projects with a status more advanced⁸ than under consideration.

	A1	A2	A3+B
e.PCI/PMI (all)	PCI and PMI label in the last available	e PCI/PMI list	
Required documentation: PCI/PMI number as in the latest official PCI/PMI list published by the In case of application for inclusion in the next PCI/PMI list, the prome platform. ENTSO-E will take into consideration its application and the latest PCI/PMI list is published by the European Commission.		the next PCI/PMI list, the promoter shal nsideration its application and this criteri	ll specify it in the submission
f.National plan	Inclusion in the last available version of the NDP of at least one of the ENTSO-E hosting countries. <i>To satisfy</i>		
(more advanced)	(e.g. by explicit inclusion in the plan the plan.) If the project is included in the last avmust have provided sufficient inform	needs to be effectively included in the last (not just by reference, nor "consideration vailable NDP of only one of the ENTSO-ation about the project to the other hosting.	n") of the project in question into E hosting countries, the promoter
Required documentation: The reference of the project in the last available version of the National ENTSO-E hosting countries. When the project is included in the last available NDP of only one email) from the other TSO(s) concerned that the TSOs have received Project which is supposed to be published in the TYNDP Project SI The promoter should provide the title of the NDP, the year of publicancessed and the page number(s) where the project is mentioned as not in the English language, the promoter must provide translations project. In case of differences between the data provided in the TYNDP 202 in the NDP, the promoter must provide explanation and justification		st available NDP of only one of the hostined that the TSOs have received at least a shed in the TYNDP Project Sheets. of the NDP, the year of publication, the are the project is mentioned as included in other must provide translations of the release a provided in the TYNDP 2024 submissi	ing countries: statement (letter or all the information about the URL where the document can be in the plan. If the original NDP is evant part(s) mentioning the
g. National plan (under consideration)	country. To satisfy this criterion, the version of the NDP (e.g. by explicit coplan.) If the project is included in the last av	of the National Development Plan (NDF project in question needs to be effectively onsideration (not just by reference) of the vailable NDP of only one of the ENTSO-ation about the project to the other hosting	w included in the last available e project in question into the draft E hosting countries, the promoter
	ENTSO-E country. When the project is included in the la email) from the other TSO(s) concern Project which is supposed to be publi The promoter must provide the title of accessed and the page number(s) when	st available version of the National Devel st available NDP of only one of the hosti ned that the TSOs have received at least a shed in the TYNDP Project Sheets. If the NDP, the year of publication, the Usere the project is mentioned as included in the promoter must provide translations of	ing countries: statement (letter or all the information about the URL where the document can be n the draft plan. If the original

⁸ More advanced status represent projects which are in the following phases of development: planned but not yet in permitting (meaning projects that have been included in the national development plan & completed the phase of initial studies (e.g. completed pre-feasibility or feasibility study), but have not initiated the permitting application yet, permitting (starts from the date when the project promoters apply for the first permit regarding the implementation of the project and the application is valid;) and construction.

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	A1	A2	A3+B
	In case of differences between the data provided in the TYNDP 2024 submission form and the data mentioned in the NDP, the promoter must provide explanation and justification of those differences.		
h.Member State / NRA support	at least one of the competent ministri	t between the competent ministries or reges or regulatory authorities.	gulators or a letter of support from
(under consideration)	impacted countries (involving at leas signed letter no older than 36 months	proceeding between the ministries or bet t one ENTSO-E country), and the recent s, from at least one of the ministries or re ng the explicit support for the project t	amendments for it if any; or a gulatory authorities concerned that
i.Exemption process (more	2019/943) or equivalent	xemption under the European regulations	s (Article 63 of Regulation (EU)
advanced)	2019/943 from the responsible regular exemption request must be also proving after the submission window, the programmer ENTSO-E may reevaluate the eligibition.		untries. Any answer to this aption request is rejected within or
j.TSO agreement (under consideration)	Signed agreement ⁹ with all the concerned TSOs members of ENTSO-E Projects that have received a definitive rejection of a grid connection request cannot be included in TYNDP, unless there are material changes to the project insofar as the grid connection request process can be reopened with the TSO.		
	Required documentation: Copy of a signed agreement (electronically signed is sufficient) by the responsible parties of the TSOs involved, stating that there is a common agreement for assessing the project under consideration and submitting it for TYNDP 2024 process.	Required documentation: The signed common agreement with the member/s of ENTSO-E, regarding the project.	
k.Studies (under consideration)	Resulting from an ENTSO-E system needs study (Identification of System Needs or Regional Investment Plans).	By the end of the TYNDP 2024 submissive relevant information to all the concerned feasibility or feasibility study; or signed contractual agreement with a a pre-feasibility or feasibility study; or a positive feasibility study (within approved by all the concerned TSOs.	ed TSOs to facilitate a pre-
	Required documentation: Title and year of the ENTSO-E system needs study, page number where the need is mentioned and	Required documentation: The proof of delivery ¹¹ of all relevant i TSOs within the last 6 months to facili study according to national laws or pro national laws or procedures;	tate a pre-feasibility or feasibility

⁹ Including TSOs confirmation to connect the specific infrastructure to the system (connection point and budget) or the contract with the TSOs to connect (i.e. acceptance to pay for the works).

¹⁰ The study should conclude that the project is compatible with the planned network and/or should propose additional network reinforcements to integrate the project in the future network

Delivery by any form of communication (e.g. email, form) that is in line with the involved TSOs process. All relevant information means all the information requested by the concerned TSOs to perform a pre-feasibility or feasibility study. Additionally, all the information from the communication should be available for ENTSO-E (e.g.: recipient, date of submission, sender, body of the e-mail/letter, etc.).

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A1	A2	A3+B
explanation on how the document	or the signed contractual agreement wit	h all the concerned TSOs to
demonstrates a need for the project	perform a pre-feasibility or feasibility s	tudy;
	or all the impacted ENTSO-E TSO positive feasibility ¹² /pre-feasibility ¹³	
	studies (within a validity period of 2 years maximum),	
	or their signed approval on the project's study performed by another	
	party (within a validity period of 2 years maximum).	

Indifferently of the additional administrative criteria chosen by the promoter, all projects which are included in the latest available version of a National Development Plan(s) (final or draft) must deliver to ENTSO-E the reference (i.e. project code, page number, title of the NDP, the year of the publication, the URL where the document can be accessed and if the original NDP is not in English the English translation of the relevant part(s) mentioning the project) of the project for all the ENTSO-E countries concerned. In addition all projects or investment item of a project not included in a NDP of a ENTSO-E country, must deliver to ENTSO-E the reason for it and the project or the investment could be flagged on the project sheet together with the reason provided.

All projects must provide contact details of one Single Point of Contact responsible to receive communication for all promoters, and of at least one substitute contact person.

	A1	A2	A3+B
Contact details	a) 1 Single Point of Contact (SPOC)	a) 1 SPOC with email and phone number	
(all)	with email and phone number	b) At least one substitute contact: email and phone number.	
b) At least one delegated contacts:		Substitute contact person is/are respon-	sible for receiving
email and phone number. They are		TYNDP communications in the event emailing the SPOC	
responsible for receiving TYNDP		triggers an out-of-office or failed deliv	ery notification
communications in the event		General company contact with email, I	phone number and postal
emailing the SPOC triggers an out-		address for exceptional communication	n or letter requiring
of-office or failed delivery		signature	
	notification		

2.2.2 Technical criteria for transmission projects and required documentation

The following table shows the list of technical pass-fail criteria. All must be fulfilled by the submission deadline. All information must be provided in the English language. The project promoter must provide all required information through the on-line tool accessible via the ENTSO-E website.

^{12 & 15} Feasibility study Scope: it should confirm all the results of the pre-feasibility study or amend them and confirm the physical and environmental viability not only of the project itself but also of the connection points and additional internal investments required.

¹³ & ¹⁶ Pre-feasibility study Scope: it should include at a minimum the connection point/points of the project to the European transmission grid, the admissible transfer capacity in the relevant boundary, the additional investments required for a secure operation and network codes fulfilment.

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	A1	A2	A3+B
m. Technical	Main investment is:		
description	 a high-voltage overhead tran case of direct cross-border in a high-voltage overhead tran case of internal infrastructure a high voltage underground/s equipment other than a line of another project or investmen Required information: A brief technical description identification of the main invalues 	afrastructure OR smission line designed for a transe OR submarine transmission cable desor cable (e.g. reactive compensatit which is included in the TYND of the project vestment item(s), with technology	smission voltage of 110 kV or more in the smission voltage of 220 kV or more in the signed for a voltage of 110KV or more ion) that is necessary for the operation of aP. y (AC/DC) and voltage level; end- gy (AC/DC) and voltage level; end-
n. Location	Main investment at least is partially lo		presented within ENTSO-E
	Required information: Location of the project in the ENTSO		
o. Initial	The initial estimation of the transfer c	apacity increase where:	
estimation of		re (including hybrid projects):	
the Transfer			essed in MW in both directions (direct and
capacity	· ·		border between 2 market areas should be
increase		eference market area being the or s imposed to be part of the TYNI	
	- for internal infrastructure:	s imposed to be part of the 1 11vi	or project portiono,
	- provide transfer cap specified internal see provide NTC increases specified cross bords between 2 market a alphabetic order; - no minimum limit i on the cross border or load growth, allo - For offshore radial projects 14 - provide transfer cap specified connecting no minimum limit. Promoters have to provide a support	ection; ase expressed in MW in both direction in case deemed as reas should be indicated with the simposed to be part of the TYN. NTC is under 100 MW, projects we new generation connection or incident increase expressed in MW gracity increase expressed in MW grac	7 in both directions (direct and reverse) in a TDP project portfolio; asmission projects demonstrating the NTC
	NB: All projects, both cross border and MW impact in a cross-section betwee Reg. 869 (TEN-E). Projects between the section bet	thesis and the methodology applied internal, that intend to apply to en two (or more) Member States a member state and non-member ve criteria. Please note that du	as derived, per specified section and/or cross fied in the study ¹⁵ . The PCI label must demonstrate at least 500 is according to the "eligibility criteria" from a state can apply for PMI process but not PCI pring the PCI/PMI process the supporting

¹⁴ -According to Annex IV of TEN-E regulation radial offshore projects should not hinder the cross border capacities.
 ¹⁵ CBA Guidelines and Implementation Guidelines indicates European best practice on transfer capacity

computation and are available at entsoe.eu

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	A1	A2	A3+B
	Required information: i. An assessment of the increase in the transfer capacity which the project will enable, expressed in MW in both directions (direct and reserve). ii. A supporting technical document, in English language, and preferably from the affected TSOs, to justify the provided value of transfer capacity increase and/or NTC increase. iii. An explanation of the use of that transfer capacity increase (cross-border impact, generation approach and or expertises and/or necessarian and/or security increase).		
p. Project network modelling data	connection, and/or securing load growth, reduction of the redispatch volume) All the project characteristics necessary to model the project in the network tool used by ENTSO-E in the assessment process		
q. Date of commissioning, status and costs	O If the project is inclusional corresponding to the latest information cool of the average commis O In both cases, the prother is any different published National latest transmission cost (see Annex Note: Cost data is mandated TYNDP. Required information:	e information included in the latest ommunicated by the NRA. Included in a NDP, ENTSO-E will sioning times of similar projects, ir oject promoter should also provide ce between the expected commission Development Plans or the latest information should inform ENTSO-E together of the investment items part of the pronnection, generation costs are to a 2 for guidance on CAPEX and OF ory and therefore any non-compliant	assess the commissioning dates based on a line with CBA Guideline 4. The expected commissioning year and if coning year compared to the latest formation communicated by the NRAs, with an explanation. Toroject. In case of generation connection be included, separately from PEX). The expected commissioning year and if coning year compared to the latest formation communicated by the NRAs, with an explanation.
	i. An estimation of the commis	sioning date for each investment ite	em

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	A1	A2	A3+B
			ng year compared to the latest published cated by the NRAs, an explanation of the
	design, exemption and permi iv. A project status for each inve	design, exemption and permitting procedures, manufacturing, construction, and commissioning iv. A project status for each investment item, indicating whether the investment is "under consideration"	
	construction"	dies), "planned, but not yet in perm	
	account inflation) expressed cost), including generation co	v. The investment cost of each investment item should be provided as real values (i.e. not taking into account inflation) expressed at 2024 values (discounted to the year 2024 from the year of incurring the cost), including generation cost in the case of generation connections especially offshore radial connections and yearly operation and maintenance cost: CAPEX+OPEX.	
r. additional modelling input			
	Required information:		
	For hybrid projects:		
	o information whether the added generation capacity is already considered within the scenario numbers or added on top of the scenarios.		
			project as a whole (option 2 in CBA 4) or nore) radial projects (option 1 in CBA 4)
	• For radial generation projects: information whether the added generation capacity is already considered within the scenario numbers or added on top of the scenarios.		
	• For all projects: information on interdependency to other projects:		
	List of projects the project depends on		
	 Sequence of TOOT or PINT the projects have to follow when applying the "Multiple application TOOT/PINT" methodology from CBA 4 section 3.2.2. 		

2.3 Criteria for storage projects

2.3.1 Administrative criteria for storage projects and required documentation

The following table shows the list of administrative pass-fail criteria: Pass-fail criteria means that all projects – regardless of their advancement status (e.g. "more advanced" or "under consideration") need to fulfil all the criteria in this section 3.3.1 by the submission deadline.

All documentation must be provided in the English language as a scanned copy through the TYNDP projects platform. Any information which is not provided in the English language and through the TYNDP projects platform will not be accepted.

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It is the project promoter's responsibility to provide all the information needed for ENTSO-E to assess the eligibility of projects to be in the TYNDP and that therefore any confidentiality issue or any other issue, should be solved by the project promoter and not by ENTSO-E.

	С
b. Company existence (all ¹⁶)	The project promoter shall be a registered undertaking or a subsidiary of a registered undertaking that has been in existence for at least 1 year before the date of submission (for more advance projects) or less than 1 year (only for project "under consideration phase") Required documentation: The statutes of the registered undertaking
c. Financial strength (all)	The assets of the undertaking or its shareholders shall amount to at least 1 million euros Required documentation: The last available signed balance sheets submitted to the national tax office in 2019 or later. For companies younger than 1 year this information is to be taken from the company existence documentation.
d. Technical expertise (all)	The project promoter has the technical expertise to realise the project on its own or by using subcontractors. Required documentation: Information on the industrial undertaking and its technical expertise, including references from other relevant projects (e.g. company annual report,)

The following table shows a list of additional administrative criteria: At least one must be fulfilled.

There are criteria applicable for all projects and others applicable only for projects with a status under consideration or for projects with a status more advanced than under consideration.

	С				
e. PCI (all)	PCI label in the lastest available PCI list				
	Required documentation:				
	PCI number in the latest official EC PCI list.				
	In case of application for inclusion in the 6^{th} PCI list, the promoter shall specify it in the submission form.				
	ENTSO-E will take into consideration its application and this criterion will be rechecked when the 6 th PCI				
	list is published by the European Commission.				
f. National plan	Inclusion in the last available version of the National Development Plan (NDP) of the ENTSO-E country				
(more advanced)	where the storage infrastructure will be built.				
	To satisfy this criterion, the project in question needs to be effectively included in the last available version of the NDP (e.g. by explicit inclusion (not just by reference, nor "consideration") of the project in question				
	into the plan). This applies to those countries where the NDP is supposed to include storage projects.				
	Required documentation:				
	The promoter must provide the title of the NDP, the year of publication, the URL where the document can				
	be accessed and the page number(s) where the project is mentioned. If the original NDP is not in the English				
	language, the promoter must provide translations of the relevant part mentioning the project.				
	In case of differences between the data provided in the TYNDP 2024 submission form and the data				
	mentioned in the NDP, the promoter must provide explanation and justification of those differences.				
	Inclusion in the last available version of the National Development Plan (NDP) of the ENTSO-E country				
	where the storage infrastructure will be built. To satisfy this criterion, the project in question needs to be				

¹⁶ "(all)" after the criteria refers to projects at any advancement level, including "more advanced" and "under consideration"

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g. National plan	effectively included in the last available version of the NDP (e.g. by explicit consideration (not just by				
(under	reference) of the project in question into the draft plan). This applies for those countries where the NDP is				
consideration)	supposed to include storage projects.				
	Required documentation:				
	The promoter must provide the title of the NDP, the year of publication, the URL where the document can				
	be accessed and the page number(s) where the project is mentioned. If the original NDP is not in the English				
	language, the promoter must provide translations of the relevant part mentioning the project.				
	In case of difference in the data indicated compared to the respective data of NDPs the explanation and				
h Manshau Chahaa /	justification of those differences should be provided				
h. Member States /	Signed agreement between the competent ministries or regulators or a letter of support from at least one of				
NRA agreement	the competent ministries or regulatory authorities.				
(under consideration)	Required documentation:				
consideration)	The signed agreement on the project proceeding between the ministries or between the regulators of the				
	impacted countries, and the recent amendments for it if any; or a signed letter no older than 36 months, from at least one of the ministries or regulatory authorities concerned, stating the explicit support for the project				
	to be included in the TYNDP 2024 or PCI list.				
	to be included in the 11 NDF 2024 of FCI list.				
. =0					
i. TSO agreement	Signed connection agreement with the TSO within the ENTSO-E country where the storage will be built.				
or processes (more					
advanced)	Required documentation:				
	The signed connection agreement with the impacted TSO.				
j. Studies (under	Feasibility/pre-feasibility study performed by the TSO within the ENTSO-E country where the storage will				
consideration)	be built				
	OR				
	Feasibility/pre-feasibility study performed by another party and acknowledged by the TSO within the				
	ENTSO-E country where the storage will be built				
	OR				
	Delivery by the TYNDP 2024 submission deadline of all relevant information to the concerned TSOs to				
	facilitate a pre-feasibility or feasibility study				
	Required documentation:				
	All the impacted ENTSO-E TSO feasibility ¹⁷ /pre-feasibility ¹⁸ studies (within a validity period of 2 years				
	maximum),				
	OR their signed approval, on the project's study, performed by another party (within a validity period of 2				
	years maximum),				
	OR the proof of delivery to all impacted TSOs within the last 6 months of all relevant information to facilitate				
	a feasibility/pre-feasibility study ¹⁹ according to national laws and procedures if it is specified on the national				
	laws or procedures.				

Indifferently of the additional administrative criteria f) to I) chosen by the promoter, all projects which are included in the latest available version of a National Development Plan(s) (final or draft) must deliver to ENTSO-E the reference (i.e. project code, page number, title of the NDP, the year of the publication, the url where the document can be accessed and if the original NDP is not in English the English translation of the

¹⁷ Feasibility study Scope: it should confirm all the results of the pre-feasibility study or amend them and confirm the physical and environmental viability not only of the project itself but also of the connection points and additional investments required.

¹⁸ Pre-feasibility study Scope: it should include at minimum the connection point/points of the project to the European transmission grid, the admissible transfer capacity in the relevant boundary, the additional investments required for a secure operation and network codes fulfilment.

¹⁹ Delivery by means any form of communication (e.g. email, form) that is in line with the involved TSOs process. All relevant information means all the information requested by the concerned TSOs to perform a pre-feasibility or feasibility study. Additionally, all the information from the communication should be available for ENTSO-E (e.g.: recipient, date of submission, sender, body of the e-mail/letter, etc.).

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relevant part(s) mentioning the project) of the project for all the ENTSO-E countries concerned. This does not constitute a requirement for projects to be included in a National Development Plan, but merely a requirement to inform ENTSO-E when it is the case.

In addition, for the projects with more advanced status²⁰ and only for storage projects in countries whose NDP scope includes storage, and indifferently of the additional administrative criteria f) to l) chosen by the promoter, the project must have applied to be part of the NDP currently being developed, including having provided updated information on the project to the TSO within the timeframe specified by national processes. This requirement only aims at ensuring consistency between the TYNDP and NDPs insofar as they cover storage, it does not constitute a requirement for the project to be effectively included in the NDP.

All projects must provide contact details of one Single Point of Contact responsible to receive communication for all promoters, and of at least one substitute contact person.

e. Contact details (all)		1 SPOC with email and phone number At least 1 substitute contact: email and phone number. Substitute contact person is/are responsible for receiving TYNDP communications in the event emailing the SPOC triggers an out- of-office or failed delivery notification
	c)	General company contact with email, phone number and postal address for exceptional communication or letter requiring signature.

2.3.2 Technical criteria for storage projects and required documentation

The following table shows the list of technical pass-fail criteria: Pass-fail criteria means that all projects – regardless of their advancement status (e.g. "more advanced" or "under consideration") need to fulfil all the criteria in this section 3.3.2. by the submission deadline.

All information must be provided in the English language. The project promoter must provide all required information via the TYNDP projects platform.

	С			
j. Technical description	The project shall be an electricity storage facility used for storing electrical energy into another energy form for producing electricity at a later date on a permanent or temporary basis in above-ground or underground infrastructure or geological sites.			
	Required information: Brief technical description of the storage project: type of storage (hydro, pure pumping including natural inflow; battery, type of technology used; etc.)			
k. Capacity & Generation	The project shall provide at least 225 MW installed capacity and has a storage capacity that allows a net annual electricity generation of 250 GWh/year ²¹ . Required information:			
	i. Installed electric generating capacity ²² , including maximum active power (MW) and reactive power (Mvar), and minimum values different from zero.			

²⁰ Planned but not yet in permitting, in permitting or in construction.

²¹ Regulation (EU) 347/2013, Annex IV.1. (b);

²² Must be at least 225 MW - As requested by Regulation (EU) 347/2013, annex IV, Art. 1(b);





	ii. Total storage capacity ²³ , and installed electric storing capacity including maximum active power (MW) and reactive power (Mvar), and minimum values different from zero.			
l. Voltage level	The project is directly connected to the high-voltage transmission network for a voltage of 110kV or more ²⁴ Required information: The connection point to the transmission infrastructure, the voltage at the connection points (>=110kV) The project is at least partially located and directly connected to one of the countries represented within ENTSO-E Required information:			
m. Location				
n. Project network/market modelling data	Location of the project in the ENTSO-E map All the project characteristics necessary to model the project in the network tool used by ENTSO-E in the assessment process.			
	Required information: - Storage Capacity [GWh] - Roundtrip efficiency [%] - Maximum and Minimum Total Turbining/generating Capacity [MW] - Maximum and Minimum Total pumping/compressor Capacity of pump storage [MW] - Generating hours [h] (for Compressed-Air-Energy-Storage projects only) - Pumping/Charging hours [h] (for Compressed-Air-Energy-Storage projects only) - Connection point in the network (for projects with a commissioning year up until 2034 included) ENTSO-E may require or specify further technical data for modelling needs during the Cost-Benefit Analysis assessment for TYNDP 2024 which shall be provided by the project promoters upon ENTSO-E's request.			
o. Date of commissioning, status of the project and costs	 Date of commissioning and status of the project. If the project is included in a NDP, the project promoters must provide the commissioning year corresponds to the information included in the latest available version of the NDP or to the latest information communicated by the NRA. If the project is not included in a NDP, ENTSO-E will assess the commissioning dates based on the average commissioning times of similar projects, in line with CBA Guideline 4. For both cases, the project promoter should also provide the expected commissioning year and if there is any difference between the expected commissioning year compared to the latest published National Development Plans or the latest information communicated by the NRAs, the project promoter should inform ENTSO-E together with an explanation. 			
	 CAPEX and OPEX of the project (see Annex 2 for guidance on CAPEX and OPEX). Note: This data is mandatory and therefore any non-compliance will result in exclusion from the final TYNDP. Required information: An estimation of the commissioning date 			

²³ Storage capacity should be defined as total energy delivered to the grid when reservoir is totally emptied, starting at reservoir full condition.

²⁴ Regulation (EU) No 347/2013, Annex II.1. (c)





	 ii. If there is any difference between the expected commissioning year compared to the latest published National Development Plans or the latest information communicated by the NRAs, an explanation of the difference iii. A timeline of the implementation plan including pre-feasibility and feasibility studies, engineering design, exemption and permitting procedures, manufacturing, construction and commissioning iv. A project status, indicating whether the project is "under consideration" (prefeasibility/feasibility studies), "planned, but not yet in permitting", "in permitting" or "under construction"; v. The total investment cost of the project at the commissioning year value, and the annual operation and maintenance costs: CAPEX+OPEX. The OPEX requested of promoters for storage projects must not include the cost for the purchase of energy. 		
p. Natural Inflow	The promoter indicates whether the project presents a natural inflow		
	Required information and documentation:		
	Yes/no answer		
	If yes, natural inflow profile		

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3. ASSESSMENT BY ENTSO-E OF THE COMPLIANCE OF APPLICATIONS WITH INCLUSION CRITERIA

3.1 Assessment by ENTSO-E of compliance with TYNDP

inclusion criteria

After the closure of the submission window, ENTSO-E will review the applications and their compliance with the criteria set out in Section 2.

The assessment period is estimated to last about 20 working days, however this is a 'best effort' estimate and the assessment might last longer in the event of a high number of applications.

During the applications assessment period, ENTSO-E may contact promoters and ask for confirmation or clarifications on the information provided, or for additional information or documentation, within a set deadline. Failure to provide the requested clarifications or additional information within the deadline may result in the project not being included or assessed in the TYNDP 2024.

The project promoter is fully responsible for the correctness and completeness of the information that it provides in the TYNDP procedure.

The TYNDP 2024 project list will be consulted within the TYNDP 2024 package, and may be modified in the final TYNDP 2024 if decided by ENTSO-E following either a reassessment or new information on the eligibility of projects, advice from the review process described in Section 3.3 or the recommendation of ACER included in its opinion.

In the event where new information that causes the project to be ineligible to TYNDP becomes available, ENTSO-E reserves the right to exclude the project from TYNDP.

3.2 Communication of ENTSO-E decision of

admission/non-admission in TYNDP 2024

After the end of the applications assessment period, ENTSO-E will notify project promoters of their acceptance/rejection for inclusion in the TYNDP. ENTSO-E will send its decision, including the reasons for it, directly to the concerned project promoter(s).

The provisional project list approved by ENTSO-E will be made public on the ENTSO-E website. ENTSO-E will also publish a list of projects that applied to the TYNDP 2024 but were not admitted together with a justification for the rejection.

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3.3 Right to request a review of a non-admission decision

In the event of disagreement with ENTSO-E's initial decision to reject a project from the provisional list, the concerned project promoter has a right to ask ENTSO-E to review its rejection decision.

3.3.1 Purpose and scope of the review procedure

Only projects that were validly submitted before the end of the TYNDP 2024 deadline for submissions, and that were subsequently found not to comply with the criteria specified in Section 2, can ask for a review. Projects who were submitted after the deadline cannot benefit from a review procedure.

The purpose and scope of the review procedure is to hear evidence as to why the applicant considers that the initially rejected project in question complies with the eligibility, administrative and technical criteria and the procedure laid down in this document, and should therefore be included in the TYNDP 2024.

ENTSO-E may consult with the European Commission and the Agency and if deemed necessary, it may also consult on an ad-hoc basis the relevant stakeholders. ENTSO-E will respond to the project promoter contestation after duly examining the project promoter's justifications and duly taking into account the views expressed by the consulted parties.

3.3.2 How to request a review

When ENTSO-E has issued a rejection decision to a candidate, the decision notification provides the project promoter 10 working days from the date of the decision notification to send a review request to ENTSO-E, via email to the point of contact indicated in Annex 1.

The applicants review request must indicate the decision challenged, the reasons for the challenge and contain the necessary supporting evidence.

3.3.3 Steps of the review process

At any time during the review procedure, ENTSO-E may consult the Commission and ACER. If deemed necessary, the authorities may also consult the relevant stakeholders on an ad-hoc basis when considering the project promoters' justifications. When taking its final decision, ENTSO-E considers – but is not bound by the expressed views, in addition to the non-binding stakeholders recommendation.

The following elements - considered as having been already consulted with stakeholders earlier in the process, agreed upon and finalised – are not to be open for discussion within this review phase: scenario assumptions and data, CBA methodologies in force and project data submitted within the process.

Detailed review procedure steps will be provided in ENTSO-E's rejection notification, but the main elements will be according to Figure 2.

	ENTSO-E issues a rejection notification
By 10 working days after the rejection notification	Project promoter issues a review request

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At least 3 weeks after ENTSO-E's rejection notification	If deemed necessary by ENTSO-E, a hearing before stakeholders takes place, in person or by web conference. The list of the organisations that will be contacted is specified in Annex 4. ENTSO-E will share with participating stakeholders, at the latest one week before the hearing: - the review requests received from project promoters; - the related rejection notifications, containing the justification for ENTSO-E's initial rejection decision; - an overview of the review procedure with the timeline and deadline for each step.
By one week after the hearing	If a hearing was deemed necessary by ENTSO-E, on the day of the hearing, stakeholders inform ENTSO-E orally of their non-binding opinion, OR By one week after the hearing, stakeholders inform ENTSO-E of their non-binding opinion (or decision not to provide an opinion) in writing.
By 5 weeks after reception of stakeholders' recommendation (in case a hearing was organised) OR by 5 weeks after reception of the review request	The System Development Committee of ENTSO-E adopts a decision. ENTSO-E notifies the project promoter of its decision, including the reasons for it. The position(s) expressed by stakeholders will be made public in a short summary of the hearing released on entsoe.eu.

Figure 2. Indicative timeline for the review process

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4. PROJECT CBA PHASE AND PREPARATION OF TYNDP 2024 RELEASE

4.1 Requests by promoters to correct or update project

data

Two cases must be distinguished, depending on whether the data at hand is technical data used to compute the projects' benefits in the cost-benefit analysis or if it has no impact on benefits computations.

Technical data used to perform the cost-benefit analysis:

In case it provided incorrect information, the promoter shall inform ENTSO-E of this error as soon as possible. ENTSO-E will endeavour to take into account the corrected information if it is informed within the applications assessment period and before the CBA phase has started.

From the end of the applications assessment period and until the publication of the final TYNDP 2024, no data update request by project promoters that may impact the CBA Assessment will be accepted by ENTSO-E.

Any technical data update that was not provided to ENTSO-E in time before the start of the CBA phase will be included in a dedicated section of the TYNDP project sheets with a disclaimer that this update is not reflected in the CBA assessment results published in the TYNDP. The technical data used for the CBA assessment will in any case be published and labelled as input data for the CBA assessment.

Non-technical data:

If the promoter wishes to update or correct data that has no impact on the computation of the project's benefits, the promoter will have the opportunity to update this information during the project sheets completion window foreseen in section 4.6.

4.2 Requests by ENTSO-E to confirm, correct or complete

data

At any time between the end of the project submission window and the publication of the final TYNDP 2024, ENTSO-E reserves the right to ask a project promoter to confirm, correct or complete the data provided. The project promoter will then be asked to provide the data within five working days.

If the project promoter fails to provide the requested information within five working days, and the missing/inconsistent data does not allow for a full CBA calculation of the project, this specific project will be disregarded, and not included and assessed in the TYNDP.

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4.3 ENTSO-E studies envisaged in TYNDP 2024

Table 1 shows studies envisaged in TYNDP 2024, depending on the commissioning year of the project. This is tentative and subject to change. All projects included in the TYNDP 2024 will be assessed, with either a market-only of a full CBA.

Time horizon	Role in TYNDP	Scenario	Scenario characteristics	Analysis performed (In bold: minimum viable product)
2030	Central scenario	National Trends +	Aligned with anticipated NECPs (December 2022 data latest), to be compliant with binding energy and climate targets Central scenario of the TYNDP	Full CBA including network computations (losses)
2040	Central scenario	National Trends +	Aligned with anticipated NECPs (December 2022 data latest), to be compliant with binding energy and climate targets	System Needs in zonal approach analysis (incl optimal grid, boundaries analysis, no grid analysis, internal constraints analysis, offshore network development plan) Full CBA including network computations (losses) Market only CBA
	Variance scenarios	Distributed Energy	Deviation scenarios based on the storylines agreed by the StG Scenario Building	System Needs variance studies (via the scenario construction phase)
		Global Ambition		Market only CBA

Table 1. Preliminary scope of studies envisaged in TYNDP 2024

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4.4 Optional: Submission by promoters of non-mature indicators

CBA Guideline 4 foresees a number of so-called non-mature indicators. These indicators are project benefits that are not computed by ENTSO-E for lack of a mature-enough methodology or availability of needed tools to assess them at pan-European level, but that may be computed by project promoters.

ENTSO-E will release Implementation Guidelines regarding these non-mature indicators in TYNDP 2024, listing the available indicators for submission by project promoters, any specific condition for their submission and the applicable process. Project promoters will have the possibility to submit one or several of these indicators and have them included in their TYNDP 2024 project sheets after they are assessed as compliant to the Implementation Guidelines by ENTSO-E. ENTSO-E will verify the compliance of the methodology followed by promoters with CBA Guideline 4. Hence, only information submitted by the promoter in English language can be considered.

Information on the process, timeline and criteria for submitting non-mature indicators will be communicated to TYNDP 2024 project promoters by Q1 2024

4.5 Information of promoters during the TYNDP 2024 development

ENTSO-E will keep project promoters informed at key stages in the TYNDP 2024 process by the following means:

- Webinars and/or workshops to provide practical live demonstration and answer questions on topics such as: how to fill in the submission form to TYNDP, what are the next steps in the TYNDP process, the content of project sheets, how to submit non-mature indicators,... Webinars/workshops will be announced on tyndp.entsoe.eu/events and via emails to promoters.
- Promoters' corner on tyndp.entsoe.eu: regularly updated, this webpage contains key information and documents about the next steps and deadlines for project promoters in the ongoing TYNDP process, how to submit a project to the TYNDP, project sheets and non-mature indicators, etc. A document containing Frequently Asked Questions will also be made available on this page, as well as webinars' recordings and slides.
- ENTSO-E's Single Point of Contact to promoters (see Annex 1) will answer all email queries within 5 business days.

4.6 TYNDP 2024 project sheets

Information on TYNDP 2024 projects will be published within the TYNDP 2024 package within so-called 'project sheets'. Project sheets are online pages, downloadable as PDF and XLS, that present key information on the projects, technical details and cost-benefit analysis results. Examples of TYNDP 2022 project sheets

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can be viewed <u>here</u>. TYNDP 2024 project sheets, without being completely similar to TYNDP 2022 ones, are expected to have the same overall content.

Information presented in project sheets will mainly come from the information collected during the project submission window to TYNDP 2024. A project sheets completion window will be organised in the spring of 2024 during which promoters will be asked to complete any additional information if required and will have the possibility to update existing information if necessary (within the limits set in section 4.1).

Examples of additional information that may be required include, but is not limited to, the following items:

- Project promoters will have the possibility, after the finalisation of ENTSO-E's Identification of System Needs study, to link their projects to the needs identified in the system needs report;
- Deliver the cost justification in line with the Cost Benefit Methodology into force.
- Deliver any other explanation in line with the CBA Guideline 4 which will enhance the description of the project benefits in the TYNDP project sheets.

4.7 Promoters access to CBA results

ENTSO-E will share with project promoters the assessment results for their project[s] at least two weeks in advance of the start of the public consultation on the TYNDP 2024.

Upon review of these results, project promoters may have questions or queries. Promoters may send questions and comments by email or request a bilateral meeting with ENTSO-E's TYNDP team by emailing the point of contact mentioned in Annex 1. This request should include a brief description of the topics and issues that the project promoter wishes to discuss and the project promoter's upcoming availability.

Promoters may receive upon request the full TYNDP market and network datasets (after the datasets are available), so that promoters can directly verify their project results.

Promoters will have the possibility to provide comments on their CBA results for inclusion in project sheets.

5. HANDLING AND PUBLICATION OF PROJECTS DATA

The technical input provided by the project promoters and the benefits of the projects assessed in accordance with the CBA methodology will be made public by ENTSO-E.

The cost data submitted by the project promoters for the projects to be included in the TYNDP will be made public by ENTSO-E.

The administrative documents provided by the project promoters during the submission phase and referring to their legal status, financial capability and technical expertise should be solely used by ENTSO-E to ensure compliance with the administrative criteria defined in their practical implementation documents and should be treated as confidential by ENTSO-E.





By default, all the data and documentation provided by promoters will be accessible to the European Commission and the Agency for the Cooperation of Energy Regulators (ACER).

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ANNEX 1. ENTSO-E CONTACT PERSON

ENTSO-E can be contacted by using the following contact details:

- Email: Giulio La Pera at giulio.lapera@entsoe.eu
- Address: rue de Spa 8, 1000, Brussels, Belgium

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ANNEX 2. GUIDANCE ON CAPEX AND OPEX

CAPITAL EXPENDITURE (CAPEX): GUIDANCE FOR PROMOTERS

The following costs are considered to be CAPEX:

- Expected costs for permits, feasibility studies, design and land acquisition;
- Expected cost for equipment, materials and execution costs (such as towers, foundations, conductors, substations, protection and control systems);
- Expected costs for temporary solutions which are necessary to realise a project (e.g. a new overhead line has to be built in an existing route, and a temporary circuit has to be installed during the construction period);
- Expected environmental and consenting costs (such as costs to avoid environmental impacts or compensated under existing legal provisions, cost of planning procedures);
- Expected costs for devices that have to be replaced within the given period (consideration of project life-cycle); and
- Dismantling costs at the end of the equipment life-cycle.

CAPEX figures must be declared as **real values (i.e. not taking into account inflation) for each investment**. **The values are to be expressed as constant values in the TYNDP year** (i.e., for TYNDP 2024-30 the values are to be represented in constant 2024 values).

Example:

- For each investment the promoter should provide the aggregated real value (i.e. excluding inflation rate) of the expected capital expenditure for the investment and the year that the investment is to be commissioned. This is illustrated by Project X, which is a cluster of three investments: investment A, investment B and investment C. Investment A is expected to be commissioned in 2024, whereas investment B and C are expected to be commissioned in 2023 and 2024 respectively.
- The assumption for Project X is that capital expenses for each investment are aggregated and represented as a single value in the year of its commissioning. Thus, the input the promoter should provide is given below:

CAPEX [M€]		COMMISSIONING YEAR
INVESTMENT A	40*	2022
INVESTMENT B	10*	2023
INVESTMENT C	20*	2024

1 TABLE: ILLUSTRATION OF CAPITAL EXPENDITURE INFORMATION TO BE PROVIDED BY PROJECT PROMOTERS

[Note*: the investment costs are real values in 2020 (for TYNDP2020]

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The provision of the CAPEX expenses in this way permits comparison of the project with other projects, as they can be discounted using common assumptions to the point in time for which the assessment is needed (the year in which the study is performed). **This step is not requested of the promoter**.

The costs shall be reported according to the investment status and related uncertainties, in the following manner:

• For mature investments in the permitting or under construction status:

Costs should be reported based on the current data of project promoters together with a transparently explained uncertainty range²⁵.

- For non-mature investments in the planned but not yet in permitting or under consideration status
 - 1. if detailed project costs information is available: this should be used and applied with the same principle as for mature investments.
 - 2. if detailed project costs information is not usually available, project promoters will multiply a set of standard investment costs (to be provided by ENTSO-E in the context of the TYNDP) with a defined project-specific complexity factor. Regarding the definition of the complexity factor, three situations should be applied:
 - a. giving a range for the standard costs per group of assets that includes a maximum and minimum value according to his expectations without project promoter explanation (see table below²⁶):
 - b. in case the project promoter according to his expectations chooses a complexity factor that exceeds the previous ranges, this choice should be explained using, for example, the description of project characteristics: e.g. terrain, routing, presence of historical landmarks, presence of other infrastructure, population density, special materials and designs, protected areas, etc.
 - c. in case the project promoter does not know anything about the project investments costs in this non-mature phase (including the effect of possible impacts of project characteristics), the costs should be equal to the standard investment costs using a complexity factor equal to 1.0^{27}

Finally, the investment costs will be one value to which an uncertainty range is applied.

The table of maximum and minimum complexity factor per group of assets is presented below:

Investment type	Maximum CF	Minimum CF
AC Onshore Overhead Lines (OHL)	1.30	0.50
AC Onshore Cable	1.20	0.70

²⁵ For example, information presented on National Investment Plans.

²⁶ Taken for example from the ACER report according with minimum and maximum interquartile.

²⁷ This information will be updated in future TYNDP when project promoters have more detail.





Investment	Maximum	Minimum
type	CF	CF
Subsea Cables	1.10	0.90
AC Substation	1.30	0.60
Transformer	1.30	0.70
HVDC	1.20	0.90
Converter		
Station		

TABLE OF MAXIMUM AND MINIMUM COMPLEXITY FACTOR PER GROUP OF ASSETS

OPERATING EXPENDITURE (OPEX): GUIDANCE FOR PROMOTERS

The following costs are to be considered as OPEX:

- Expected annual maintenance costs; and
- Expected annual operation costs.

These values are real values and are to be reported as an annual average figure in constant TYNDP year (e.g. 2020 euros for TYNDP 2024).

It is important to highlight what can be mistakenly considered as a component of the OPEX but **does not fall into this category**:

- system losses: they are considered in a dedicated indicator
- the cost of purchasing energy for storage investments: this is an internal variable for the SEW computation.

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ANNEX 3. DEDICATED INFORMATION TO PROJECTS PROMOTERS OF CATEGORIES A3, B AND C FROM TYNDP 2024

To ensure that project promoters belonging to the categories A3 + B + C, and who have been involved in TYNDP 2020, are informed about the submission window for the TYNDP 2024, ENTSO-E will follow the following steps:

- 1. On the opening of the submission window, ENTSO-E will notify by email all project promoters of categories A3, B and C who were included in the TYNDP 2020, using contacts made available by promoters in the TYNDP platform. ENTSO-E asks project promoters to acknowledge good reception by e-mail within 5 working days.
- 2. Two days before the end of the submission window, ENTSO-E sends a reminder to A3, B and C project promoters who did not apply.
- 3. At the closure of the submission window, ENTSO-E sends an email to A3, B and C project promoters who did not apply to inform them that they will not be included in the TYNDP 2024, with copy to the European Commission and ACER.

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ANNEX 4 – LIST OF ORGANISATIONS THAT MAY BE CONTACTED FOR THE REVIEW PROCESS FORESEEN IN SECTION 3.3

CEDEC

European Federation of Energy Traders

Ecostandard

European Association for Energy Storage

Eurelectric

Europacable

Friends of the Sustainable Grid

GEODE

Orgalime

Renewables Grid Initiative

Solar Power Europe

Wind Europe