

TYNDP 2022 GUIDANCE FOR APPLICANTS – TRANSMISSION AND STORAGE PROJECT PROMOTERS

CRITERIA FOR APPLICATIONS AND THEIR TREATMENT

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Introduction	4
Purpose and scope of the present document	4
Applicable legislation	4
Link between the TYNDP and PCI process	5
1. Application procedure and timeline	5
Time window to submit projects	6
How to submit applications	6
2. Criteria for inclusion in the TYNDP 2022	7
2.1 Eligibility criteria for all projects	7
2.2 Criteria for transmission projects	8
2.2.1 Administrative criteria for transmission projects and required documentation	8
2.2.2 Technical criteria for transmission projects and required documentation	12
2.3 Criteria for storage projects	14
2.3.1 Administrative criteria for storage projects and required documentation	14
2.3.2 Technical criteria for storage projects and required documentation	17
3. Assessment by ENTSO-E of the compliance of applications with inclusion criteria	20
3.1 Assessment by ENTSO-E of compliance with TYNDP inclusion criteria	20
3.2 Communication of ENTSO-E decision of admission/non-admission in TYNDP 2022	20
3.3 Right to request a review of a non-admission decision	21
3.3.1 Purpose and scope of the review procedure	21
3.3.2 How to request a review	21
3.3.3 Steps of the review process	21
4. Project CBA phase and preparation of TYNDP 2022 release	23
4.1 Requests by promoters to correct or update project data	23
4.2 Requests by ENTSO-E to confirm, correct or complete data	23
4.3 ENTSO-E studies envisaged in TYNDP 2022	24
4.4 Optional: Submission by promoters of non-mature indicators	24
4.5 Information of promoters during the TYNDP 2022 development	25
4.6 TYNDP 2022 project sheets	25
4.7 Promoters access to CBA results	26
5. Handling and publication of projects data.....	26
Annex 1. ENTSO-E contact person	27
Annex 2. Guidance on CAPEX and OPEX.....	28

Annex 3. Dedicated Information to projects promoters of categories A3, B and C from TYNDP 2020	31
Annex 4 – List of organisations that may be contacted for the review process foreseen in section 3.3	32

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.

Purpose and scope of the present document

The present document sets the rules, criteria and procedure for the valid submission of a transmission or storage project in the TYNDP 2022.

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, interested project promoters are encouraged to get directly in contact with ENTSO-E if they wish to explore the possibility of participating in potential discussions or modelling investigations on how these projects could be addressed in future editions. ENTSO-E will then consider performing study-case tests, but no cost-benefit analysis will be performed for power-to-X projects and power-to-X projects will not be part of the TYNDP 2022. 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.

A separate project submission process will be organised for Power-to-Gas projects, jointly with the European Network of Transmission System Operators for Gas ENTSOG. Further information regarding criteria, application process, timeline and assessment modalities will be communicated at a later stage in a separate document. Interested promoters may contact tyndp@entsoe.eu with any question.

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) No 347/2013 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 17 April 2013 on guidelines for trans-European energy infrastructure and repealing Decision No 1364/2006/EC and amending Regulations (EC) No 713/2009, (EC) No 714/2009 and (EC) No 715/2009 (Regulation (EC) 347/2013);
- COMMISSION RECOMMENDATION of 24 July 2018 on Guidelines on equal treatment and transparency criteria to be applied by ENTSO-E and ENTSG 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”).
- 3rd ENTSO-E Guideline for the cost-benefit analysis of grid development projects (submitted to the European Commission for approval on 22 March 2021)

IMPORTANT NOTICE: Ultimately only the EU Regulations 2019/943 and 347/2013 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) 347/2013 Annex II 2 (3), electricity transmission and storage 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 project of common interest 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) 347/2013 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 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 2022 for submission to ACER opinion in Q4 2022. The TYNDP application has several steps with mandatory deadlines, as visible in Figure 1.



FIGURE 1: ESTIMATED PHASES AND TIMELINE OF DEVELOPMENT OF THE TYNDP 2022

Time window to submit projects

All applicants must submit their project applications **between 15 September 2021 and 15 October 2021 at 12.00 midday CET (exact dates will be confirmed on the final version of this document)**. Both new projects and projects already included in previous TYNDPs must submit an application to be considered for inclusion in TYNDP 2022.

The opening of the submission window will be announced on entsoe.eu, in ENTSO-E’s newsletter, via email to all projects promoters of the TYNDP2020 and via email to all promoters registered on ENTSO-E’s mailing list of project promoters.

For projects that were included in the TYNDP 2020, the submission form will be pre-filled with the data available to ENTSO-E at the beginning of the submission window. 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 2020 projects from formally applying to TYNDP 2022 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.

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 2022

This section describes the technical and administrative criteria that each project of the TYNDP 2022 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 2022.

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 is eligible to apply in the TYNDP 2022:

- 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)¹
 - 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 relevance²; 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

¹ 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/>

² 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."

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.

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

Compliance with all criteria must be demonstrated at the time of the end of the TYNDP 2022 submission window.

All documentation must be provided in the English language as a scanned copy through the TYNDP projects platform.

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 3.2.1 by the submission deadline.

Promoter category	A1	A2	A3+B
a. Unbundling (all³)	<ul style="list-style-type: none"> a) The project promoter shall be a TSO certified in accordance with Article 52 or Article 53 of Directive (EU) 2019/944 or is granted a derogation in accordance with Article 66(3) of Directive (EU) 2019/944; or b) should demonstrate it has taken the steps to comply with the unbundling requirements of Directive (EU) 2019/944 and intends to apply for regulated status / certification; or c) should demonstrate any steps taken with regards to obtaining an exemption pursuant to Article 63 of Regulation (EU) 2019/943. 		

³ “(all)” after the criteria refers to projects at any advancement level, including “more advanced” and “under consideration”.

Promoter category	A1	A2	A3+B
	<p>Required documentation — on its own responsibility⁴, the project promoter shall alternatively:</p> <ul style="list-style-type: none"> 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 undertaking	
c. Financial strength (all)	The assets of the undertaking or its shareholders shall amount to at least 1 million euros.		
	Required documentation: Already available to ENTSO-E	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 proven with the company existence documentation.	
d. Technical expertise (all)	The project promoter has the technical expertise to realise the project by its own or by using subcontractors.		
	Required documentation: Already available to ENTSO-E	Required documentation: Information on the industrial undertaking and its technical expertise, including references from other relevant projects (e.g. company annual report,...)	

⁴ 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 advanced⁵ than under consideration.

	A1	A2	A3+B
e.PCI (all)	PCI label in the last available PCI list		
	Required documentation: PCI number as in the 5 th PCI list published by the European Commission. In case of application for inclusion in the 5 th PCI list, the promoter shall specify it in the submission platform. ENTSO-E will take into consideration its application and this criteria will be rechecked when the 5 th PCI list is published by the European Commission.		
f.National plan (more advanced)	Inclusion in the last available version of the National Development Plan (NDP) of at least one of the ENTSO-E hosting countries. <i>To satisfy this criterion, the project in question needs to be effectively included in the last available version of the NDPs (e.g. by explicit inclusion in the plan (not just by reference) of the project in question into the plan.)</i> If the project is included in the last available NDP of only one of the ENTSO-E hosting countries, the promoter must have provided sufficient information about the project to the other hosting TSO(s).		
	Required documentation: The reference of the project in the last available version of the National Development Plans of at least one of the ENTSO-E hosting countries. When the project is included in the last available NDP of only one of the hosting countries: statement (letter or email) from the other TSO(s) concerned that the TSOs have received at least all the information about the Project which is supposed to be published in the TYNDP Project Sheets. The promoter should 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 as included in the plan. If the original NDP is not in the English language, the promoter must provide translations of the relevant part(s) mentioning the project. In case of differences between the data provided in the TYNDP 2022 submission form and the data mentioned in the NDP, the promoter must provide explanation and justification of those differences.		
g. National plan (under consideration)	Inclusion in the last available version of the National Development Plan (NDP) of at least one ENTSO-E country. <i>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 consideration (not just by reference) of the project in question into the draft plan.)</i> If the project is included in the last available NDP of only one of the ENTSO-E hosting countries, the promoter must have provided sufficient information about the project to the other hosting TSO(s).		
	Required documentation: The reference of the project in the last available version of the National Development Plans of at least one ENTSO-E country. When the project is included in the last available NDP of only one of the hosting countries: statement (letter or email) from the other TSO(s) concerned that the TSOs have received at least all the information about the Project which is supposed to be published in the TYNDP Project Sheets.		

⁵ **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**.

	A1	A2	A3+B
	<p>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 as included in the draft plan. If the original NDP is not in the English language, the promoter must provide translations of the relevant part mentioning the project.</p> <p>In case of difference in the data indicated compared to the respective data of NDPs the explanation and justification of those differences should be provided</p>		
h.Member State / NRA support (under consideration)	<p>Project shall have a signed agreement between the competent ministries or regulators or a letter of support from at least one of the competent ministries or regulatory authorities.</p>		
	<p>Required documentation: 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, from at least one of the ministries or regulatory authorities concerned, stating the explicit support for the project to be part of the TYNDP 2022.</p>		
i.Exemption process (more advanced)	<p>Valid (not rejected) application for exemption under the European regulations (Article 24 of Regulation (EC) 943/2019) or equivalent</p>		
	<p>Required documentation: The acknowledgment receipt of the application for the exemption pursuant to Art. 24 of Regulation (EC) No 943/2019 from the responsible regulatory authorities of the concerned EU countries.</p>		
j.TSO agreement (under consideration)	<p>Signed agreement⁶ with all the concerned TSOs members of ENTSO-E</p>		
	<p>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 2022 process.</p>	<p>Required documentation: The signed common agreement with the concerned TSO/s who is/are member/s of ENTSO-E, regarding the development of the submitted project.</p>	
k.Studies (under consideration)	<p>Resulting from an ENTSO-E system needs study (Identification of System Needs or Regional Investment Plans).</p>		<p>By the end of the TYNDP 2022 submission window, delivery of all relevant information to all the concerned TSOs to facilitate a pre-feasibility or feasibility study; or signed contractual agreement with all the concerned TSOs to perform a pre-feasibility or feasibility study; or a positive⁷ feasibility study (within the validity period) performed or approved by all the concerned TSOs.</p>
	<p>Required documentation: Title and year of the ENTSOE-E system needs study, page</p>		<p>Required documentation: The proof of delivery⁸ of all relevant information to all the concerned TSOs within the last 6 months to facilitate a pre-</p>

⁶ 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).

⁷ 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

⁸ 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.

	A1	A2	A3+B
	number where the need is mentioned and explanation on how the document demonstrates a need for the project	feasibility or feasibility study according to national laws or procedures if it is specified on the national laws or procedures; or the signed contractual agreement with all the concerned TSOs to perform a pre-feasibility or feasibility study; or all the impacted ENTSO-E TSO positive feasibility ⁹ /pre-feasibility ¹⁰ studies, 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. 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.

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 (all)	<ul style="list-style-type: none"> a) 1 Single Point of Contact (SPOC) with email and phone number b) At least one delegated contacts: email and phone number. They are responsible for receiving TYNDP communications in the event emailing the SPOC triggers an out-of-office or failed delivery notification 	<ul style="list-style-type: none"> a) 1 SPOC with email and phone number b) At least one 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 	

2.2.2 Technical criteria for transmission projects and required documentation

⁹ & 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.*

¹⁰ & 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.*

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.

	A1	A2	A3+B
m. Technical description	Main investment is: <ul style="list-style-type: none"> - a high-voltage overhead transmission line designed for a transmission voltage of 110 kV or more in the case of direct cross-border infrastructure OR - a high-voltage overhead transmission line designed for a transmission voltage of 220 kV or more in the case of internal infrastructure OR - a high voltage underground/submarine transmission cable designed for a voltage of 110KV or more - equipment other than a line or cable (e.g. reactive compensation) that is necessary for the operation of another project or investment which is included in the TYNDP. 		
	Required information: <ul style="list-style-type: none"> - A brief technical description of the project - identification of the main investment item(s), with technology (AC/DC) and voltage level; end-substations, km of route, etc. - identification of additional investment item(s), with technology (AC/DC) and voltage level; end-substations, km of route, etc. 		
n. Location	Main investment at least is partially located in one of the countries represented within ENTSO-E		
	Required information: Location of the project in the ENTSO-E map		
o. Initial estimation of the Transfer capacity increase	The initial estimation of the net transfer capacity increase (NTC) expressed in MW in both directions (direct and reverse) where: <ul style="list-style-type: none"> - for cross-border infrastructure : no minimum limit is imposed - for internal infrastructure: no minimum limit is imposed. If the impact on the NTC is under 100 MW, projects must be planned to ensure security of supply or load growth, allow new generation connection or reduce redispatch volume. 		
	The border between 2 market areas should be indicated with the reference market area being the one first in alphabetic order.		
	NB: Projects that will be candidate for PCI status in the 6 th PCI list must, at the time of application to TYNDP 2022, inform ENTSO-E of the need to perform calculation of capacity increase between two EU Member States (in line with the CBA Guideline 3.0). Promoters will be asked later on to provide the capacity increase expected at the respective internal EU Member States borders, alongside with any supporting technical document in line with the CBA Guideline 3.0. Please note that this element is a pre-condition to apply to PCI status.		
p. Project network modelling data	All the project characteristics necessary to model the project in the network tool used by ENTSO-E in the assessment process NB: Providing this information is only compulsory for projects for which ENTSO-E will perform network studies according to Section 4.3 (projects with a commissioning year up until 2034 included)		
	Required information: <ul style="list-style-type: none"> i. Electro-technical parameters of the project which are necessary to model the proposed investment in the network studies: <ul style="list-style-type: none"> For an alternating current (AC) infrastructure: connection points (substations name), nominal voltage, type of conductor, nr/phases, resistance (R), reactance (X), conductance (B), winter and summer 		

	A1	A2	A3+B
	<p>thermal limits (Imax), km of the whole route (for a line/cable), km of the route to each border if the infrastructure is a tie-line;</p> <p>For a direct current (DC) infrastructure: connection points (substations name), type of conductor, type of converters (VSC/LCC), nominal voltage, capacity, km to each border if the infrastructure is a tie-line, winter and summer thermal limit (Imax), Mvar capability range at terminals, bus-bar to bus-bar losses profile over MW range, idle losses and losses at Pnom;</p> <p>ii. Expected yearly unavailability, differentiating between planned and forced outages, and the maximum single failure according to the design.</p> <p>In case of projects other than in the “under consideration” status, the list and features of the internal reinforcements required to connect the project in the transmission network based on the affected TSOs analysis.</p> <p>ENTSO-E may require or specify further technical data for modelling needs during the Cost-Benefit Analysis assessment for TYNDP 2022 which shall be provided by the project promoters upon ENTSO-E’s request.</p>		
q. Date of commissioning, status and costs	<ul style="list-style-type: none"> - Date of commissioning and status of each of the investment items part of the project. <ul style="list-style-type: none"> o 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. o 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 3.0. o 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 explanation. - CAPEX and OPEX of each of the investment items part of the project (see Annex 2 for guidance on CAPEX and OPEX). <p>Note: Cost data is mandatory and therefore any non-compliance will result in exclusion from the final TYNDP.</p> <p>Required information:</p> <ul style="list-style-type: none"> i. An estimation of the commissioning date for each investment item 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 for each investment item, indicating whether the investment is ”under consideration” (prefeasibility/feasibility studies), “planned, but not yet in permitting”, “in permitting” or “under construction” v. The investment cost of each investment item given at the commissioning year (but discounted to the TYNDP year) and yearly operation and maintenance cost: CAPEX+OPEX. 		

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.

	C
b. Company existence (all¹¹)	<p>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”)</p> <p>Required documentation: The statutes of the registered undertaking</p>
c. Financial strength (all)	<p>The assets of the undertaking or its shareholders shall amount to at least 1 million euros</p> <p>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.</p>
d. Technical expertise (all)	<p>The project promoter has the technical expertise to realise the project on its own or by using subcontractors.</p> <p>Required documentation: Information on the industrial undertaking and its technical expertise, including references from other relevant projects (e.g. company annual report, ...)</p>

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.

	C
e. PCI (all)	<p>PCI label in the last available PCI list</p> <p>Required documentation: PCI number in the 5th EC PCI list. In case of application for inclusion in the 5th PCI list, the promoter shall specify it in the submission form. ENTSO-E will take into consideration its application and this criteria will be rechecked when the 5th PCI list is published by the European Commission.</p>
f. National plan (more advanced)	<p>Inclusion in the last available version of the National Development Plan (NDP) of the ENTSO-E country where the storage infrastructure will be built. <i>To satisfy this criteria, 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) of the project in question into the plan). This applies to those countries where the NDP is supposed to include storage projects.</i></p> <p>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 2022 submission form and the data mentioned in the NDP, the promoter must provide explanation and justification of those differences.</p>
	<p>Inclusion in the last available version of the National Development Plan (NDP) of the ENTSO-E country where the storage infrastructure will be built. <i>To satisfy this criteria, the project in question needs to be effectively</i></p>

¹¹ “(all)” after the criteria refers to projects at any advancement level, including “more advanced” and “under consideration”

<p>g. National plan (under consideration)</p>	<p><i>included in the last available version of the NDP (e.g. by explicit consideration (not just by reference) of the project in question into the draft plan). This applies for those countries where the NDP is supposed to include storage projects.</i></p> <p>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 justification of those differences should be provided</p>
<p>h. Member States / NRA agreement (under consideration)</p>	<p>Signed agreement between the competent ministries or regulators or a letter of support from at least one of the competent ministries or regulatory authorities.</p> <p>Required documentation: 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, from at least one of the ministries or regulatory authorities concerned, stating the explicit support for the project to be included in the TYNDP 2022.</p>
<p>i. TSO agreement or processes (more advanced)</p>	<p>Signed connection agreement with the TSO within the ENTSO-E country where the storage will be built.</p> <p>Required documentation: The signed connection agreement with the impacted TSO.</p>
<p>j. Studies (under consideration)</p>	<p>Feasibility/pre-feasibility study performed by the TSO within the ENTSO-E country where the storage will 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 2022 submission deadline of all relevant information to the concerned TSOs to facilitate a pre-feasibility or feasibility study</p> <p>Required documentation: The impacted ENTSO-E TSO feasibility¹²/pre-feasibility¹³ 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 study¹⁴ according to national laws and procedures if it is specified on the national laws or procedures.</p>

Indifferently of the additional administrative criteria f) to l) 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

¹² 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.

¹³ 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.

¹⁴ 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.

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. 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 status 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)	<ul style="list-style-type: none"> a) 1 SPOC with email and phone number b) 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.
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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.

C	
j. Technical description	<p>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.</p> <p>Required information: Brief technical description of the storage project: type of storage (hydro, pure pumping or including natural inflow; battery, type of technology used; etc.)</p>
k. Capacity & Generation	<p>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/year¹⁵.</p> <p>Required information:</p> <ul style="list-style-type: none"> i. Installed electric generating capacity¹⁶, including maximum active power (MW) and reactive power (Mvar), and minimum values different from zero.

¹⁵ Regulation (EU) 347/2013, Annex IV.1. (b);

¹⁶ Must be higher than 225 MW - As requested by Regulation (EU) 347/2013, annex IV, Art. 1(b);

	<ul style="list-style-type: none"> ii. Total storage capacity¹⁷, and installed electric storing capacity including maximum active power (MW) and reactive power (Mvar), and minimum values different from zero.
l. Voltage level	<p>The project is directly connected to the high-voltage transmission network for a voltage of 110kV or more¹⁸</p> <p>Required information: The connection point to the transmission infrastructure, the voltage at the connection point ($\geq 110\text{kV}$)</p>
m. Location	<p>The project is at least partially located and directly connected to one of the countries represented within ENTSO-E</p> <p>Required information: Location of the project in the ENTSO-E map</p>
n. Project network/market modelling data	<p>All the project characteristics necessary to model the project in the network tool used by ENTSO-E in the assessment process.</p> <p>Required information:</p> <ul style="list-style-type: none"> - 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) <p>ENTSO-E may require or specify further technical data for modelling needs during the Cost-Benefit Analysis assessment for TYNDP 2022 which shall be provided by the project promoters upon ENTSO-E's request.</p>
o. Date of commissioning, status of the project and costs	<ul style="list-style-type: none"> - 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 3.0. 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 explanation. - CAPEX and OPEX of the project (see Annex 2 for guidance on CAPEX and OPEX). <p>Note: This data is mandatory and therefore any non-compliance will result in exclusion from the final TYNDP.</p> <p>Required information:</p> <ul style="list-style-type: none"> i. An estimation of the commissioning date 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

¹⁷ Storage capacity should be defined as total energy delivered to the grid when reservoir is totally emptied, starting at reservoir full condition.

¹⁸ Regulation (EU) No 347/2013, Annex II.1. (c)

	<ul style="list-style-type: none"> 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 (for PHES)
	Required information and documentation: Yes/no answer If yes, natural inflow profile

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 2022.

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

The TYNDP 2022 project list will be consulted within the TYNDP 2022 package, and may be modified in the final TYNDP 2022 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 right to exclude the project from TYNDP.

3.2 Communication of ENTSO-E decision of admission/non-admission in TYNDP 2022

After the end of the applications assessment period, ENTSO-E will notify project promoters 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 2022 but were not admitted together with a justification for the rejection.

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 2022 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 2022.

ENTSOE 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. ENTSOE 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

Where ENTSO-E has issued a rejection decision to a candidate, the decision document provides the rejected project promoter 10 working days from the date of the decision document 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
At least 3 weeks after ENTSO-E's rejection notification	<p>If deemed necessary by ENTSO-E, 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:</p> <ul style="list-style-type: none"> - 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	<p>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</p> <p>By one week after the hearing, stakeholders inform ENTSO-E of their non-binding opinion (or decision not to provide an opinion) in writing.</p>
By 5 weeks after reception of stakeholders recommendation	<p>The System Development Committee of ENTSO-E adopts a decision. ENTSO-E notifies the project promoter of its decision, including the reasons for it.</p> <p>The position(s) expressed by stakeholders will be made public in a short summary of the hearing released on entsoe.eu.</p>

Figure 2. Provisional timeline for the review process

4. PROJECT CBA PHASE AND PREPARATION OF TYNDP 2022 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 endeavor 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 2022, 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 2022, 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.

4.3 ENTSO-E studies envisaged in TYNDP 2022

Figure 3 shows studies envisaged in TYNDP 2022, depending on the commissioning year of the project. This is tentative and subject to change. All projects included in the EU TYNDP will have their assessment; either market-only or full CBA.

Project commissioning year	Time horizon	Scenario	Studies
Until 2034 included	2030	Central scenario	Full CBA including network computations (losses)
		Variance scenarios	Market-only CBA (except B6)
	2040	All scenarios	Market-only CBA (except B6)
2035 and above	2040	All scenarios	Market-only CBA

Figure 3. Preliminary scope of studies envisaged in TYNDP 2022

4.4 Optional: Submission by promoters of non-mature indicators

CBA Guideline 3.0 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 2022, 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 2022 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 3.0. 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 2022 project promoters by Q1 2022.

4.5 Information of promoters during the TYNDP 2022 development

ENTSO-E will keep project promoters informed at key stages in the TYNDP 2022 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 3 business days.

4.6 TYNDP 2022 project sheets

Information on TYNDP 2022 projects will be published within the TYNDP 2022 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 2020 project sheets can be viewed [here](#). TYNDP 2022 project sheets, without being completely similar to TYNDP 2020 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 2022. A project sheets completion window will be organised in the spring of

2022, 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 3.0 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 2022.

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.

Third party promoters may receive upon their 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).

ANNEX 1. ENTSO-E CONTACT PERSON

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

- Email: nalan.buyuk@entsoe.eu
- Phone: +32 2 741 86 29
- Address: Nalan Buyuk, rue de Spa 8, 1000, Brussels, Belgium

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 2022-30 the values are to be represented in constant 2022 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 2022, 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)]

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 range¹⁹.

- **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 below²⁰);
 - 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 1.0²¹.

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:

¹⁹ For example, information presented on National Investment Plans.

²⁰ Taken for example from the ACER report according with minimum and maximum interquartile.

²¹ This information will be updated in future TYNDP when project promoters have more detail.

Investment type	Maximum CF	Minimum CF
AC Onshore Overhead Lines (OHL)	1.30	0.50
AC Onshore Cable	1.20	0.70
Subsea Cables	1.10	0.90
AC Substation	1.30	0.60
Transformer	1.30	0.70
HVDC Converter Station	1.20	0.90

2

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 2022).

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.

ANNEX 3. DEDICATED INFORMATION TO PROJECTS PROMOTERS OF CATEGORIES A3, B AND C FROM TYNDP 2020

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 2022, 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 2022, with copy to the European Commission and ACER.

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