Project sheets template –TYNDP 2018 updated

Project description [PROMOTER]: this part includes:

- the name of the project, short technical description of the project
- Specify if the project is an interconnector or is a generation connection project

System Needs addressed by the project [ENTSOE and PROMOTER]:

- Need selected from list prepared by ENTSOE
- Justification by project promoter

PROJECT PROMOTERS [PROMOTERS]:

PROJECT CONSIDERED IN THE REFERENCE GRID [ENTSO-E]: [yes/no]

NETWORK BOUNDARY IT HELPS MITIGATE [ENTSO-E]:

PCI LABEL – 3RD LIST 23 NOVEMBER 2017 [PROMOTER]:

LAST APPROVED NATIONAL DEVELOPMENT PLAN/S NUMBER & PAGE [PROMOTER]:

- [name country, NDP number and page (for the page mention the page where you have the first time the project description]
- [if not yet in a final NDP then include here the explanation of why not – e.g. currently is only in the draft NDP; the NDP is will be updated in 3 years and the project will opt to be included in the next NDP...]

Location of the project on the map [PROMOTER]

[Extract from the TYNDP map – note: this map shall include also the boundary the project helps mitigating]

INVEST	INVESTMENTS PART OF THE PROJECT [PROMOTER]							
Inv ID	Short description	Type of storage [ENTSO-E]	Present status	Commissioning date	Evolution driver	Explanation in case of delay		
	The project							

Inv ID	Storage Capacity (GWh)	Connection Point Voltage (kV)	Max Active Power (MW)	Lifetime (years)	Efficiency (%)	Total Generating Capacity (MW)	Total Storage Capacity (MW)
	The project						

CLUSTERING EXPLANATION [PROMOTER]:

- explain here why the investments above form a project – basically why you clustered them

PROJECT COST BENEFIT ANALYSIS RESULTS

HOW TO READ THE CBA RESULTS [ENTSO-E]: [This is expected to be a general text common for all the projects]

DISCLAIMER [PROMOTER]: [Any disclaimer we find useful to have for this specific project]

PROJECT BENEFITS [ENTSO-E FOR ALL VOICES BUT B4 ASSIGNED TO PROMOTERS ONLY]

CBA inc	dicator	2025 Best Estimate	2030 Sustainable transition	2030 EUCO	2030 Distributed generation
B1. Socio-eco [M Euro/year] (no different cli	nomic welfare te: ranges to cover mate years)				
Out of fuel savings due to in Euro/	which ntegration of RES [M 'year]				
Out of avoided CO2 en Euro/	which nission costs [M ′year]				
B2. RES in [MW or M	itegration IWh/year]	[specify the measuring unit]	[specify the measuring unit]	[specify the measuring unit]	[specify the measuring unit]
B3. Variation in [k ton/year] ("-" dec	CO2 emissions crease; "+" increase)				
3 CLIMATE Y	EARS SENSITIVITY BA	AR CHARTS ENTS	O-E proposal: B1	L SEW, B2 RES, B	3 CO2
Impact of Climate 35 30 25 20 15 10 5 0 1982	e Years on project X	1982 1982 1984 Climate Year	2007	1982 1984 Climate Year	2007
link to the TYNDP rep	ort section in which the to underline s	e methodology us pecial climate con	ed to choose the 3 ditions of the regi	CY is explained a	nd a disclaimer
CBA in	dicator	2025 Best Estimate	2030 Sustainable transition	2030 EUCO	2030 Distributed generation
B4. Societal well- being as a result of	Societal well-being as a result of integrating RES	 Valorisation Quantified v Qualitative i 	(Monetarised valu value - mention also information (concis	ie [M Euro]/year, <u>I</u> o the unit , If not p se)	f not possible ossible
RES integration and a change in CO2 emissions [promoter]	Societal well-being as a result of avoiding CO2 emissions	 Justification (Which share of the benefit addresses EU constraints of the study the value above resulted from assumptions of the study, who has conducted the study, the study, Study horizons, did any national authority approximations, Link to the study, Link to a study from a well institute used as solid base for the indicator provided 			es EU countries, ed from, Main ee study, Year of rity approve the n a well-known rided

PROJECT COST BENEFIT ANALYSIS RESULTS

PROJECT BENEFITS [ENTSO-E FOR ALL VOICES BUT B4 ASSIGNED TO PROMOTERS ONLY]

CBA indicator		2025 Best Estimate	2030 Sustainable transition	2030 EUCO	2030 Distributed generation
B5. Variation in grid losses [M Euro/year] ("-" decrease; "+" increase)					
B6. Security of su meet c	B6. Security of supply – Adequacy to meet demand				
Energy not serv	ved [MWh/year]				
Additional adeque	acy margin [MWh]				
	Response time – FCR (Frequency Containment Reserve)	0 = more than 30 s += less than 30 s ++= less than 1			
R7 Security of	Response time – including delay time of IT and control systems	0 = more than 200 s += less than 200 s ++= less than 30 s			
supply - system flexibility [%] [promoter]	Duration at rated power – total time during which available power can be sustained	0 = less than 1 min+= less than 15 min++= 15 min or more			
can be sustained Available power – power that is continuously available within the activation time		0 = below += 20 - 2 ++= 225 MV	20 MW 225 MW W or higher		
B8. Security of supply - system	Transient Stability				
stability	Voltage Stability				
(invariable over scenarios)	Frequency Stability				

Explanation of the project CBA benefits – this part to not be more than ½ page [promoters]

- This cell is to be used by promoter to comment the CBA results presented above
- Guidelines examples TYNDP 2016

How the project fits to the regional trends [promoters using storyline – ENTSO-E]:

Here you can add an additional comment on top of the needs already declared.

You will need to extract the key messages/drivers of the Regional Investment Plans that are matched by your project.

- <u>Region BS:</u> select among the drivers of Section 1.2: Key messages of the region
- <u>Region CCE:</u> select among the key messages of Section 1.2: Key messages of the region
- <u>Region CCS:</u> select among the main drivers of Section 1.2: Key messages of the region
- <u>Region CSE:</u> select among the main drivers of Section 1.2: Key messages of the region
- <u>Region CSW:</u> select among the main findings of Section 1.2: Key messages of the region
- <u>Region NS:</u> select among the challenges of Section 1.2: Key messages of the region

B6 indicator: Security of Supply - Adequacy to meet demand [Test ENTSO-E and/or promoter]	 Valorisation (Monetarised value [MEuro]/year, If not possible Quantified value - mention also the unit, Justification for the absence of monetarised value)
Monetarisation of B7 indicator Security of Supply – System Flexibility [promoter] Alternative indicator of CBA benefits better captured with time granularity of the models (15 minutes steps for storage projects instead of 1h step foreseen in the CBA)	• Justification (Which share of the benefit addresses EU countries, Name of the study the value above resulted from, Main assumptions of the study Who has conducted the study, Year of the study, Study horizons, Did any national authority approve the study, Link to the study, Link to a study from a well-known institute used as solid base for the indicator provided Link to/Upload of a document with methodology presented (it must be aligned with the guidance on the monetisation provided in the "Guideline on the declaration of "Additional benefits" and "monetisation of CBA indicators "in the TYNDP 2018" for alternative indicators conv. the
Adequacy to meet demand: alternative indicator to quantify avoided investments in peaking capacity	relevant text here and include the reference page and chapter

Additional benefits [Promoter]

This cell is to be used by promoters to include additional benefits which are not reflected in the European assessment.

All the benefits highlighted here are expected to be monetized or least quantified and the assumptions behind these additional benefits to be clearly presented and if available the links to the studies behind this information to be added.

The additional benefits will be collected according the process defined in the ENTSO-E document: **Guideline on the** declaration of "Additional benefits" and "monetisation of CBA indicators "in the TYNDP 2018

RESIDUAL IMPACT [PROMOTER]

Residual environmental impact [promoter]	Text from the promoter
Residual social impact [promoter]	Text from the promoter
Other residual impacts [promoter]	Text from the promoter

Complementary information about the border on which the project is located [ENTSO-E]

	2025 Best Estimate	2030 Sustainable transition	2030 EUCO	2030 Distributed generation
Average marginal cost difference in the reference case [€/MWh]				
Standard deviation marginal cost difference in the reference case [€/MWh]				
Reduction of marginal cost difference due to all mid-term and long-term projects [€/MWh]				
Congestion rates avoided with the project				

Additional Information [PROMOTER]:

- Include useful links: [project website, NDPs links, national legislation where the need for the project is specified, etc.]

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COST	DROMOTER	•
COST		•

- for more advanced projects the costs is the promoters own estimation

Invest nr.	CAPEX [M Euro]	Uncertainty range	OPEX [M Euro/year]
Total project cost			

Explanation of the cost values and uncertainty range [promoter]

- for investments under consideration the costs is derived by using the standard cost multiplied complexity factor

Invest nr.	Standard cost [M Euro] [source: ENTSO- E/ACER]	Complexity factor	OPEX [M Euro/year]			
Total project cost						
Explanation of the chosen complexity factor [promoter]						