



Guidelines for Project Inclusion for ENTSOG's TYNDP 2024

Presentation of draft GPI

Public webinars on 12 and 19 September 2023

System Development Team

Background



- GPI is a requirement of Annex III.2(5) of the TEN-E Regulation
- GPI content must be consulted with European Commission and ACER
 - ENTSOG to take due account of EC's and ACER's recommendations.
- Objective is to ensure equal treatment and the transparency of the process of project inclusion into the TYNDP Guidelines for inclusion of projects in the TYNDP 2024
- GPI's main content:
 - Describes different types of applicants to TYNDP
 - Includes administrative and technical criteria that the promoters and their projects need to fulfilled
 - Lists documents and information that project promoters will be required to submit to fulfil the criteria
 - Includes information on the data use and circulation of the information submitted

Structure of draft GPI for TYNDP 2024



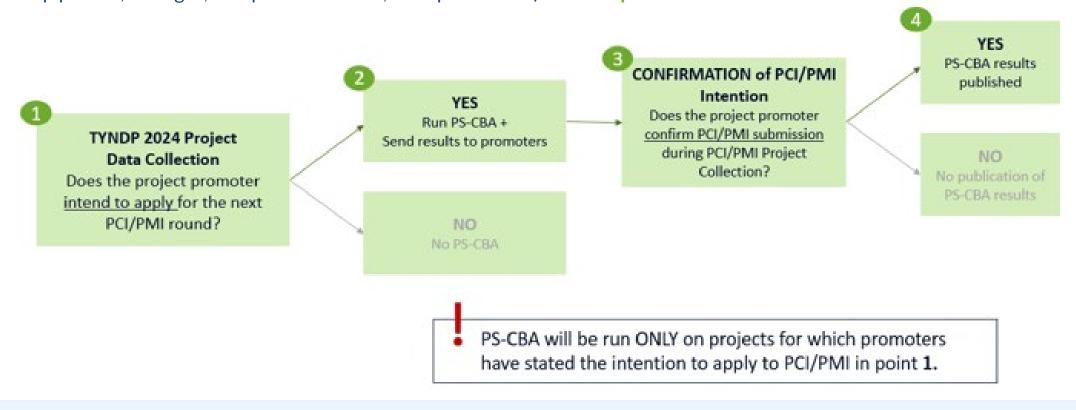
- 1. Introduction
- 2. TYNDP process
- 3. Criteria to be fulfilled to allow a project to be part of TYNDP 2024
 - 1. Head categories
 - Administrative criteria
 - Technical criteria
- 4. Data handling
- 5. Project maturity status
- 6. Common guidelines for projects relevant for joint ENTSO-E/ENTSOG assessment
- 7. Annexes



Steps for PCI/PMI candidates

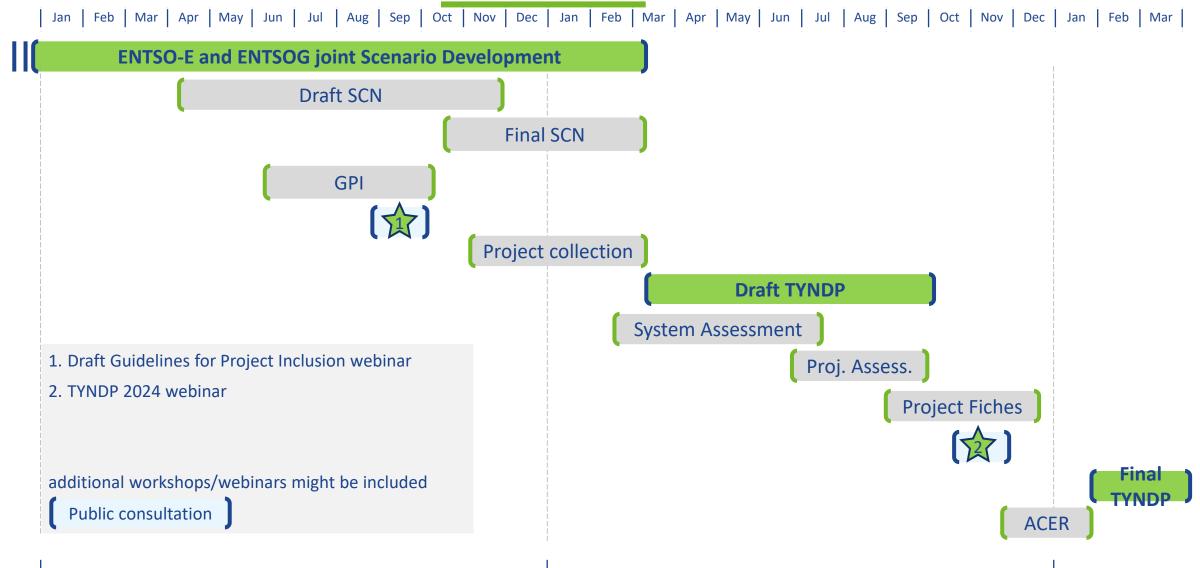


- Besides a general system assessment, the TYNDP provides input to the PCI* and PMI** selection process through project-specific cost-benefit analyses (PS-CBA)
- Candidate hydrogen projects for the PCI or PMI status that are described in Annex II(3) of the TEN-E Regulation (i.e., pipelines, storages, reception terminals, transport sector) must be part of the latest available ENTSOG TYNDP



TYNDP 2024 Timeline







Timeline of GPI for TYNDP 2024



_++	September
12	September

Publication of ENTSOG's draft Guidelines for Project Inclusion document for TYNDP 2024 (draft GPI)

Start of public consultation on draft GPI via online survey*

1st Webinar on the draft GPI for potential TYNDP project promoters and stakeholders



2nd Webinar on the draft GPI for potential TYNDP project promoters and stakeholders



September End of public consultation on draft GPI



Expected **publication** of the **final GPI**

TYNDP 2024 project submission process timeline



PREPARATION phase:

- Publication of **final GPI** for TYNDP 2024
- Publication of documentation kit for TYNDP 2024 (Project submission handbook for TYNDP 2024)

2 SUBMISSION phase:

- Submission window for TYNDP 2024 applicants through ENTSOG's project portal
- Following final GPI and project submission handbook

3 CHECK and VALIDATION phase:

- ENTSOG compliance check with GPI
- ENTSOG & promoters check project submissions
- ENTSOG & promoters interactions
- Correction window

3.1 INPUT CHECK phase

3.2 CORRECTION phase

2024

Sep Oct Nov Dec Jan





- Draft GIP proposes a structure with 4 head categories with different sub-categories
- Head categories defined based on energy carrier

Natural gas

3 sub-categories

TRA NG Transmission

LNG LNG terminals

UGS NG Storage

Hydrogen

Alignment with revised TEN-E Regulation

7 sub-categories

2T H2 Transmission* H2M H2 Mobility in TS*

H2S H2 Storage*

H2L H2 Reception terminals*

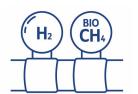
H2E H2 Electrolyser**

H2E H2 Export terminals

H2P H2 Production from

Natural Gas

Renewable gases (Smart Gas Grids**)



3 sub-categories

RET Retrofitting

BIO Biomethane

SYN Synthetic methane

Other



2 sub-categories

CO2 CO2 transport ***

OTH Other

Administrative criteria



Project promoter categories:

- **A.** Company which is a Member, Observer or Associated Partner of ENTSOG or an entity being a partner of the company in the same project or having a shareholding relation with this company.
- **B.** Company which is a licensed SSO, LSO, DSO but not Member, Observer or Associated Partner of ENTSOG or TSO, which is certified or exempted from unbundling but not Member, Observer or Associated Partner of ENTSOG.
- C. Any other company (including Governmental Bodies at national level).

Project promoter categories are used for simplification and check of the fulfilment of the administrative criteria of promoters during TYNDP project submission

Administrative criteria



TYNDP 2022 PID included different administrative criteria for each type of project category

Draft GPI proposes the same administrative criteria for all project promoters

All criteria 1 to 3 must be passed by the project promoter

No	Criteria	Promoter A + B + C
1	Company existence	The project promoter shall be a registered undertaking or a subsidiary of a
	(all)	registered undertaking. The company has to be in existence for at least 1 year
		before the date of submission (except for projects "Under consideration" 11).
2	Financial strength	The assets of the undertaking or its shareholders shall amount to at least 1 million
	(all)	EUR.
3	Technical expertise	The project promoter has the technical expertise to realize the project by its own
	(all)	or by using subcontractors.

Administrative criteria



TYNDP 2022 PID included different administrative criteria for each type of project category

Draft GPI proposes the same administrative criteria for all project promoters

At least one of the following criteria must be passed for the project

No	Criteria	Promoter A + B + C
4	PCI/PMI (all)	The project is a PCI/PMI on the latest available Union list in force
		or adopted as a delegated act.
5	FID (all)	The project has taken the FID status.
6	National plan (all)	Inclusion in the latest available national Network Development
		Plan (hereafter "NDP") or national/governmental strategy or
		national law.
7	IPCEI (all)	The project is included in the Important Projects of Common
		European Interest (hereafter "IPCEI") list approved by the EC.13
8	Market test (all)	The project has completed a market consultation process.
9	(Pre-)Feasibility study (all)	Completed (pre-)feasibility study for the project.
10	Agreement with the Member State	Project shall have a signed agreement with the competent
	(MS) / National Regulatory	ministries or regulators or a letter of support from
- 2	Authority (NRA) (UC)	the competent ministries or national regulatory authorities.
11	TSO agreement (TSO) (UC)	Signed Agreement with the concerned TSO(s) regarding the
		development of the submitted project.



Technical criteria



Draft GPI proposes different technical criteria depending on the subcategory of infrastructure

Technical criteria includes a list of technical pass-fail criteria

- Definition of the infrastructure (sub-category)
- Location
- Project data

Includes the detail of <u>minimum required information</u> to be provided to successfully complete TYNDP 2024 project submission

Mandatory project data:

- Common for all project categories (Costs, commissioning year, project status)
- Main technical parameters according to the infrastructure sub-category

In comparison to TYNDP 2022 PID higher data requirements (as only capacity increment and commissioning year were explicitly mentioned in the TYNDP 2022 PID).

Technical criteria: Natural gas transmission projects (TRA)



1. Project description	Natural gas transmission pipeline with the purpose to transmit gas to/from an interconnection point or be an enabler or enhancer of a pipeline with the purpose to transmit gas, to/from an interconnection point	 → Project description → Identification main and additional investments → Relation with other project(s)
2. Location	 → Located in one of the countries included in the geographical perimeter of the TYNDP → Countries hosting gas "supply chain" projects bringing additional gas sources to EU border 	→ Location of the project in the ENTSOG map
3. Project data	 → Estimated technical capacity increase at an IP → Commissioning year → Main technical parameters → Costs (main and additional investments) → Project schedule (including justification) 	 → Additional technical capacity (GWh/d) per IP and year → Length pipeline (km) → Nominal diameter (mm) → Compressor power (MW) → CAPEX (M€) and OPEX (M€/y)
4. Relevant Authority non-binding consent	→ Project not included in the latest NDP shall have the consent of the relevant authority	 → Signed agreement with the competent ministries or NRAs → Letter of support from at least one of the competent ministries or NRAs

Technical criteria: Natural gas storage projects (UGS)



1. Project description	The project shall be a new natural gas storage facility or an upgrade of an existing natural gas storage used for storing natural gas in underground reservoirs under pressure, to be connected to a natural gas transmission pipeline	 → Project description → Identification main and additional investments → Relation with other project(s)
2. Location	→ Located in one of the countries included in the geographical perimeter of the TYNDP	→ Location of the project in the ENTSOG map
3. Project data	 → Estimated technical capacity increase at an IP → Commissioning year → Main technical parameters → Costs (main and additional investments) → Project schedule (including justification) 	 → Additional injection & withdrawal capacity (GWh/d) per IP and year → Working gas volume (GWh) → Geometrical volume (Nm3) → Compressor power (MW) → CAPEX (M€) and OPEX (M€/y) → Project schedule
4. Relevant Authority non-binding consent	→ Project not included in the latest NDP shall have the consent of the relevant authority	 → Signed agreement with the competent ministries or NRAs → Letter of support from at least one of the competent ministries or NRAs

Technical criteria: Liquified natural gas terminal projects (LNG)



1. Project description	The project shall be a new LNG terminal or an upgrade of an existing terminal and be connected to a gas transmission pipeline	 → Project description → Identification main and additional investments → Relation with other project(s)
2. Location	→ Located in one of the countries included in the geographical perimeter of the TYNDP	→ Location of the project in the ENTSOG map
3. Project data	 → Estimated technical capacity increase at an IP → Commissioning year → Main technical parameters → Costs (main and additional investments) → Project schedule (including justification) 	 → LNG import capacity (GWh/d) per IP and year → Injection into the transmission network (GWh/d) → CAPEX (M€) and OPEX (M€/y) → Project schedule
4. Relevant Authority non-binding consent	→ Project not included in the latest NDP shall have the consent of the relevant authority	 → Signed agreement with the competent ministries or NRAs → Letter of support from at least one of the competent ministries or NRAs

Technical criteria: Hydrogen transmission projects (H2T)



1. Project description	Project shall represent one or a combination of the following cases: → Repurposing of existing NG pipelines for hydrogen use → Construction of on-shore or off-shore pipelines to enable the transport of pure hydrogen → Any equipment or installation essential for the hydrogen system to operate safely, securely and efficiently or to enable bi-directional capacity, including CS	 → Project description → Identification main and additional investments → Relation with other project(s)
2. Location	→ Located in one of the countries included in the geographical perimeter of the TYNDP	→ Location of the project in the ENTSOG map
3. Project data	 → Estimated technical capacity increase at an IP → Estimated capacity decrease in the NG system (repurposing) → Commissioning year → Main technical parameters → Costs (main and additional investments) → Project schedule (including justification) → Enabled hydrogen production and/or hydrogen demand(when applicable) 	 ⇒ Estimated technical capacity (GWh/d) per IP and year ⇒ Length pipeline (km) ⇒ Nominal diameter (mm) ⇒ Compressor power (MW) ⇒ CAPEX (M€) and OPEX (M€/y) ⇒ Type of production (blue, grey or green) ⇒ Connection to the grid (dedicated renewables, connected to electricity grid (bidding zone)) ⇒ Project schedule

Technical criteria: Hydrogen storage projects (H2S)



1. Project description	Project shall represent one or a combination of the following cases: → Repurposing of NG storages to enable the storage of pure hydrogen → Construction of storages to enable the storage of pure hydrogen → Any equipment or installation essential for the hydrogen system to operate safely, securely and efficiently, including CS related to hydrogen storage facilities	 → Project description → Identification main and additional investments → Relation with other project(s)
2. Location	→ Located in one of the countries included in the geographical perimeter of the TYNDP	→ Location of the project in the ENTSOG map
3. Project data	 → Estimated technical capacity increase at an IP → Estimated technical capacity decrease in the NG system → Commissioning year → Main technical parameters → Costs (main and additional investments) → Project schedule (including justification) 	 → Maximum injection & withdrawal capacity (GWh/d) and IP → Working gas volume (GWh) → Geometrical volume (Nm3) → Compressor power (MW) → CAPEX (M€) and OPEX (M€/y → Project schedule

Technical criteria: Hydrogen reception terminal projects (H2L)



1. Project description	Project shall represent one or a combination of the following cases: → Repurposing of an existing LNG terminal into a liquefied hydrogen terminal including hydrogen embedded in other chemical substances with the objective of injecting hydrogen into the grid → New liquefied hydrogen terminal including hydrogen embedded in other chemical substances with the objective of injecting hydrogen into the grid	→ Project description → Identification main and additional investments → Relation with other project(s)
2. Location	→ Located in one of the countries included in the geographical perimeter of the TYNDP	→ Location of the project in the ENTSOG map
3. Project data	 → Estimated technical capacity increase at an IP → Commissioning year → Main technical parameters → Costs (main and additional investments) → Project schedule (including justification) 	 → IP of connection to the hydrogen system → H2 import capacity (GWh/d) → Injection into the transmission network (GWh/d) → Storage capacity (GWh) → Average efficiency (%) → CAPEX (M€) and OPEX (M€/y) → Project schedule

Technical criteria: Hydrogen export terminal projects (H2X)



1. Project description	Project shall be a dedicated hydrogen export terminal that is meant to export hydrogen to a European hydrogen import facility	 → Project description → Identification main and additional investments → Relation with other project(s)
2. Location	→ Located in one of the countries included in the geographical perimeter of the TYNDP	→ Location of the project in the ENTSOG map
3. Project data	 → Estimated technical capacity increase at an IP → Commissioning year → Main technical parameters → Costs (main and additional investments) → Project schedule (including justification) 	 → IP of connection to the hydrogen system or hydrogen production facility → Exit capacity from hydrogen trasmission system into the terminal (GWh/d) (if applicable) → Production and export capacity of the exported energy carrier (GWh/d) → Average efficiency of producing the exporting energy carrieir (%) → CAPEX (M€) and OPEX (M€/y) → Project schedule

Technical criteria: Hydrogen mobility in the transport sector projects (H2M) (entsog



	Project shall represent one or a combination of the following	
	cases:	
1. Project description	→ New infrastructure to enable the use of hydrogen for the	→ Project description
	mobility in the transport sector	→ Identification main and additional investments
	→ Any equipment or installation essential for the hydrogen system	→ Relation with other project(s)
	to operate safely, securely and efficiently related to the hydrogen	
	in the transport sector for mobility	
2. Location	→ Located in one of the countries included in the geographical perimeter of the TYNDP	→ Location of the project in the ENTSOG map
		→ IP of connection to the hydrogen system
	→ Estimated technical capacity	→ Exit capacity from hydrogen grid (GWh/d)
3. Project data	→ Commissioning year	→ Storage (GWh) (if applicable)
	→ Main technical parameters	→ Expected hydrogen demand (GWh/d)
	→ Costs (main and additional investments)	→ Replaced fuel(s) (shares %)
	→ Project schedule (including justification)	→ CAPEX (M€) and OPEX (M€/y)
		→ Project schedule

Technical criteria: Hydrogen electrolyser projects (H2E)



1. Project description	Project shall be an electrolyser aiming to produce hydrogen from electricity from dedicated renewable electricity production or from electricity from the electricity grid	 → Project description → Identification main and additional investments → Relation with other project(s)
2. Location	→ Located in one of the countries included in the geographical perimeter of the TYNDP	→ Location of the project in the ENTSOG map
3. Project data	 → Estimated technical capacity → Commissioning year → Main technical parameters → Costs (main and additional investments) → Project schedule (including justification) 	 → IP of connection to the hydrogen system → Electrolyser capacity (MWel) → Average efficiency → Entry capacity into the hydrogen grid (GWh/d) → Type of production (dedicated renewables or electricity grid) → When connected to the electricity grid: bidding zone and connection capacity (MWhel/h) → CAPEX (M€) and OPEX (M€/y) → Project schedule

Technical criteria: Hydrogen production from natural gas projects (H2P)



1. Project description	The project shall be a natural-gas based hydrogen production facility (SMR, ATR or NGD) and may be in combination with carbon capture and storage (CC(U)S).	 → Project description → Identification main and additional investments → Relation with other project(s)
2. Location	→ Located in one of the countries included in the geographical perimeter of the TYNDP	→ Location of the project in the ENTSOG map
3. Project data	 → Estimated technical capacity → Commissioning year → Main technical parameters → Costs (main and additional investments) → Project schedule (including justification) 	 → IP of connection to the hydrogen system → Maximum exit capacity from the NG system (GWh/d) → Average energy-related process efficiency (%) → Maximum entry capacity into the hydrogen grid (GWh/d) → Average CO2 capturing rate (%) (when applicable) → CAPEX (M€) and OPEX (M€/y) → Project schedule

Technical criteria: Biomethane projects (BIO)



1. Project description	The project shall aim at enabling an increasing share of biomethane such as: → Network development project enabling biomethane production/injection into the natural gas grid → Biomethane production facilities → A project enabling the reverse flow of biomethane from the DSO level to the TSO level	 → Project description → Identification main and additional investments → Relation with other project(s)
2. Location	→ Located in one of the countries included in the geographical perimeter of the TYNDP	→ Location of the project in the ENTSOG map
3. Project data	 → Estimated technical capacity → Commissioning year → Main technical parameters → Costs (main and additional investments) → Project schedule (including justification) 	 → Enabled biomethane production/injection capacity (GWh/d) (if applicable) → Maximum technical capacity D/T (GWh/d) (if applicable) → CAPEX (M€) and OPEX (M€/y) → Project schedule

Technical criteria: Retrofitting projects (RET)



1. Project description	Project shall aim at retrofitting an existing NG infrastructure to further integrate hydrogen such as: → Retrofitting of existing gas pipelines and other network-related assets for blending of (bio)-methane with hydrogen → Retrofitting of existing storages for hydrogen blending → Retrofitting of existing LNG terminals for hydrogen blending (storage and/or injection into the natural gas grid)	 → Project description → Identification main and additional investments → Relation with other project(s)
2. Location	→ Located in one of the countries included in the geographical perimeter of the TYNDP	→ Location of the project in the ENTSOG map
3. Project data	 → Estimated technical capacity increase at an IP → Estimated capacity decrease in the NG system (repurposing) → Commissioning year → Main technical parameters → Costs (main and additional investments) → Project schedule (including justification) → Enabled hydrogen production and/or hydrogen demand(when applicable) 	 → Estimated technical capacity (GWh/d) per IP and year → Length pipeline (km) → Nominal diameter (mm) → Percentage of feasible hydrogen share (%) → CAPEX (M€) and OPEX (M€/y) → Project schedule

Technical criteria: Synthetic methane projects (SYN)



1. Project description	The project shall be a synthetic methane project aiming at decarbonizing the natural gas grid	 → Project description → Identification main and additional investments → Relation with other project(s)
2. Location	→ Located in one of the countries included in the geographical perimeter of the TYNDP	→ Location of the project in the ENTSOG map
3. Project data	 → Estimated technical capacity → Commissioning year → Main technical parameters → Costs (main and additional investments) → Project schedule (including justification) 	 → IP of connection with the hydrogen grid (if applicable) → Exit capacity from the hydrogen grid into the production facility (if applicable) → Maximum injection capacity of synthetic methane into the natural gas system (GWh/d) → CAPEX (M€) and OPEX (M€/y) → Project schedule

Technical criteria: CO2 transmission projects (CO2)



1. Project description	The project shall be one or a combination of the following cases: The repurposing of existing natural gas infrastrucute for CO2 transport The repurposing of existing natural gas infrastructure for CO2 storage	 → Project description → Identification main and additional investments → Relation with other project(s)
2. Location	→ Located in one of the countries included in the geographical perimeter of the TYNDP	→ Location of the project in the ENTSOG map
3. Project data	 → Estimated technical capacity reduction NG system → Commissioning year → Main technical parameters → Costs (main and additional investments) → Project schedule (including justification) 	CO2 transport → Nominal diameter (mm) → CO2 state of transport (gaseous or liquid) → Pipeline length (km) → Compressor power (MW) → Estimated technical transmission capacity (kgCO2/d) → Reduction of natural gas tranmission capacity and affected IPs (if applicable) CO2 storage → Compressor power (MW) → Estimated injection capacity (kg CO2/d) → Reduction of NG storage capacity (GWh) → Reduction of NG injection/withdrawal capacity (GWh/d) both → CAPEX (M€) and OPEX (M€/y) → Project schedule

Technical criteria: Other projects (OTH)

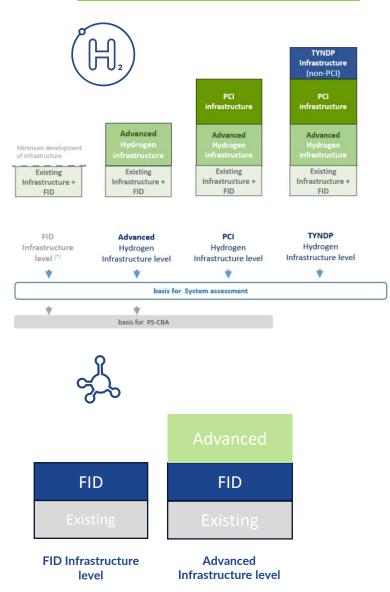


1. Project description	Any other infrastructure related project	 → Project description → Identification main and additional investments → Relation with other project(s)
2. Location	→ Located in one of the countries included in the geographical perimeter of the TYNDP	→ Location of the project in the ENTSOG map
3. Project data	Project desription	→ Project description



Infrastructure layers

from draft CBA methodology



Project maturity status



Maturity status for hydrogen projects

FID status: FID taken ahead of the TYNDP project collection

Advanced status: Commissioning expected at the latest by 31 December 2029

AND the project fulfils at least one of the following criteria:

- Permitting phase has started ahead of the TYNDP project data collection
- FEED has started
- Project is included in the National Development Plan of the respective country or in the National law
- Project has successfully consulted the market through a market test (including non-binding processes)

Less-Advanced status: all projects not covered by FID status or Advanced status

Irrespective of maturity status, the PCI/PMI status is assigned to projects in the relevant delegated act of PCIs/PMIs

Maturity status for natural gas projects

FID status: FID taken ahead of the TYNDP project collection

Advanced status: Commissioning expected at the latest by 31 December 2029

AND the project fulfils at least one of the following criteria:

- Permitting phase has started ahead of the TYNDP project data collection
- FEED completed ahead of the TYDNP project data collection



Thank you for your attention

System Development Team

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Timeline: Final GPI for TYNDP 2024



