

ENTSOG Publication :

[001]- Comments on the Project in the context of the current publication. :

General Information :

[002]- Is the project an enabler for groups? : No

[003]- Project(System) Code : 445

[004]- ENTSOG Project Code : RET-N-445

[005]- Was the project item part of the last TYNDP? : No

[006]- Project Name : Example Retrofitting Project

[007]- Infrastructure Type : RET

[008]- Is the project a virtual submission of more projects : Yes

[009]- Project Description : Retrofitting of a existing gas storage aiming to store renewable energy in form of hydrogen in the mixture with natural gas using the already existing storage ABC. The salt cavern storage is located close to H2 production facilities and planned interconnections.

[010]- Project Host Country : Netherlands

[011]- Project Status : Planned

[013]- Promoter Legal Personality : TSO ABC

[014]- Project Promoter Type. : TSO

[016]- Which Company will be the commercial operator once your project is completed. : DESFA S.A.

[017]- Will there be any other commercial operator(s) once your project is completed? If yes, please mention it/them. :

[018]- Has your project taken the FID? : No

[020]- Is your project only a Capacity Modification, which does not require actual investment or construction works ? : No

[021]- Estimated CAPEX (in million €) : 50

[022]- Are these CAPEX costs considered confidential? : No

[024]- Amount of already incurred CAPEX (in million EUR] at the time of project submission : 0

[026]- Amount of contracted but not yet incurred CAPEX (in million EUR] : 0

[028]- CAPEX Range (in %) : 25

[029]- Estimated OPEX (in million € per year) : 3

[030]- Are these OPEX costs considered confidential? : No

[032]- OPEX Range (in %) : 1

**[033]- Name of your representative in charge of the Project submission :** Marteen Test: Mario Schneider

**[034]- E-mail address of your representative in charge of the Project submission :**  
email@company.com

**[035]- Phone number of your representative in charge of the Project submission :** 12345689

**[036]- Project Website :**

**[037]- General Remarks :**

**Administrative Criteria :**

**[041]- Please select the category of the project promoter you are :** E.1 Company which is a Member, Observer or Associated Partner of ENTSOE or an entity being a partner of the company in the same project or having a shareholding relation with this company.

**[042]- Company Existence (Pass-Fail Criteria) :** Yes

**[043]- Company Financial Strength (Pass-Fail Criteria) :** Yes

**[044]- Company Technical Expertise (Pass-Fail Criteria) :** Yes

**[045]- Please indicate if your project has completed the (Pre-) Feasibility study :** No

**[052]- Please select one of the following options :**

- Energy Clean Hydrogen Alliance (ECHA)

**[053]- Please provide any additional comments :**

**Inclusion in NDP :**

**[054]- Is your project part of a National Development Plan (NDP) ? :** No

**[058]- If is not part of NDP, please give a reason :** (1) the NDP was prepared at an earlier date and the project will be proposed for inclusion in the next NDP

**Enabler/Enhancer Projects :**

**[061]- Is this project an internal enabler? :** No

**[065]- Is this project an enhancer ? :** No

**Project Shareholders :**

<b>[069]- Project Section</b>	<b>[070]- Shareholder Name</b>	<b>[071]- Shareholder Share</b>
Section AB	Shareholder a	50
Section BC	Shareholder b	50

**Technical Information :**

**[072]- Indicate if your project is part of :** Other functional related project groups

**[073]- Choose PRJ :** PRJ-G-138 [H2 transport, storage and H2P]

**[074]- Is this a multi-phase project? :** Yes

Type Specific Information - Projects for retrofitting infrastructure to further integrate hydrogen :

[113]- Please indicate the sub-category of project : --Select--

[131]- Please indicate the expected load factor of your project (when completed) on yearly basis :  
0

[132]- Please indicate the expected load factor of your project (when completed) under peak situation : 0

Project of Common Interest(PCI) Label :

[136]- Is your project in the current legal PCI list ? : No

[138]- Do you intend to apply for PCI label in the next PCI round? : No

[155]- Is the project also part of the latest Energy Community PECI or PMI list? : No

Variant for Modelling :

[156]- Variant Name	[157]- Variant Description	[158]- Considered for Modelling
Default	Default	Yes

Increments in Entry/Exit Capacity (If you do not complete this section, your project cannot be modelled) :

[159]- Transportable/storable gas	[160]- Share of selected gas/ total capacity [%]
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Natural gas : 90

Hydrogen : 10

Synthetic methane :

Biomethane :

:

[161]- Operator	[162]- Point	[163]- Flow Direction	[164]- Status	[165]- Variant	[166]- Commissioning Year	[167]- Modelling Commissioning Year	[168]- Increment (GWh/d)	[169]- Peak Increment (GWh/d)	[170]- Comment
Trans-Adriatic Pipeline AG	Melendugno - IT / TAP	entry	Operational	Default	2023	2023	5	8	
Trans-Adriatic Pipeline AG	Melendugno - IT / TAP	exit	Operational	Default	2023	2023	4	7	

Trans-Adriatic Pipeline AG	Melendugno - IT / TAP	entry	Operational	Default	2024	2024	2	3	
Trans-Adriatic Pipeline AG	Melendugno - IT / TAP	exit	Operational	Default	2024	2024	2	3	

**Cross Border Cost Allocation and Financial Assistance :**

**[171]- Does your project have a CBCA decision by NRAs or ACER ? Select one or more :**

- No, we have not submitted an investment request yet, and we have not yet decided whether we will submit or not

**[172]- {if option 1, 2 or 3} When the investment request was submitted/or you plan to submit it? :**

**[173]- If option 1), when was the decision taken? :**

**[174]- If option 1), please provide CBCA Decision Website :**

**[175]- If option 1), please list the countries identified from the CBCA decision as net benefiting countries :**

**[176]- If option 1), please list the countries identified from the CBCA decision as net cost bearers :**

**[177]- Please provide any additional comments :**

**[178]- Have you already applied for financial support from the Connecting Europe Facility (CEF) :**

- (3) No, we have not applied for CEF

**[179]- [If options 1) or 2) in above box list] Did your project request EU financial assistance in the form of grants for studies? : No**

**[180]- Did you receive any grants for studies following your request? : Not applicable**

**[181]- If yes, please indicate the amount [mil EUR] :**

**[182]- If options 1) or 2) Did your project request EU financial assistance in the form of grants for works? : No**

**[183]- Did you receive any grants for works following your request? : Not applicable**

**[184]- If yes, please indicate the amount [mil EUR] :**

**[185]- If option 3), Do you intend to apply for financial support from the Connecting Europe Facility? :**

**[186]- Have you received any financial support from funding programmes other than CEF at European, regional or national level? : No**

[187]- Please Provide details :

[188]- Do you plan to apply for any other type of financial assistance ? : No

[190]- Please Provide any further relevant details :

Project Schedule :

[192]- Pre-Feasibility : No Pre-Feasibility

[193]- Feasibility Start date : 01/06/2021

[193]- Feasibility End date : 15/11/2021

[194]- FEED : No Feed planned

[195]- Permitting Phase Start date : 09/01/2022

[195]- Permitting Phase End date : 31/05/2022

[196]- Supply Contracts : Not yet clear

[197]- Expected FID date : 15/09/2022

[198]- Construction Start date : 01/03/2023

[198]- Construction End date : 01/10/2023

[199]- Project Advancement : In Progress

[200]- Comments about Project Advancement :

[202]- Date of grant obtention for studies/for works :

[203]- Comments about the schedule, including Realisation Conditions :

[204]- Compared to previous TYNDP indicate if your project is : --Select--

[205]- Delay Explanation: :

Project Expected Impact :

[206]- Main Project Driver(s) :

- Sustainability

[207]- Does the project contribute to any of the following :

- Integration of renewable and low carbon gases into the gas network

- Contribution to Greenhouse gas emission reductions in different end-use applications

[209]- **Comments on the Main Project Driver** : The project contributes to Sustainability by including green Hydrogen. The Storage is located close to new H2 Production facilities and it facilitates the use of H2 for big Industrial cluster in the neighbouring countries. By using the CH4-H2 admixture CO2 emissions can be reduced.

[210]- **In line with the definition of Gasification provided in the Handbook, does your project contribute to the gasification of a country or the gasification of a specific area not reached yet by gas?** : No

**[212]- Please provide your project expected benefits :** The repurposing of this storage will allow to install and use more renewable energies in different sectors.

**[213]- Impacted countries and relevant information. :** The storage is located in country A but will have a big impact for the supply and integration of renewables for country B as the border is very close and industrial sectors in country B can be supplied via the storage.

**[214]- Please indicate the number of new jobs created associated to the project, the impacted countries and provide relevant information :** At this stage no estimation can be done.

**[215]- Please describe and quantify any possible positive impact of the project on climate change :**  
Positive spill over effects

**[216]- Please describe and quantify any possible negative impact of the project on climate change :**  
N/A

**[222]- Does your Project include new digital solutions? :** Yes

**[223]- Please provide details. :** Digital solutions for ....

**[224]- Does your project enable the integration with the electricity, heating, water or telecommunication network? :** No

**[229]- Does your project contribute to any of the following specific criteria? :**

- facilitating smart energy sector integration through the creation of links to other energy carriers and sectors and enabling demand response

**[231]- Gas Sourcing :**

**Algeria :** No

**Caspia/Azerbaijan :** No

**Libya :** No

**Norway :** Yes

**Russia :** No

**Israel :** No

**Turkey :** No

**LNG :** No

**LNG Country :**

:

**Electrolysis :** Yes

**SMR :** No

**Pyrolysis :** No

**Biogas :** No

**Others :**

[232]- Please provide the background for the gas sources the project will be supplied with. : The H2 for the admixtures is green H2 produced from wind energy via electrolysis.

[233]- Measures / Actions to reduce methane emissions :

[234]- Does the design and construction of the project minimize the number of connections and components that commonly leak? : Yes

[235]- Does the design and construction include measures for recapture/reuse of gas when possible (compressors, analysis equipment...)? : Yes

[236]- Does the design and construction avoid or minimize the installation of vents (TRA and UGS only)? : Yes

[237]- Comment. :

[238]- Does the design and construction prioritize the use of electric, mechanical and compressed air equipment (pneumatic controllers, compressor starters)? : No

[239]- In case that devices powered by natural gas are the best option, will lower emissions devices be used (instead of highbleed controllers)? : No

[240]- Comment. :

[241]- Does the design and construction foresee to install dry disconnect couplings in the LNG truck loading facilities (LNG only)? : Not applicable

[242]- Does the design and construction consider to implement BOG recovery units to recover, compress and send the BOG to the recondenser to be converted to LNG (LNG only)? : Not applicable

[243]- Is it planned to install automated air/fuel ratio controls ? : No

[244]- Please provide an estimation of the expected methane emissions [in kg CH4/y] once the facility has been commissioned and describe how these emissions were calculated. If not applicable, please justify. :

[245]- Are periodic leak detection and repair (LDAR) programs for fugitive emissions planned during the start-up phase? : Yes

[246]- Comment. :

[247]- Are steps planned to reduce venting from routine maintenance repairs when pipelines and or large vessels need to be depressurized during operation? : --Select--

[248]- Does the operator plan to minimize the volume that has to be depressurized during venting? : --Select--

[249]- Does the operator plan to use pumpdowns for depressurizing pipelines and large vessels during maintenance? : --Select--

[250]- Does the operator plan the usage of hot-taps to make connections to pipelines? : --Select--

[251]- Is it planned to use portable compressors to avoid vents during start-up and operation? : --Select--

[252]- In case that venting can not be avoided will vented gases flared? : --Select--

[253]- Will LNG truck loading nitro injection or dry coupling used to avoid venting (LNG only)? : Not Applicable

[254]- Are LNG terminals BOG compressors used under normal operation conditions(LNG only)? : Not Applicable

[255]- Does the operator aspires increasing the combustion efficiency of natural-gas powered engines? : Not Applicable

[256]- Does the operator aspire to minimize number of start-ups (engines, turbines and fired heaters)? : Not Applicable

[257]- It is mandatory to keep an accurate inventory of flaring activities during start-up and operation (UGS, LNG only)? : Yes

[258]- Please list technical evidence to support the implementation of the selected mitigation measures (during engineering design, construction and start-up stages of the project).. :

[259]- Additional Mitigation measures (not included above):. :

[260]- Did Promoter(s) join/intend to join the OGMP 2.0 Reporting Framework? : Yes

[261]- if intended in the near future please give an approx. Date/Year . :

Intergovernmental Agreement :

[270]- Agreement Name	[271]- Signed	[272]- Date	[273]- Description	[274]- Other comments
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Barriers in Implementation :

[275]- Regulatory Framework :

- Lack of proper transposition of EU regulation

[277]- Permit granting :

[278]- Financing :

[280]- Political :

[281]- Market :

[282]- Project acceptability by the local community. :

[283]- Technical/Technological. :

[285]- Value chain :

[286]- Other Barriers, please explain :

[287]- Which incentives would support your project implementation :

[288]- Have you received additional regulatory incentives for your project :

Please upload a map of your project :