

Energy Community Workshop on the adapted TEN-E Regulation and the forthcoming PEI selection process

Eligible categories under revised TEN-E: gas smart grids, H₂, electrolysers, CO₂

Online event, 21 November 2023

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SMART GAS GRIDS

concerning smart gas grids

any of the following equipment or installation aiming to enable and facilitate the **integration of a plurality of low-carbon and particularly renewable gases**, including **biomethane or hydrogen**, into the gas network:

- **digital systems and components integrating ICT,**
- **control systems and sensor technologies to enable** the interactive and intelligent monitoring, metering, quality control and management of gas production, transmission, distribution, storage and consumption within a gas network.
- equipment **to enable reverse flows from the distribution to the transmission level**, including the related physical upgrades if indispensable to the functioning of the equipment and installations **for integration of low-carbon and particularly renewable gases;**



Source: <https://www.beckhoff.com/en-ph/company/news/smart-grid-implementation-supports-efficient-and-accurate-gas-management.html>

HYDROGEN INFRASTRUCTURE

hydrogen projects

(a) **pipelines for the transport**, mainly at high pressure, of hydrogen, including repurposed natural gas infrastructure, giving access to multiple network users on a transparent and non-discriminatory basis;

(b) **storage facilities** connected to the high-pressure hydrogen pipelines referred to in point (a);

(c) **reception, storage and regasification or decompression facilities for liquefied hydrogen or hydrogen embedded** in other chemical substances with the objective of injecting the hydrogen, where applicable, into the grid;

(d) **any equipment or installation** essential for the hydrogen system to operate safely, securely and efficiently or to enable bi-directional capacity, including compressor stations;

(e) any equipment or installation allowing for hydrogen or hydrogen-derived fuels use in the transport sector ...

Any of the assets listed in points (a) to (d) may be newly constructed or repurposed from natural gas to hydrogen, or a combination of the two;



ELECTROLYSERS

electrolysers that:

- (i) **have at least 50 MW capacity**, provided by a single electrolyser or by a set of electrolysers that form a single, coordinated project;
 - (ii) the production complies with the **life cycle greenhouse gas emissions savings requirement of 70 % relative to a fossil fuel comparator of 94 g CO₂eq/MJ** as set out in Article 25(2) and Annex V to Directive (EU) 2018/2001 ... ; and
 - (iii) **have a network-related function**, particularly with a view to overall system flexibility and overall system efficiency of electricity and hydrogen networks;
- (b) related equipment, including pipeline connection to the network;



CARBON-DIOXIDE

Carbon dioxide:

- (a) **dedicated pipelines, other than upstream pipeline network**, used to transport carbon dioxide from more than one source, for the purpose of permanent geological storage of carbon dioxide pursuant to Directive 2009/31/EC;
- (b) **fixed facilities for liquefaction, buffer storage and converters** of carbon dioxide in view of its further transportation through pipelines and in dedicated modes of transport such as ship, barge, truck, and train;
- (c) without prejudice to any prohibition of geological storage of carbon dioxide in a **Contracting Party, surface and injection facilities associated with infrastructure within a geological formation** that is used, in accordance with Directive 2009/31/EC, for the permanent geological storage of carbon dioxide, where they do not involve the use of carbon dioxide for the enhanced recovery of hydrocarbons and are necessary to allow the cross-border transport and storage of carbon dioxide;
- (d) any equipment or installation essential for the system in question to operate properly, securely and efficiently, including protection, monitoring and control systems.

Criteria for the assessment of projects – general – Art.4.



PECI project shall meet the following general criteria:

- (a) the project **should be eligible** according to TEN-E (CO2 transport & storage, H2 projects, electrolysers, gas smart grids)

- (b) the potential **overall benefits of the project outweigh its costs**

- (c) the project meets any of the following criteria:
 - (i) it involves at least **two Contracting Parties** by directly or indirectly, via interconnection with a third country, crossing the border of two or more Contracting Parties;
 - (ii) it is located on the territory of **one Contracting Party**, either inland or offshore, including islands, and has a **significant cross-border impact**.

Criteria for the assessment of projects – specific – Art.4



For smart gas grid projects, the project contributes significantly to:

- **sustainability** by ensuring the integration of a plurality of low-carbon and particularly renewable gases, including where they are locally sourced, such as biomethane or renewable hydrogen, into the gas transmission, distribution or storage systems in order to reduce greenhouse gas emissions, **and**
- **One of the following** specific criteria:
 - (i) **network security and quality of supply** by improving the efficiency and interoperability of gas transmission, distribution or storage systems in day-to-day network operation by, inter alia, addressing challenges arising from the injection of gases of various qualities;
 - (ii) **market functioning and customer services**;
 - (iii) **facilitating smart energy sector integration** through the creation of links to other energy carriers and sectors and enabling demand response.

Criteria for the assessment of projects – specific – Art.4



For **hydrogen projects** and storage projects, the project contributes significantly to:

- **sustainability, including by reducing greenhouse gas emissions, by enhancing the deployment of renewable or low carbon hydrogen, with an emphasis on hydrogen from renewable sources in particular in end-use applications, such as hard-to-abate sectors, in which more energy efficient solutions are not feasible and**
- **supporting variable renewable power generation by offering flexibility, storage solutions, or both, and**
- **at least one of the following specific criteria:**
 - (i) **market integration**, including by connecting existing or emerging hydrogen networks of Contracting Parties, or otherwise contributing to the emergence of an Energy Community-wide network for the transport and storage of hydrogen, and ensuring interoperability of connected systems;
 - (ii) **security of supply and flexibility**, including through appropriate connections and facilitating secure and reliable system operation;
 - (iii) **competition**, including by allowing access to multiple supply sources and network users on a transparent and non-discriminatory basis;

Criteria for the assessment of projects – specific – Art.4



For **electrolysers**, the project contributes significantly to:

- **sustainability through the reduction of carbon dioxide emissions** in the connected industrial installations **and**
- contributes to **all** of the following specific criteria:

(i) **sustainability**, including by reducing greenhouse gas emissions and enhancing the deployment of renewable or low-carbon hydrogen in particular from renewable sources, as well as synthetic fuels of those origins;

(ii) **security of supply**, including by contributing to secure, efficient and reliable system operation, or by offering storage, flexibility solutions, or both, such as demand side response and balancing services;

(iii) **enabling flexibility services** such as demand response and storage by facilitating smart energy sector integration through the creation of links to other energy carriers and sectors;

Criteria for the assessment of projects – specific – Art.4



For carbon dioxide transport and storage projects, the project contributes significantly

- to **sustainability** through the reduction of carbon dioxide emissions in the connected industrial installations **and**
- contributes to **all** of the following specific criteria
 - (i) **avoiding carbon dioxide emissions** while maintaining security of supply;
 - (ii) **increasing the resilience and security of transport and storage** of carbon dioxide;
 - (iii) **the efficient use of resources**, by enabling the connection of multiple carbon dioxide sources and storage sites via common infrastructure and minimising environmental burden and risks;



THANK YOU
FOR YOUR ATTENTION

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