

April 2025

Consultation on the list of candidate Projects of Common Interest and Projects of Mutual Interest in all infrastructure categories under Regulation (EU) 2022/869

AquaVentus responses to Hydrogen Infrastructure and Electrolyser Facilities

a) Sustainability Contribution:

The AquaDuctus project significantly contributes to sustainability by enabling the large-scale transportation of green hydrogen produced from offshore wind farms in the North Sea. This hydrogen will replace fossil-based energy sources in hard-to-abate sectors such as industry, transport, and heating. The project is expected to reduce CO₂ emissions by millions of tons annually, supporting the EU's climate neutrality goals under the European Green Deal and the REPowerEU plan.

Additionally, the pipeline is designed with long-term sustainability in mind, allowing for modular expansion and integration with other offshore renewable energy projects, further enhancing the renewable energy supply chain across Europe.

b) Market Integration:

AquaDuctus facilitates market integration by connecting offshore hydrogen production sites directly with the onshore hydrogen infrastructure in Germany, including the German hydrogen core network and the European Hydrogen Backbone. This direct connection enhances the availability of hydrogen across borders, promoting cross-border trade and integration within the European hydrogen market. The project's scalable design allows future connections to other North Sea countries, including the Netherlands, Denmark, and Norway, further enhancing market integration.

c) Security of Supply:

The project strengthens energy security by diversifying the EU's energy supply and reducing dependence on imported fossil fuels. AquaDuctus ensures a stable and resilient supply of green hydrogen from the North Sea, an abundant renewable resource. The offshore-to-onshore pipeline infrastructure provides a secure and independent energy corridor, supporting the resilience of the EU energy system against geopolitical risks.

d) Competition:

By creating a dedicated hydrogen transport infrastructure, AquaDuctus opens the market for multiple hydrogen producers and consumers. This fosters competition among producers, driving down hydrogen prices and encouraging innovation. The project also enables access to hydrogen for a wide range of industrial users, including small and medium enterprises, further enhancing market competitiveness.

e) Security of Supply (for Electrolysers):

While AquaDuctus itself is not an electrolyser project, it directly supports the deployment of offshore electrolysers by providing the necessary infrastructure for transporting the produced hydrogen to shore. The secure transport of hydrogen ensures that electrolyser projects can operate at full capacity without curtailment, enhancing overall system efficiency and supply security.

f) Enabling Flexibility Services (for Electrolysers):

The pipeline infrastructure allows for the flexible transport of hydrogen from multiple offshore production sites, balancing supply and demand efficiently. By connecting offshore hydrogen production with onshore consumption centers, AquaDuctus provides a critical flexibility service, ensuring that hydrogen can be transported and stored as needed to balance the grid and support renewable energy integration.

Energy Policy Perspective and EU Climate and Energy Targets:

AquaDuctus is essential from an energy policy perspective as it supports the EU's 2030 and 2050 climate and energy targets by facilitating the large-scale integration of renewable hydrogen. It aligns with the European Green Deal, REPowerEU, and the EU Hydrogen Strategy by:

- Enabling the deployment of 20 GW of offshore hydrogen production capacity.
- Contributing to the establishment of the European Hydrogen Backbone.
- Enhancing cross-border hydrogen trade and energy system integration.
- Reducing dependence on fossil fuels and enhancing energy security.
- Supporting industrial decarbonization and the development of a sustainable hydrogen economy.

In conclusion, AquaDuctus is a crucial infrastructure project that ensures the sustainable, secure, and competitive development of the European hydrogen market, driving the EU's transition to a carbon-neutral energy system.

Contact

verein@aquaventus.org