

Joint Call of Interest for the Assessment of the Hydrogen Market in Greece and Bulgaria

Hydrogen has been identified as one of the most important fuels for Europe's energy transition by the European Commission and market participants are already recognizing its transformative potential in shaping a sustainable future. With a strategic focus on diversifying energy sources and reducing carbon emissions, Greece can leverage the growing hydrogen sector as a key driver of its sustainable development.

At DESFA, we recognize the pivotal role of hydrogen in Greece's energy transition journey. Through our commitment to innovation and sustainability, we are launching a comprehensive survey to assess the potential of the hydrogen market in Greece. This survey aims to gather insights from industry stakeholders and market participants for the formation of the Greek Hydrogen Backbone and drive collaborative initiatives in advancing country's hydrogen ecosystem.

By participating in this Call of Interest, you will contribute to shaping the future of Greece's energy landscape and assist DESFA in ramping up the Greek hydrogen market. Join us in unlocking the full potential of hydrogen for a cleaner, more resilient, and sustainable future for Greece.

This Call of Interest for hydrogen is launched simultaneously and in cooperation with BULGARTRANGAZ EAD aiming to explore hydrogen's potential in the territory of Bulgaria. Further information on BULGARTRANGAZ's survey can be found [here](#).

DESFA & the Hydrogen sector

In DESFA, we are steadfastly committed to leading the charge towards energy transition, decarbonization, and the widespread adoption of renewable gases. Through strategic investments in infrastructure and technology, we are actively working to integrate renewable gases and most importantly hydrogen into our pipeline network, fostering a cleaner and more resilient energy ecosystem for Greece and beyond.

In this regard, we have a strong presence in the hydrogen sector both on a national and European level:

- We participate in all EU-initiatives and groups related to hydrogen transportation, such as Hydrogen Europe, European Hydrogen Backbone, and the establishment of the European Network of Network Operators of Hydrogen - ENNOH.
- We are expanding our approach to include hydrogen and other renewable gases in our Ten-Year Development Program, which currently exceeds €1,2 billion for the period 2023-32, following a structured roadmap for the development of the hydrogen network in Greece. In this regard, high-pressure pipeline to Western Macedonia is already being developed as hydrogen ready and will be operational in 2024.
- We are promoting a dedicated hydrogen pipeline that will be able to transport 100% hydrogen and constitute the Greek hydrogen backbone. The project is already included in the 6th PCI list and is subject to potential funding from Connecting Europe Facility, the most important EU funding instrument of the European Commission to promote growth, jobs, and competitiveness.
- We are in close cooperation with other European TSOs from Bulgaria, Romania, Hungary, Slovakia, Czech Republic and Germany for the development of the South-East European Hydrogen Corridor, in line with the EU Hydrogen Backbone initiative, that will be able to transport hydrogen from Greece to Central Europe.

Hydrogen interconnector between Greece and Bulgaria: Internal hydrogen infrastructure in Greece towards the Bulgarian border

We are promoting a new 570 km hydrogen pipeline, that will be able to transmit pure hydrogen mainly from the southern part of Greece, up to the interconnection point with Bulgaria.

The diameter of the pipeline will be 36" and 2 compressor stations of 30MW each will enable a capacity of 80GWh per day to run through its length.

Hydrogen volumes produced or imported into Greece and Bulgaria will be able to be transported bidirectionally, through Bulgaria where a similar pipeline has been included in the 6th PCI list of the European Commission and then through the South-East Hydrogen Corridor, to and from Central Europe.



The project on Bulgarian territory, namely Internal hydrogen infrastructure in Bulgaria towards the Greece border, consist of a new pipeline with diameter of 40", about 250 km long, together with 2 compressor stations – in the regions of Petrich and Dupnitsa each with compressor power of 24MW. The project is envisaged to be the first phase of the realization of the general concept for the pure hydrogen transmission infrastructure in the Republic of Bulgaria. Second phase of the project is planned to be simultaneously developed to northern and eastern direction and thus additional cross border connectivity to be ensured towards Romania and the countries through the South-East Hydrogen Corridor.

A roadmap towards a robust Greek hydrogen market

As DESFA, we maintain a strong commitment towards renewable gases and particularly hydrogen. As part of this commitment, all new pipeline projects of the existing gas infrastructure, such as the high-pressure pipeline to Western Macedonia and the interconnector pipeline to North Macedonia, are being developed as hydrogen ready.

Furthermore, we have a concrete proposal for the development of the hydrogen infrastructure in Greece. At an initial stage, we plan to introduce hydrogen blending into the system and depending on the evolution of demand and supply, give the possibility to all existing producers be connected to off-takers, along with the hydrogen valleys via blending/de-blending solutions. This will enable initial volumes of hydrogen to be transported via the existing gas infrastructure and ramp up the market.

Subsequently, as the dedicated hydrogen pipeline becomes operational, DESFA envisions a seamless coexistence of gas and hydrogen systems to ensure a smooth transition, maximizing benefits for stakeholders in both gas and hydrogen markets.

At a final stage, when hydrogen market will be more mature, the dedicated H2 pipeline will be able to serve all hydrogen market participants needs, such as connecting domestic supply and demand, receive imports and boost exports towards countries of Central Europe.

Fully operational H₂ network

Development of H₂ Network in Greece

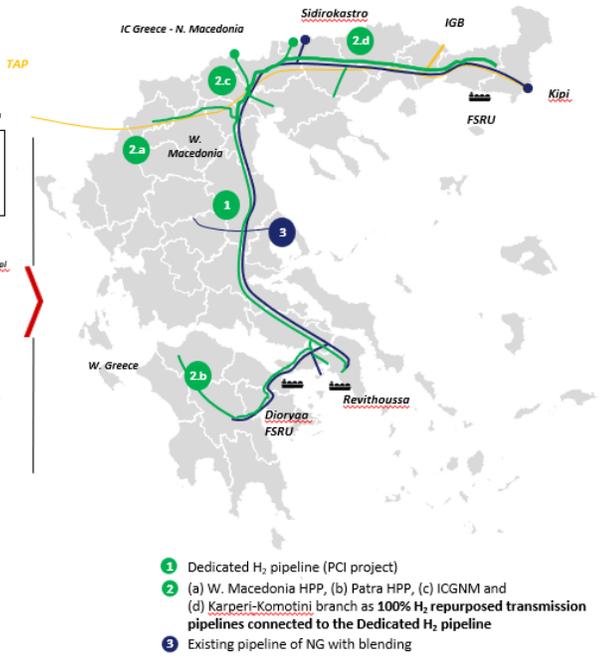
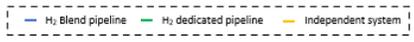
Blending and H₂ valleys

Depending on evolution of demand and supply, the valleys could be connected via blending/de-blending solutions



Dual system parallel

The Dedicated H₂ Pipeline will be Greece's H₂ backbone being the starting point of the EHB and the South-East Europe H₂ Corridor



- 1 Dedicated H₂ pipeline (PCI project)
- 2 (a) W. Macedonia HPP, (b) Patra HPP, (c) ICGNM and (d) Karperi-Komotini branch as 100% H₂ repurposed transmission pipelines connected to the Dedicated H₂ pipeline
- 3 Existing pipeline of NG with blending

Join us in shaping the future of the hydrogen market

We at DESFA recognize the importance of a robust hydrogen market and the benefits stemming for market participants and society.

By responding and collaborating with us, you will provide us with essential insights for ensuring a smooth and efficient market development and infrastructure expansion at the national level. Additionally, your involvement will enable us to explore the hydrogen export potential and foster cooperation within the region.

Furthermore, the results produced by the Call of Interest will be valuable information for all market participants in order to better understand and assess market conditions and dynamics, providing insights for the strategic integration of hydrogen in the Greek energy system.

To achieve this, your contribution is invaluable.