

TRIERES

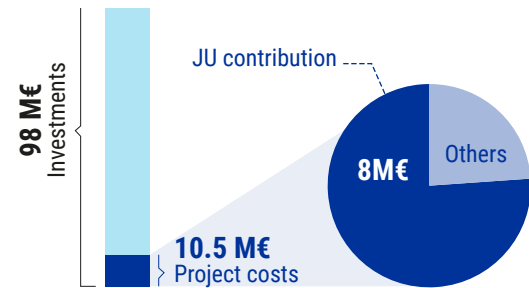


Towards the development of a hydROgen valley demonstrating applications in an intEGrated EcoSystem in Greece

Project ID	101112056
PRR 2025	Pillar 6 – H ₂ Valleys
Call Topic	HORIZON-JTI-CLEANH2-2022-06-02
Coordinator Beneficiary	MOTOR OIL, EL
Project Period	01-07-2023 - 30-04-2028
Location	Greece

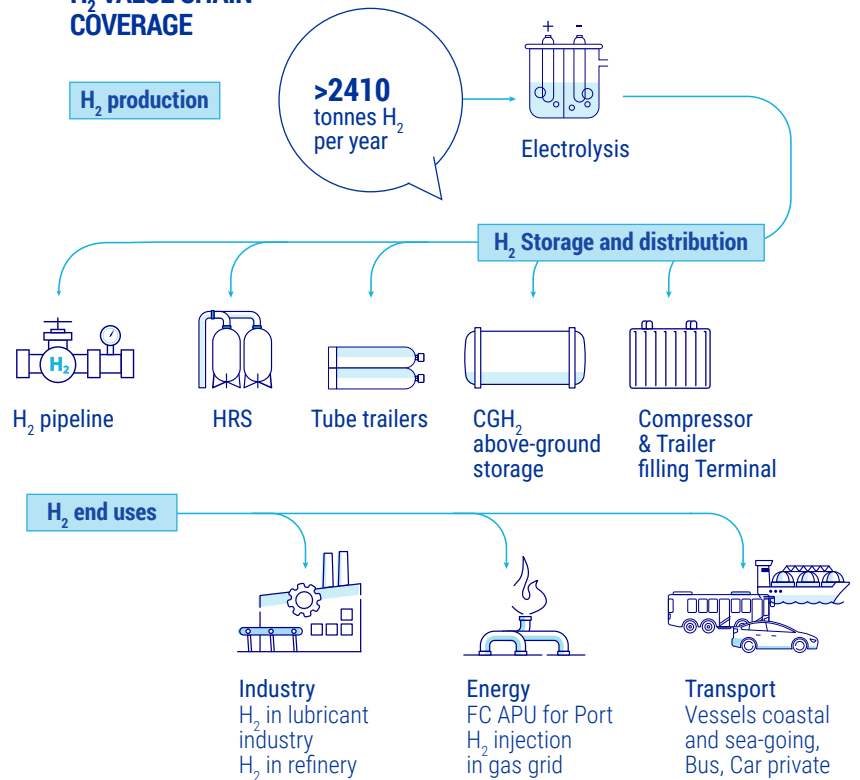


Finances



<https://www.trieres-h2.eu/>

H₂ VALUE CHAIN COVERAGE



TRIERES HYDROGEN VALLEY

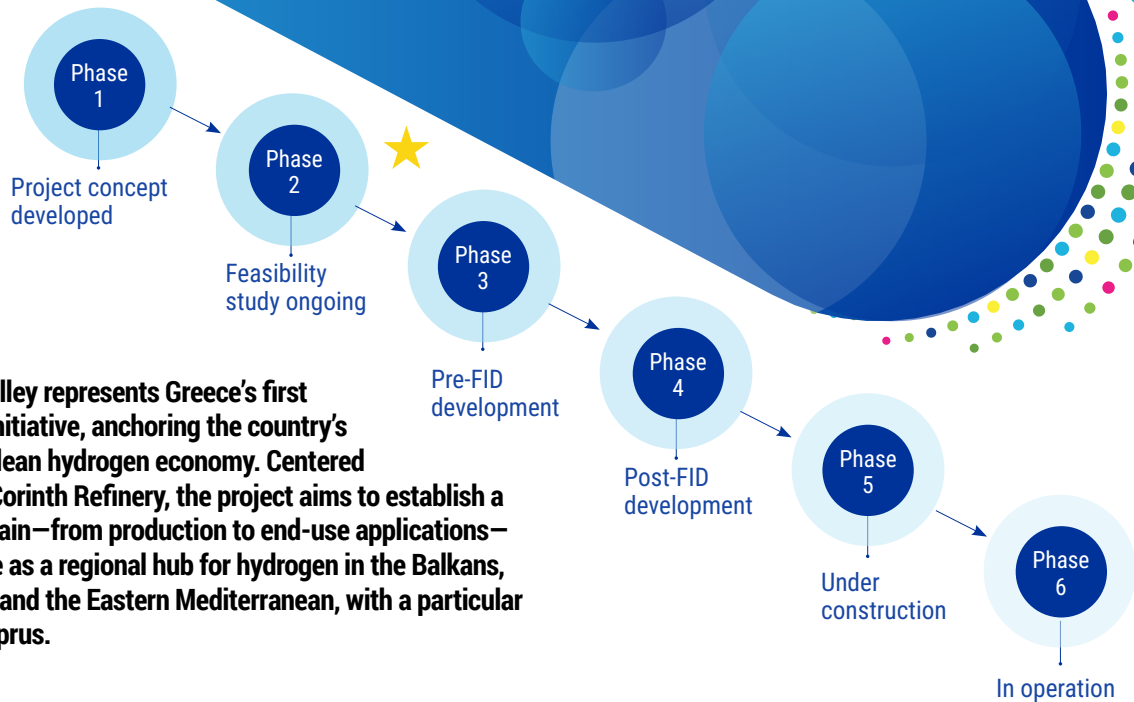
RENEWABLE H₂ END-USES

- Energy & Industry:** MOTOR OIL PELLAS REFINERY, LIPC, BORNEO GAS ENDS, FULGOR, PUBLIC POWER CORPORATION (PPC).
- Research:** NATIONAL TECHNICAL UNIVERSITY OF ATHENS (NTUA), NATIONAL CENTER FOR RESEARCH AND TECHNOLOGY - PELLAS (NTRF), NATIONAL CENTER OF SCIENTIFIC RESEARCH (NTSRF), UNIVERSITY OF LAZANIKOS (UNILAZ).
- Waste-to-Energy:** ANIKAL, TRAFIC TRANSPORT SA (CTP), ELIMAR (ODOS), ELICEO.
- Waste-to-Bioethanol:** COUNTY CANAL SA (JAGRO), NATIONAL BIOMETHANATION FACILITY, PORTOFIS, PORT OF LAMAKIA, BIOENERGY (AMPHICOM COMPANY).
- Public Authorities:** MUNICIPALITY OF LOUTRAKI (PE ET passenger cars), AKRATA, AVIN, MOTOR OIL HELLAS REFINERY, SHIPING COMPANY, TRIERES.
- Public Authorities (continued):** MUNICIPALITY OF KORYMBOS, GREEK PORT AUTHORITY (GPA), GREEK PORT AUTHORITY (GPA), PORT OF BRISULIS, REGION OF PELLAS (AMPHICOM COMPANY).
- Private Companies:** PIRAEUS PORT AUTHORITY (PPA), PIRAEUS PORT AUTHORITY (PPA), PIRAEUS PORT AUTHORITY (PPA), PIRAEUS PORT AUTHORITY (PPA).
- Other:** AVIN (100% for public transport - buses in Attika), REACT (100% for public transport - buses in Attika), PIRAEUS PORT AUTHORITY (PPA).

Partners: MOTOR OIL HELLAS, NATIONAL TECHNICAL UNIVERSITY OF ATHENS (NTUA), NATIONAL CENTER FOR RESEARCH AND TECHNOLOGY - PELLAS (NTRF), NATIONAL CENTER OF SCIENTIFIC RESEARCH (NTSRF), UNIVERSITY OF LAZANIKOS (UNILAZ), ANIKAL, TRAFIC TRANSPORT SA (CTP), ELIMAR (ODOS), ELICEO, COUNTY CANAL SA (JAGRO), NATIONAL BIOMETHANATION FACILITY, PORTOFIS, PORT OF LAMAKIA, BIOENERGY (AMPHICOM COMPANY), MUNICIPALITY OF KORYMBOS, GREEK PORT AUTHORITY (GPA), GREEK PORT AUTHORITY (GPA), PORT OF BRISULIS, REGION OF PELLAS (AMPHICOM COMPANY), AVIN (100% for public transport - buses in Attika), REACT (100% for public transport - buses in Attika), PIRAEUS PORT AUTHORITY (PPA).

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PROJECT TIMELINE



TRIÉRÈS Hydrogen Valley represents Greece's first integrated hydrogen initiative, anchoring the country's entry into the global clean hydrogen economy. Centered around the Motor Oil Corinth Refinery, the project aims to establish a full hydrogen value chain—from production to end-use applications—and to position Greece as a regional hub for hydrogen in the Balkans, Southeastern Europe, and the Eastern Mediterranean, with a particular focus on Crete and Cyprus.

PROGRESS, MAIN ACHIEVEMENTS AND RESULTS

SAFETY AND SUPPLY

- Preliminary Safety framework for the Corinth Hydrogen Valley completed.
- Green hydrogen supply to be initiated according to schedule.
- Open access publication of a scientific paper on alternative green hydrogen production technologies from biomass.
- HAZOP study for electrolyser and tube trailers completed.
- HAZOP study and QRA for 1st HRS of AVINOIL (subsidiary of Motor Oil) in Agioi Theodoroi completed.

HYDROGEN LOGISTICS AND DISTRIBUTION

- Four Tube trailers for virtual pipelines acquired (~990 kg H₂ at 380 bar) (3 co-funded by the project and 1 by Motor Oil's own resources).
- Scheduling and distribution optimization underway for road-based hydrogen transport (virtual pipeline).

INFRASTRUCTURE DEVELOPMENT

- Following a positive FID, the EPHYRA electrolysis unit will be upscaled to 50 MW under the RRF, including ancillary construction works for renewable hydrogen supply and distribution, with first green hydrogen expected to flow in 2026.
- One Hydrogen Refuelling Station (HRS) operational in Agioi Theodoroi Corinth, constructed with co-funding of CEF-Transport; one HRS under preparation of tendering procedure for public buses depot; three more planned.
- One hydrogen car under tender procedure by the Municipality of Loutraki-Perachora-Agioi Theodoroi with possibility now to load fuel from Agioi Theodoroi HRS.
- Technical specs completed for three hydrogen buses (OSY) to be co-funded by the project and 50 more hydrogen-powered buses expected to be funded by secured Modernisation Fund resources.
- Preparation of tender documents/specifications under way for 100kWe FC APU in Port of Piraeus.
- Feasibility studies launched for:

- Hydrogen-powered ferry (short-sea distance case);
- Hydrogen pipeline to FULGOR (pre-feasibility study);
- Hydrogen use in lubricant production (LPC).

COLLABORATION & KNOWLEDGE SHARING:

- Participation in international forums
- Strengthened ties with Austria's Hydrogen Valley ("WIVA P & G HyWest") through study visit, workshops and reports; Another study visit in North Netherlands Hydrogen Valley ("HEAVENN") by consortium scheduled for October 2025.
- Promotion of hydrogen innovation for regional growth through a high impact workshop focused on Peloponnese case for enhancing mobility and local value chains with over 90 participants in person and more than 60 online attendees from 28 countries, representing EU institutions, industry, academia, and public bodies.
- Fostering knowledge sharing and new skills gained on hydrogen mobility and safety during the co-organisation of the 3rd JIVE Roadshow across Greece and the Balkans.
- Emphasis on cross-border cooperation, including emerging markets like Crete, Cyprus and Egypt.

OUTREACH & COMMUNICATION:

- Project website launched for public access to updates and findings.
- Variety of social media activated to reach different target groups.
- Scientific publications and conference participations at national and international level to increase TRIÉRÈS' visibility.
- Honored with the prestigious Hydrogen Valley of the Year 2024 award, granted by the Clean Hydrogen Partnership in collaboration with the European Commission, demonstrating its substantial progress in hydrogen technology and highlighting its potential to transform the energy sector.

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