

Expected Impacts



Unlock new business models



Build Greece's first green hydrogen market



Decarbonise industry



Dismantle reliance on fossil fuel



Support future e-fuels and biofuels production



Maximise existing infrastructure



Lay groundwork for a green hydrogen hub



Boost energy security



Empower Europe's green hydrogen strategy

Consortium

PROJECT
COORDINATOR



CERTH
CENTRE FOR
RESEARCH & TECHNOLOGY
HELLENIC

Institute of
Low-Carbon Industrial Processes



ENVIROMETRICS
Climate | Environment | Energy



ITA
Instituto
Tecnológico
de Aragón



etaflorence
renewable
energies



The Efficiency Company

Contact us



ephyraproject.eu



info@ephyra-project.eu



EPHYRA project



Co-funded by
the European Union

The project is supported by the Clean Hydrogen Partnership and its members under the GA 101112220. Co-funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the Clean Hydrogen Partnership. Neither the European Union nor the granting authority can be held responsible for them.



European **P**roduction of
HYdrogen from
RenewAble Energy
Integration into an
Industrial Environment

EPHYRA aims to demonstrate how large-scale green hydrogen production can be efficiently integrated into existing industrial ecosystems, paving the way for Europe's hydrogen economy.



About

First-of-its-kind **30 MW** renewable hydrogen facility in South-eastern Europe (**now upscaled to 50 MW** with secured additional funding)

Fully integrated into **Motor Oil Hellas' Corinth Refinery**—Greece's largest private industrial complex

Produces up to **4,900 tonnes of green hydrogen** per year

Designed around **circular economy** and **industrial symbiosis** principles

Equipped with a **digital twin** and **advanced energy management system**

Supports EU climate goals by delivering **affordable, reliable green hydrogen**

Specific objectives

Design an advanced AEL electrolyser for efficient green hydrogen production.

Optimise synergies in hydrogen use, supply, and by-product valorisation.

Develop a digital twin and automation for real-time plant control.

Deploy and operate a full-scale, circular hydrogen production system.

Evaluate sustainability across technical, economic, environmental, and social dimensions.

Drive long-term impact through stakeholder engagement and scalable replication.

EPHYRA + Trieres:
Building Greece's Pioneering Hydrogen Valley

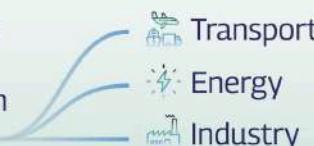
 **EPHYRA**

- Green hydrogen production through advanced AEL electrolysis
- Integrated at MOH's industrial refinery site

Supplies green hydrogen to

 **Triērēs Hydrogen Valley**  **TRIĒRĒS**
Greece's pioneering valley

- Production
- Storage
- Distribution
- Use Cases



Regional Impact

 Establishes a national hydrogen market in Greece

 Model for Mediterranean hydrogen economies

 Aligns with EU's climate neutrality and energy transition goals