



# HYDROGEN: From idea to reality in Cyprus

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**ΣΥΝΔΕΣΜΟΣ ΥΔΡΟΓΟΝΟΥ ΚΥΠΡΟΥ**  
**CYPRUS HYDROGEN ASSOCIATION**

# WHO WE ARE: Cyprus Hydrogen Association

- Established on 12 March 2021
- Aims to promote the deployment of hydrogen technologies in Cyprus
- Supports hydrogen as a key pillar of the energy transition
- Promotes business and technological innovation for long-term economic growth
- Encourages hydrogen solutions to reduce the use of conventional fuels and lower greenhouse gas emissions, especially in high-emission sectors



# Project | First Pilot Hydrogen Project in Cyprus

Insights from the  
GreenH<sub>2</sub>CY Experience



Funded by the European Union

Emissions Trading System  
Innovation Fund



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# The Project

in a nutshell

# INTERGRATED ROAD TRANSPORT SOLUTION

The first project in Cyprus approved under the **Innovation Fund of EU**.

**Starting date:** June 2023

**Funding Rate:** 60% of CAPEX [4.5 Million Euros]

**Entry into operation:**

- Originally planned:  
September 2025
- Updated following delays:  
September 2026
- New estimated entry into operation:  
November 2027



01. COORDINATOR

**KETONIS HOLDINGS LTD  
(Ketonis H.)**



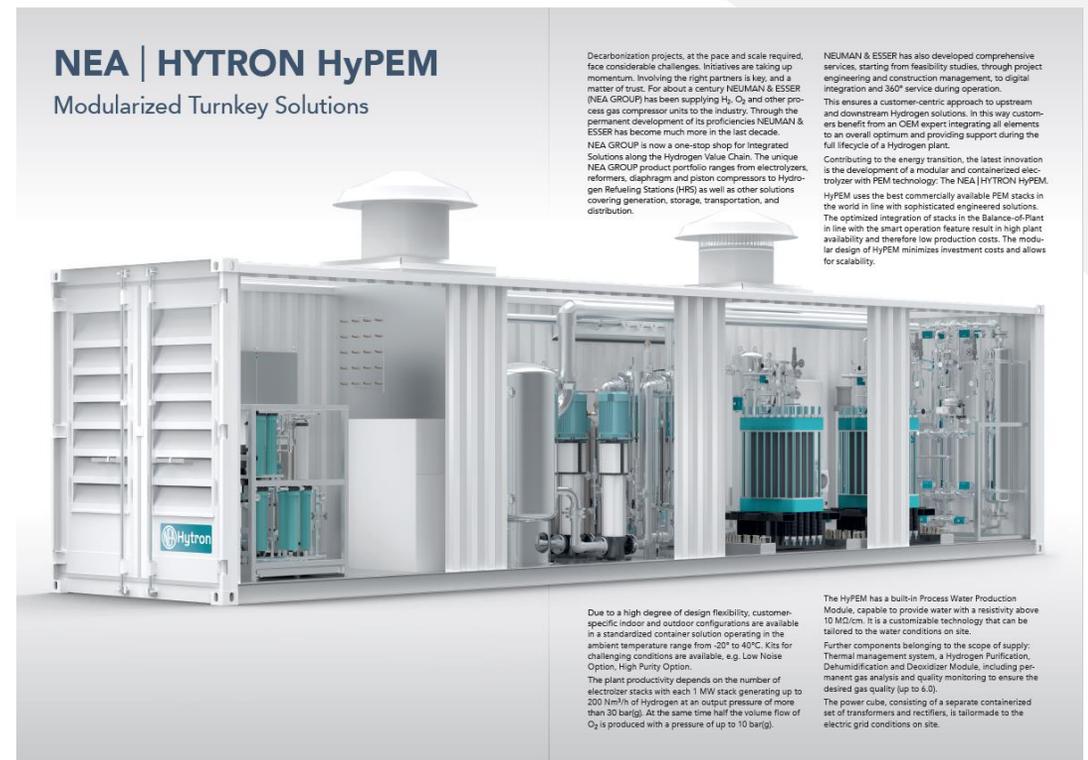
02. BENEFICIARIES

**MCK. FUTURE FUELS LTD  
(Future Fuels)**



# INTERGRATED ROAD TRANSPORT SOLUTION

- The GreenH2CY Project entails for the installation and operation of a **2 MW Proton Exchange Membrane (PEM)** electrolyser.
- The project includes a **hydrogen storage facility** [1 ton] and a **re-fuelling station in the same location**.
- The location of the plant and refuelling station is at Larnaca District (**Aradippou Municipality Industrial Area**).
- The hydrogen production plant is expected to produce **150 tonnes of hydrogen fuel per year**.



Source: NEA group

The substitution of diesel fuel in the road transport results in a reduction of greenhouse gas emissions by 2,2 kt per year.



# INTERGRATED ROAD TRANSPORT SOLUTION

## Input

- **Electricity from Renewable Energy Sources** – Grid connected / use of Guarantees of Origin (GOs)
- **Wastewater from Tertiary Treatment (WWTP)** - contributes to circular economy



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# Challenges, Delays & What They Mean for Hydrogen Projects

GreenH2CY Experience

# Complicated EU Regulatory Framework

- The only method that fully aligns with the goal of net-zero emissions during production is **renewable hydrogen**.
- The EU legally regulates renewable hydrogen as a **Renewable Fuel of Non-Biological Origin (RFNBO)**, defined in Article 26(3) of the Directive (EU) No. 2018/2001 (Renewable Energy Directive, RED).

# Commission Delegated Regulation (EU) 2023/1184

## Methodology for Recognising Renewable Electricity in RFNBO Production

Defines when electricity used for hydrogen/RFNBO production can be considered **fully renewable**.

Hydrogen qualifies as renewable only if **all three criteria** are met:

- **Additionality:** New renewable generation must be added to support hydrogen production.
- **Temporal correlation:** Hydrogen must be produced during the same time period as RES generation.
- **Geographical correlation:** RES plants must be in the same or an eligible neighbouring bidding zone.

### Permitted Electricity Supply Pathways

- **Direct connection** to a renewable energy installation (e.g. solar/wind).
- **Grid connection + PPA** from a **non-subsidised** renewable plant.
- **Grid electricity** from a bidding zone with **low emissions intensity**



**Compliance:** may be demonstrated through **recognised national or international voluntary certification schemes** (Article 9).

# Licensing Procedure

21 July 2022

**TOWN PLANNING  
APPLICATION**

14 February 2023

**TOWN PLANNING  
APPLICATION BY WAY  
OF DEROGATION  
FROM THE  
PROVISIONS OF THE  
LOCAL PLAN OF  
LARNAKA**

20 December 2023

**FULFILLED ALL THE  
REQUIREMENTS AND  
COMMENTS MADE BY  
THE TOWN PLANNING  
DEPARTMENT**

5 February 2024

**REPORT FROM TOWN  
PLANNING DEPARTMENT  
TO SY.ME.PA  
(Derogations Study  
Council)**

12 April 2024

**PUBLIC  
HEARING**

25 September 2024

**PLANNING  
PERMIT  
ISSUED**

June 2025

**BUILDING  
PERMIT ISSUED**



# Inadequate funding mechanisms at EU and national level

	Innovation Fund grants	European Hydrogen Bank	H <sub>2</sub> IPCEI	CEF-T/AFIF	CEF-E
<b>Description</b>	  		   		
<b>Sector</b>	Production Manufacturing <b>Offtake</b>	Production	Production Manufacturing Offtake Infrastructure	Mobility Infrastructure	Infrastructure
<b>Funding body</b>	European Commission (possibility of MS participation through Grant-as-a-Service)	European Commission (possibility of MS participation through Auction-as-a-Service)	Member States (each project needs notification by European Commission)	European Commission	European Commission
<b>Allocated funding</b>	€4.3bn allocated	€694m allocated, €992m in grant preparation, €836m reserved or allocated for AaaS	€13.8bn allocated	€352m allocated	€250m allocated for H <sub>2</sub> studies
<b>Assessment</b>					
<b>Speed of funding allocation</b>	●	●	●	●	●
<b>Administrative accessibility</b>	●	●	●	●	●
<b>Effective funding intensity</b>	●	●	●	●	●

**Needed improvements**

1. Expand available funding envelopes dedicated to hydrogen.
2. Accelerate Member State implementation of REDIII to enable project development and compliance
3. Establish a guarantee mechanism to enhance project bankability and attract private investment.
4. Improve assessment of project maturity to ensure funding targets viable projects.
5. Introduce more flexible funding allocation to adapt to evolving project needs.
6. Streamline evaluation and approval processes, with a target maximum duration of one year.

# RED III – Key Points

## (2023 Amendment)

- The EU increased its **binding renewable energy target for 2030 to at least 42.5%**.
- **Article 25** sets a binding requirement for the transport sector:
  - **5.5%** of the fuel mix must come from **advanced biofuels and renewable hydrogen** by 2030.
  - Within this, **at least 1% must be renewable hydrogen**.

# National Support Scheme for Possible Off-Takers

- **Eligible expenditure:** Fuel Cell Electric Vehicles (FCEVs) – **both new and used.**
- Funding covers the **additional investment cost** of the alternative vehicle compared to a conventional vehicle of the same type.





# Thank You.

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