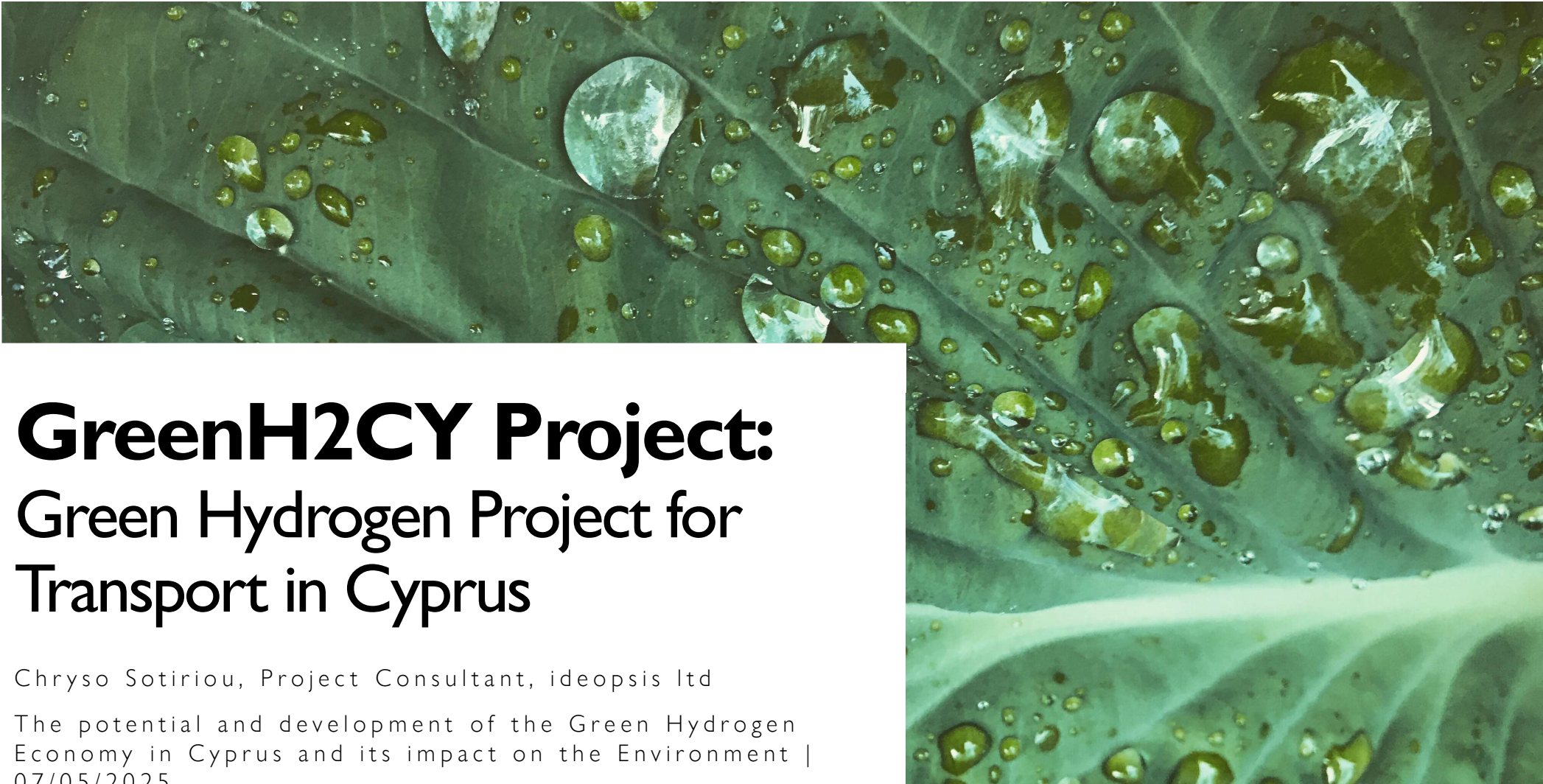




GreenH2CY Project:

Green Hydrogen Project for Transport in Cyprus

Chryso Sotiriou, Project Consultant, ideopsis ltd

The potential and development of the Green Hydrogen
Economy in Cyprus and its impact on the Environment |
07/05/2025



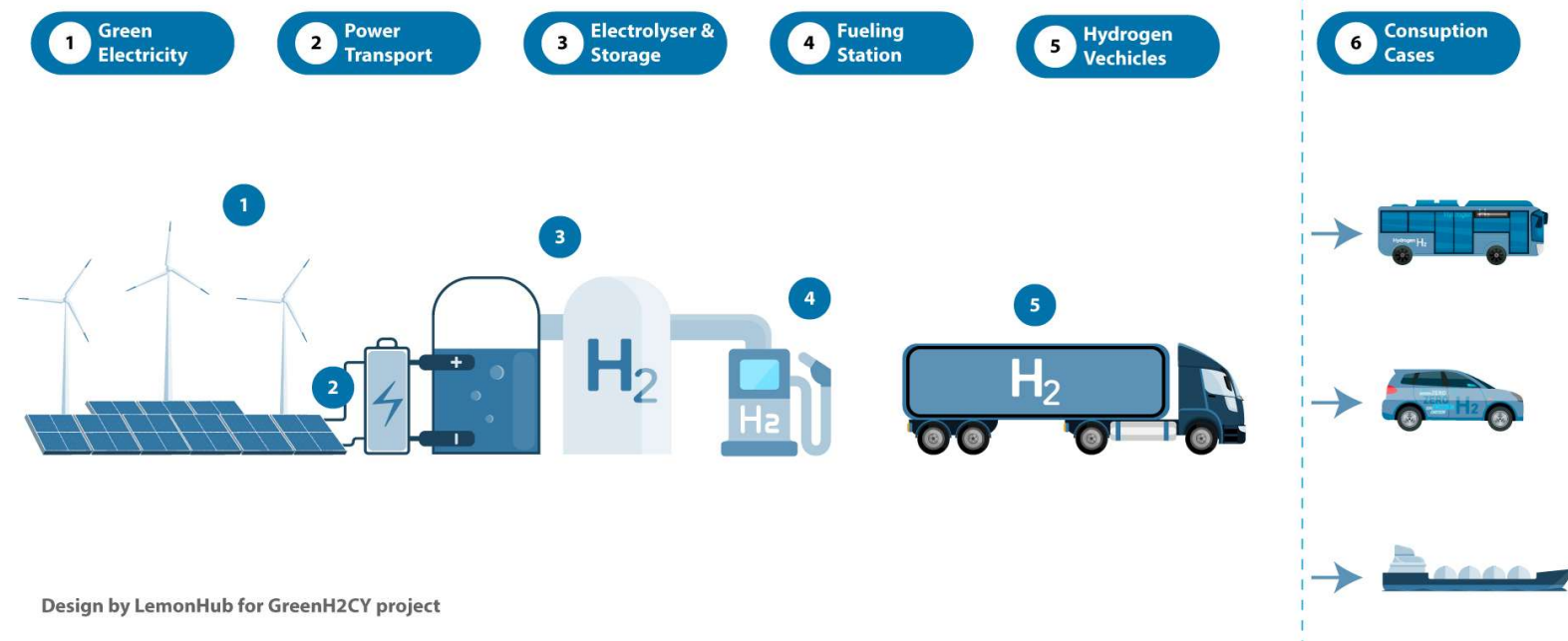
FUTURE FUELS LTD



ideopsis

GreenH2CY Project

INNOVATION



G²H₂Cy

Green Hydrogen Cyprus

Project

The **first** and, to date, only project in Cyprus approved under the Innovation Fund of EU.

Starting date: June 2023

Entry into operation: September 2026



01. COORDINATOR

KETONIS HOLDINGS LTD
(Ketonis H.)



02. BENEFICIARIES

MCK. FUTURE FUELS LTD
(Future Fuels)





Project Briefing

GreenH2CY Project

TECHNICAL

INTERGRATED ROAD TRANSPORT SOLUTION

The **GreenH2CY Project** entails for the installation and operation of a **2 MW Proton Exchange Membrane (PEM)*** electrolyser consisting of 2 electrolysis stacks, 1 MW each.

The project includes a **hydrogen storage facility** [1 ton] and a **re-fuelling station** in the same location.

* PEM electrolyzers are ideal for small-to-medium scale, high-purity, and flexible applications, especially when paired with variable renewable energy sources [Dynamic operation, Hydrogen purity, Compactness]

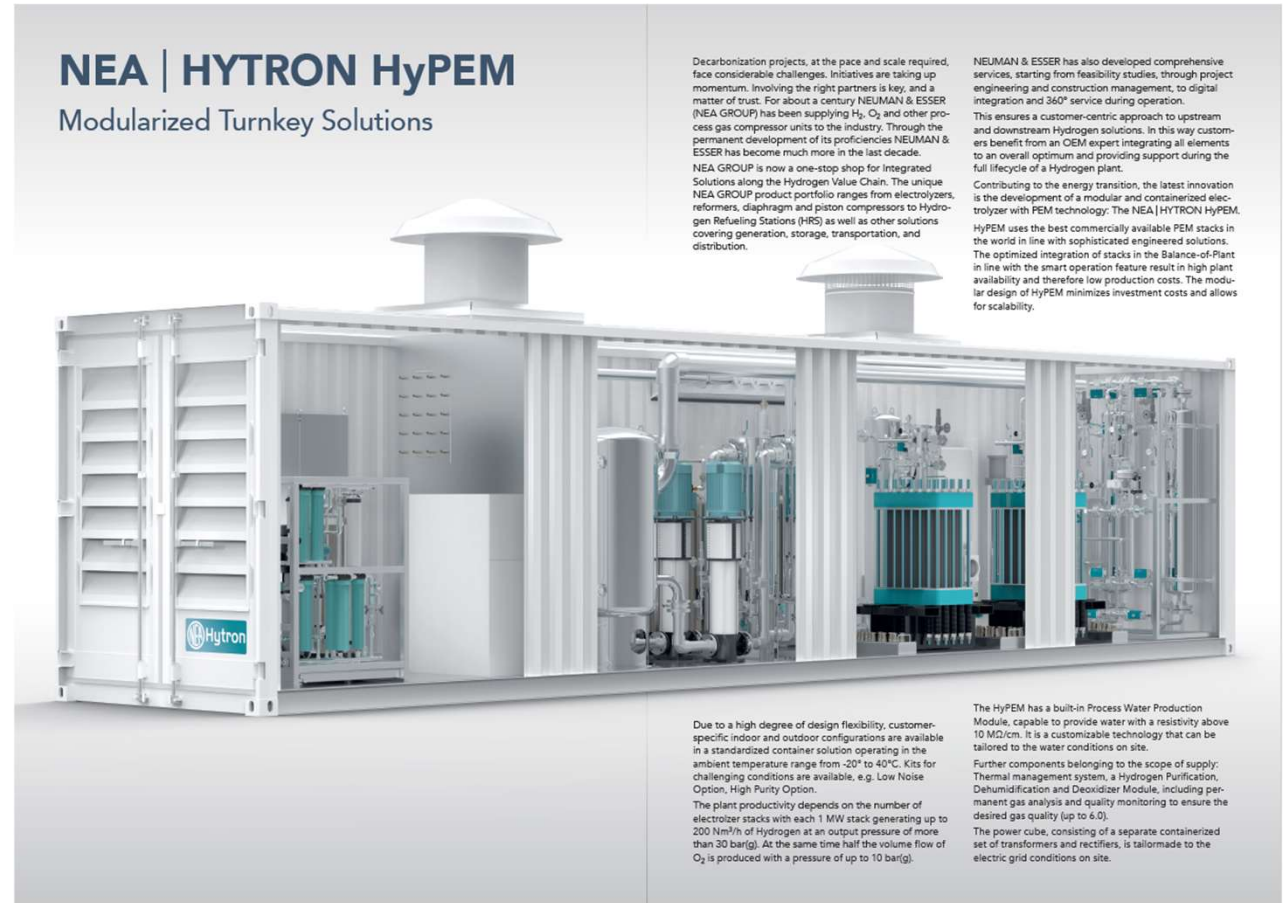


GreenH2CY Project

TECHNICAL

The entire equipment and all its components are **containerized** and easily movable and transported.

Moderate impact on the aesthetics of the area.



Source: NEA group

GreenH2CY Project

LOCATION

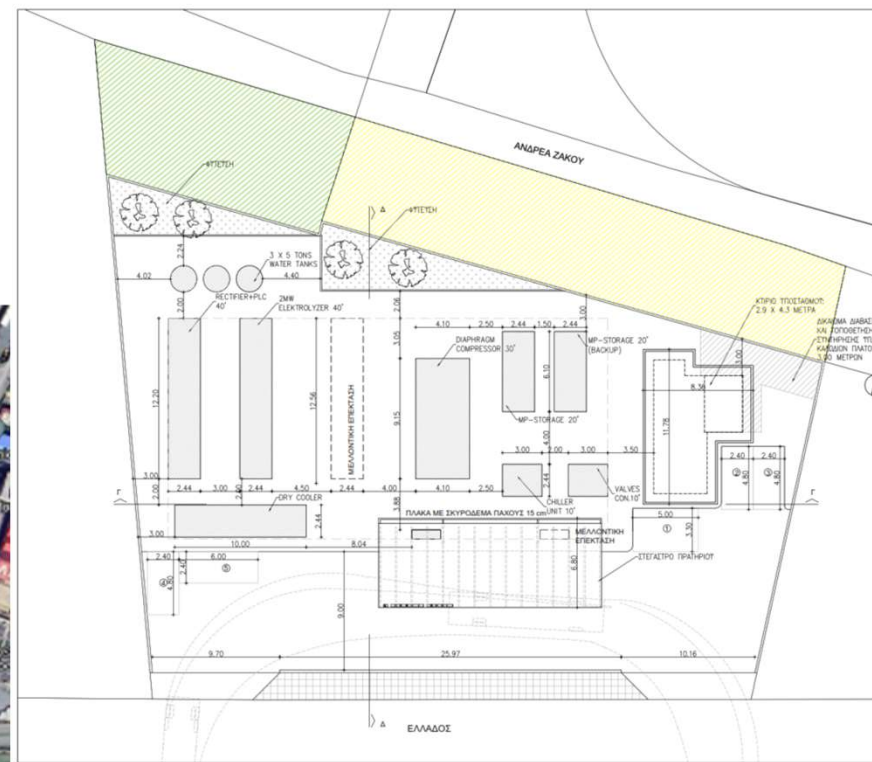
The location of the plant and refuelling station was selected at **Larnaca District (Aradippou Municipality Industrial Area)**.

The following criteria were followed for the selection of the location:

- Access to major routes and key transportation junctions.
- Access to a major transport location/destination such as an airport or port.
- Availability of a (commercial) plot of land for the electrolyser, related infrastructure and refuelling station including access to the electrical network.
- Compliance with the safety and environmental requirements to install and generate green hydrogen.
- The site selection also considered minimizing ecological footprint and avoiding disruption to local biodiversity.



LOCATION



GreenH2CY Project

INPUT



Electricity* from Renewable Energy Sources – Grid connected / use of guarantees of origin (GOs)



Wastewater* from Tertiary treatment (WWTP) from the Water Development Department of Larnaca - contributes to circular economy



Reduction of Greenhouse Gas Emissions

0 greenhouse gas emissions from the operation of the plant*

*Power requirements 54 kWh/kg of H₂

*10 litres of water per kilogram of H₂

*Delegated act of RED II for RFNBO hydrogen (<3.38 kgCO₂/kgH₂)



GreenH2CY Project

OUTPUT

Product: The hydrogen production plant is expected to produce 150 tonnes of hydrogen fuel per year.

Substitute product: That is equivalent to 627 tonnes of diesel fuel per year.

GreenH2CY Project

ENVIRONMENTAL BENEFIT

The substitution of diesel fuel in the road transport results in a reduction of **greenhouse gas emissions by 2,168 tons* per year.**

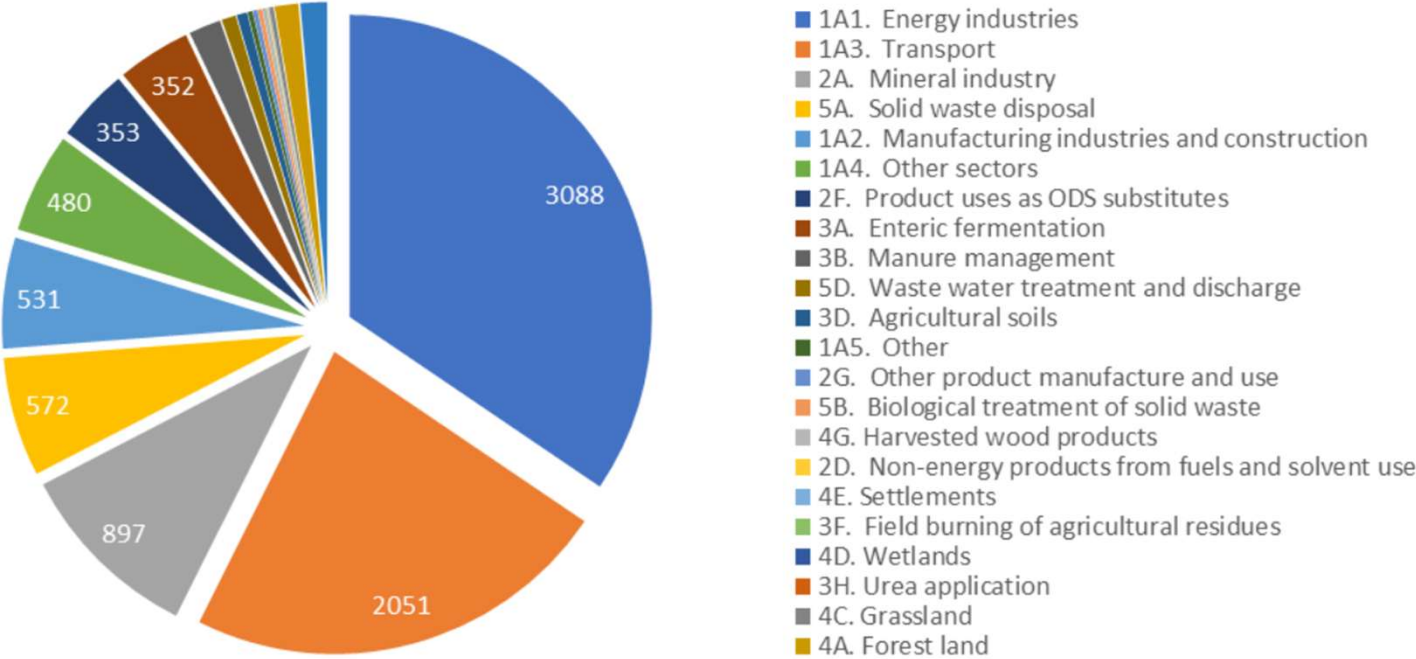
**3.46 tons of CO₂e per ton of diesel*



Cyprus & GHG Emissions

GHG Emissions expressed in thousand tonnes of CO2 equivalent

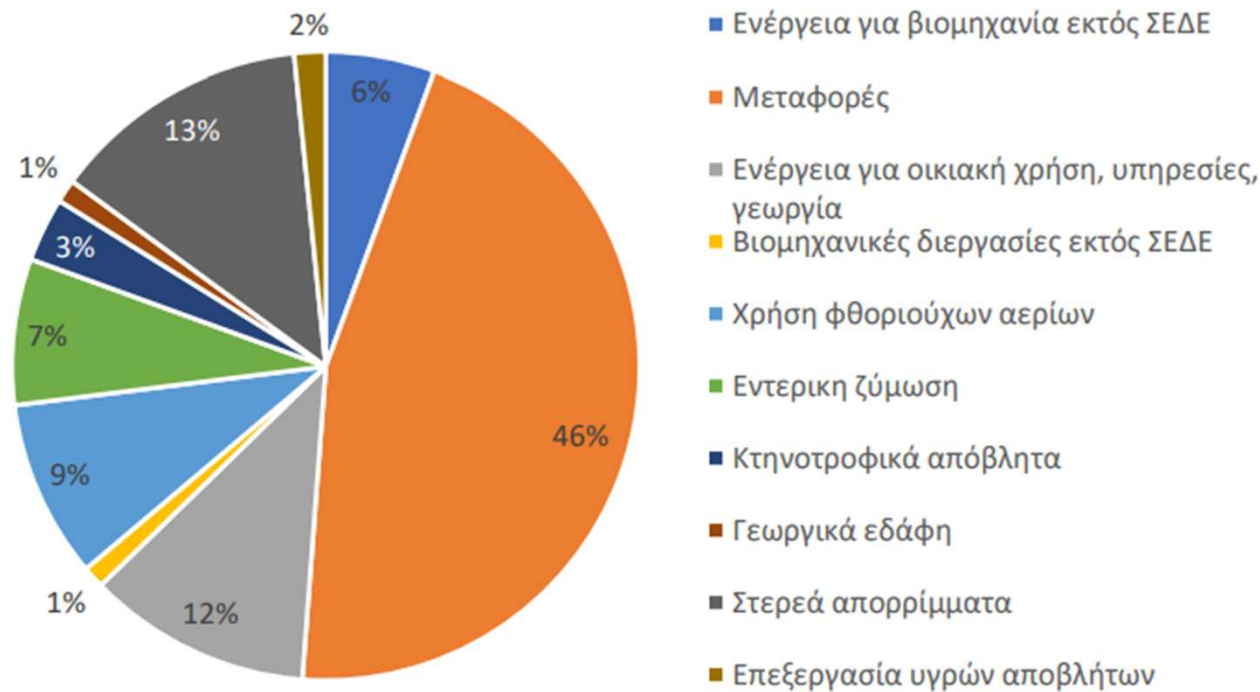
Source: NIR 2023



Cyprus & GHG Emissions

Greenhouse gas emissions in Cyprus for 2022 counting towards the national target for achieving the objective set under Effort Sharing Regulation (EU) 2018/842

Source: NECP





Project Status & Progress



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

COMPLETED

DOCUMENTED
RECOMMENDATION
TO THE COUNCIL
OF MINISTERS OF
CYPRUS BY
DEROGATIONS
STUDY COUNCIL

COMPLETED

DECISION BY
COUNCIL OF
MINISTERS OF
CYPRUS

25 September 2024

PLANNING PERMIT
ISSUE



Project Website:
<https://greenh2cy.futurefuels-cy.com/>

THANK YOU

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