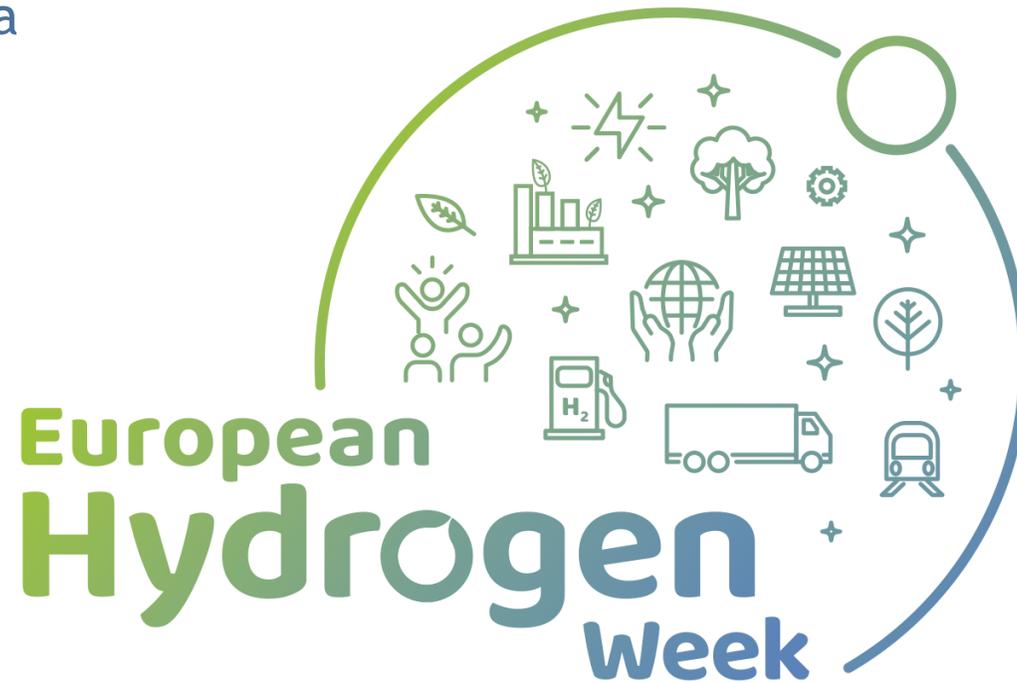


# Green Hysland

Development of a H<sub>2</sub> ecosystem  
on the island of Mallorca



Carlos Navas

Enagás Renewable

<https://greenhysland.eu>

[cjnavas@enagasrenovable.es](mailto:cjnavas@enagasrenovable.es)



EUROPEAN PARTNERSHIP



#EUResearchDays  
#PRD2022  
#CleanHydrogen

# Project Overview

**Call year: 2020**

**Call topic:**  
FCH-03-2-2020:  
Decarbonising  
islands using  
renewable  
energies and  
hydrogen - H2  
Islands

**Project dates:**  
January 2021 - December 2025

**Total project budget**  
(eligible costs):  
**20,498,255.00 €**



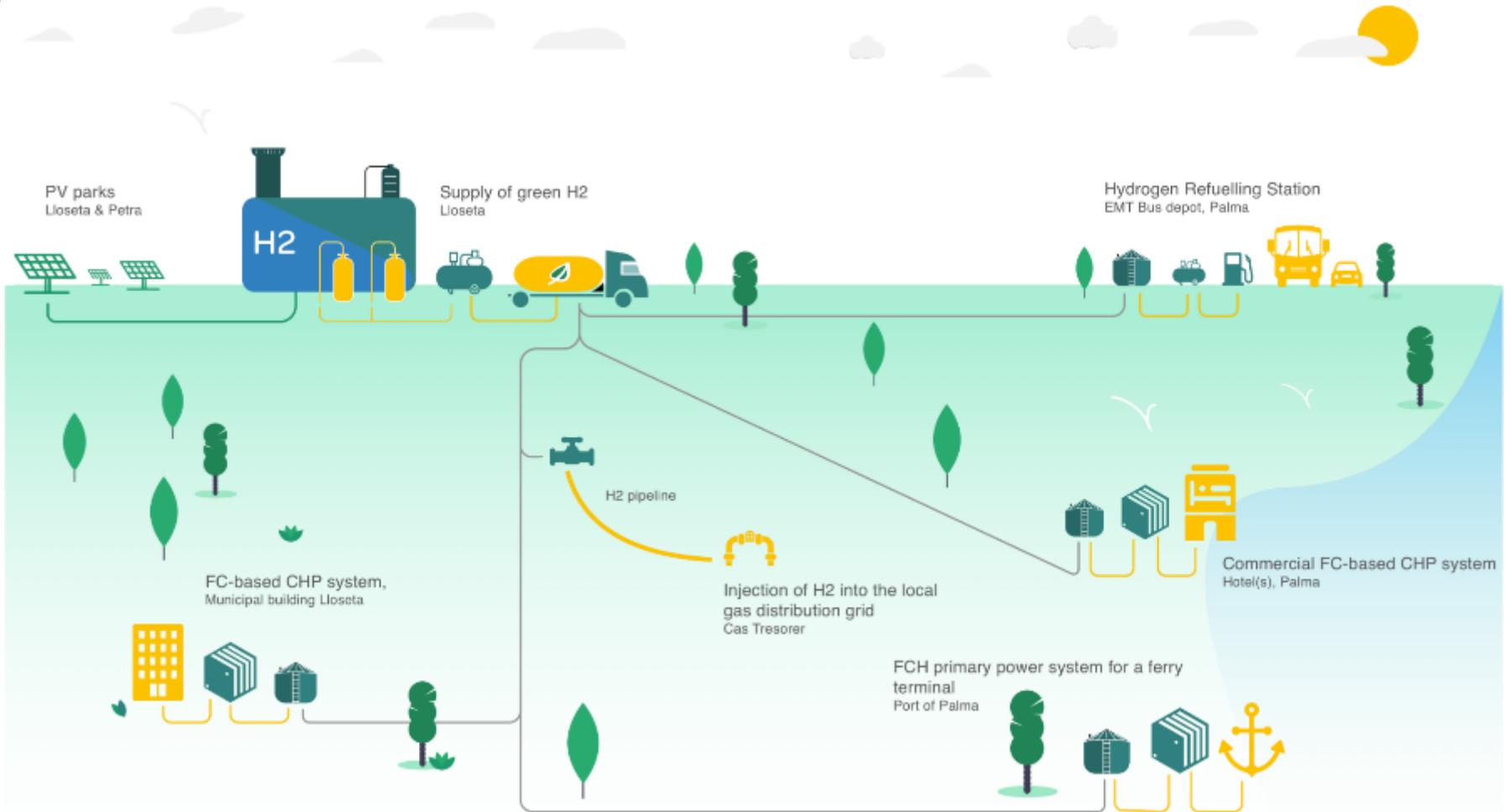
**% stage of implementation**  
02/12/2021: 15%

**FCH JU max. contribution:**  
9,999,999.50 €

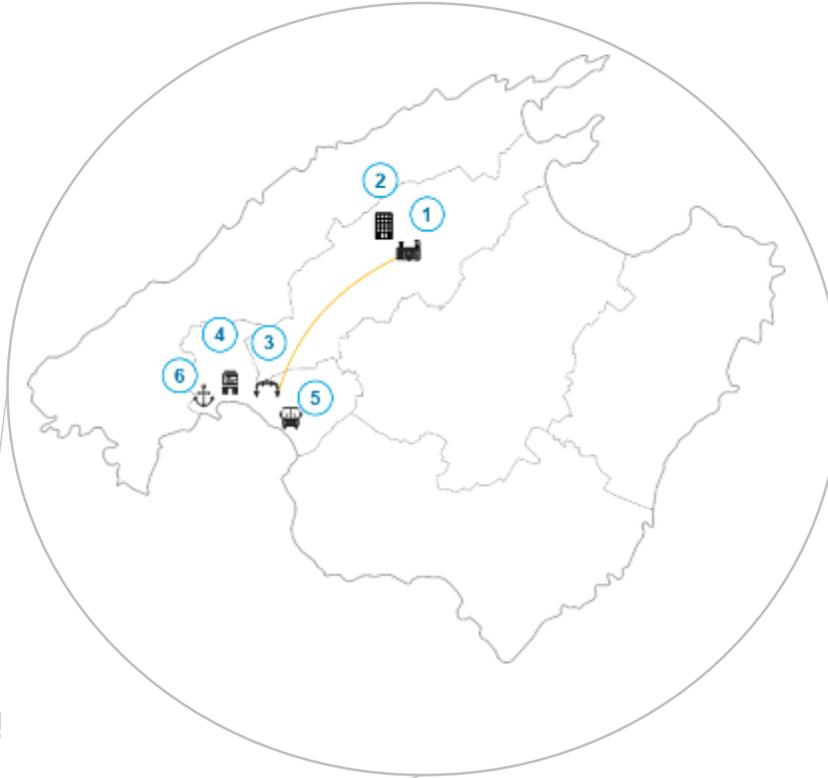
**Other financial contribution:**

- Partners' own resources 10,498,255.5 €
- IDAE's grant 2,456,620 € for the PV plants

# Green Hysland concept



# Green Hysland - Site Locations



- 1 Green hydrogen production plant at Lloseta
  - 2 Fuel cell in a public building in Lloseta
  - 3 H2/GN blending station at Cas Tresorer & injection point to NG grid
  - 4 Fuel cell at hotel in Palma
  - 5 HRS at EMT de Mallorca
  - 6 Fuel Cell at the maritime station in Palma Port
- Hydrogen pipeline





## Achievement to-date

Lloseta PV Plant  
Petra PV Plant



Operation  
Operation

25%

50%

75%

### Lloseta PV Plant

Peak power: 8.56 MWp  
Nr. of PV modules: 15,848  
Planned energisation date: 27/12/2021

### Petra PV Plant

Peak power: 5.85 MWp  
Nr. of PV modules: 10,836  
Planned energisation date: 21/02/2022



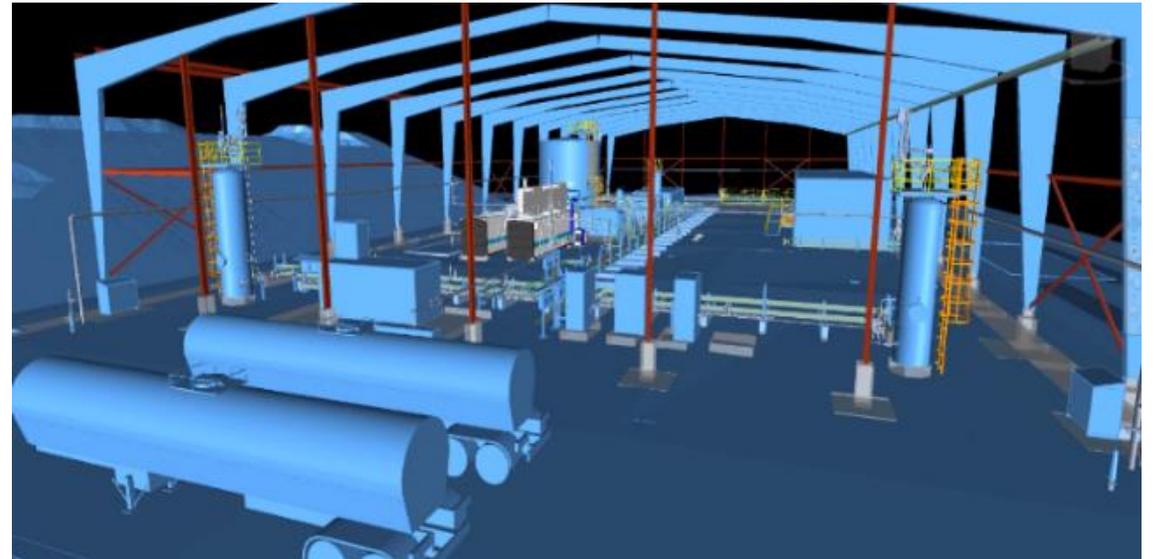
# Project Progress/Actions - H2 Production Plant



25% 50% 75%

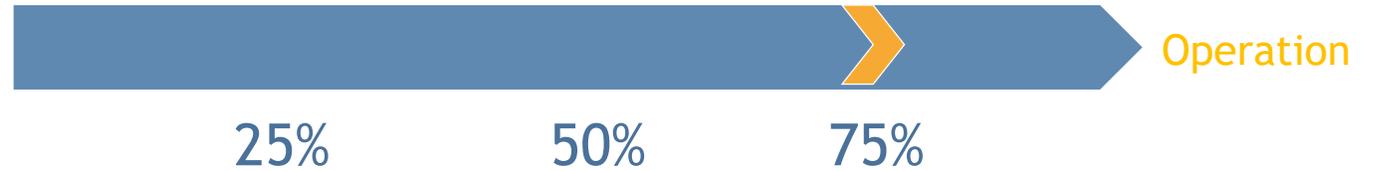


Inauguration of the H2 production plant on 14 March 2022.



## Achievement to-date

Buses at EMT  
Palma



- Buses procured: 5 x 12m Urbino buses from Solaris
- Planned delivery in Q1 2023
- H2 storage: 5 tanks with total of 37.5 kg of H2
- 70kW HDv8 Ballard Fuel cell
- 1 pack of LTO batteries: 30.4 kWh





## Achievement to-date

**HRS**  
Pipeline & grid inj  
Tube trailers

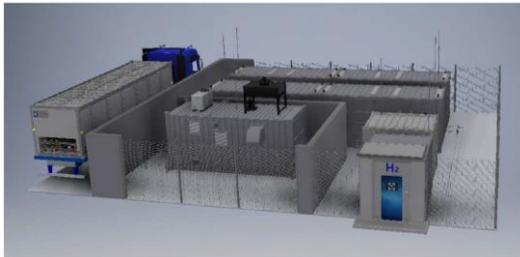


Operation  
Operation  
Operation

25%

50%

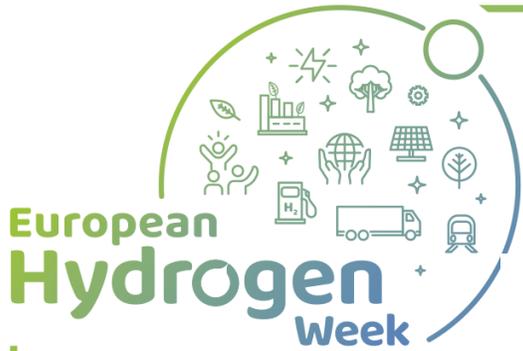
75%



- HRS procured: start of operation expected Q3 2023
- Dual use (350 and 700bar)
- Interim solution planned for fuelling buses

- Most permits obtained: start of construction expected end of 2022
- Start of operation expected Q1-2 2023
- Design for injection point finalised

- Tube trailers designed
- 1 built / 1 in construction



# Green Hysland - Key figures



Avoided carbon footprint: more than **21,000 tpy**



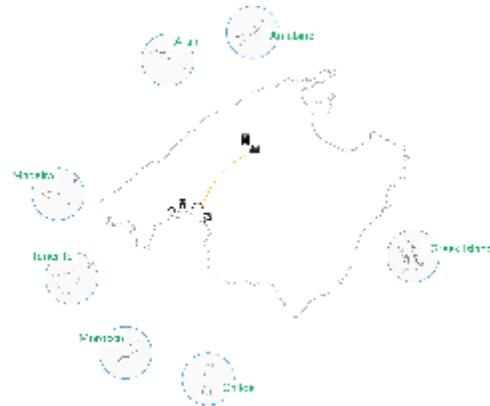
New **direct and indirect employment ecosystem** associated to **hydrogen**



Development of a **sustainable large-scale island-based H2 hub** in Mallorca



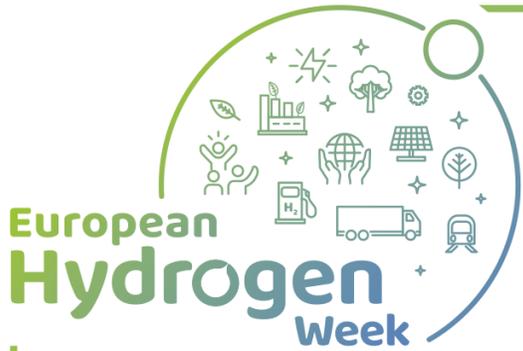
Development a **long-term roadmap** to lay the path for a local & regional based economy towards 2050



**Scalability and Replicability**



Estimated **investment**  $\approx$  50 M€



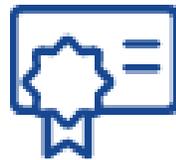
# Exploitation Plan/Expected Impact

## Exploitation (not exhaustive)

Creation of a new company to commercialize H2



Creation of a regional roadmap



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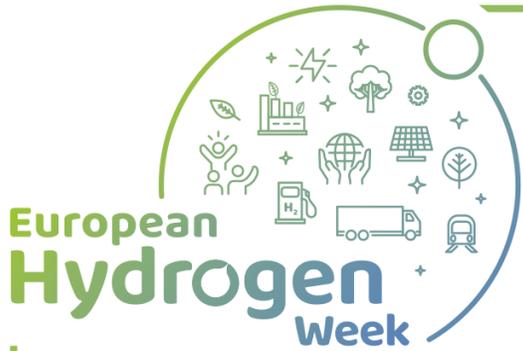
## Impact

Ability to commercialize H2 through a proper commercial structure with committed partners to jump start a regional H2 economy

Sets the basis for future exploitation and scale-up at regional level to achieve energy transition and socio-economic goals



Co-funded by the European Union



# Synergies with other Projects and Programmes



## Green Hysland's "H<sub>2</sub> Island Hub"



National co-funding enabling increased project scope - more fuel cell buses



# Risks, Challenges and Lessons Learned



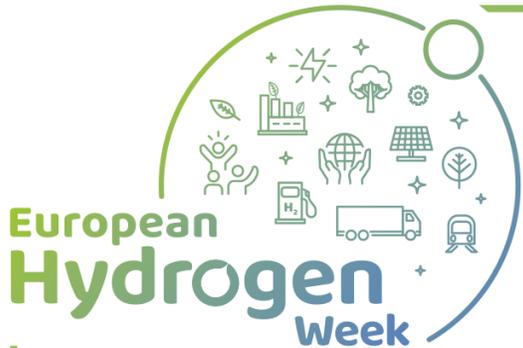
Permitting  
and  
Regulations



Awareness  
Difficult to  
engage with  
public, offtakers



Reliability  
Optimize system  
design  
Due diligence on  
OEMs



# Green Hysland consortium



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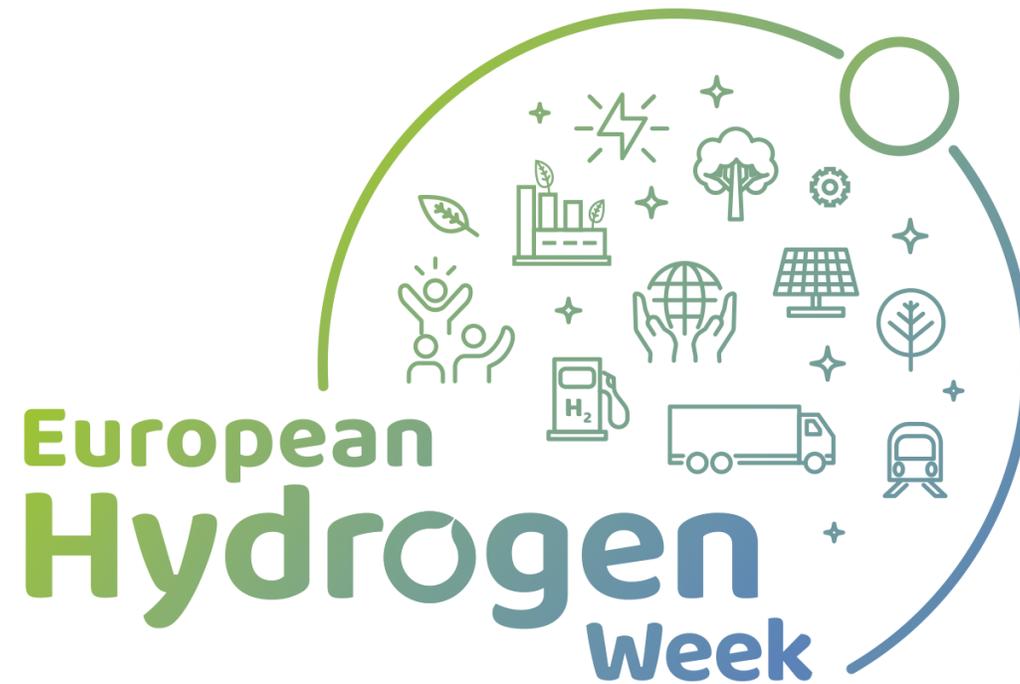


BALEARIA



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European  
**Hydrogen**  
Week



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