

# AMBHER

## Approach and methodology



## Ammonia and MOF Based Hydrogen storage for euRope

[www.ambherproject.eu](http://www.ambherproject.eu)



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Phase 1 (M1-M24). R&D-Key component optimization and selection

Phase 2 (M24-M40). Scale up and Prototypes construction

Phase 3 (M40-M48). Demonstration at TRL5

**WP1. Business case definition & Exploitation**



**WP2. System requirements, design and modelling**

Of key components: MOFs, vessel and Catalyst, membranes, reactors and overall system



**WP3. Key materials and components for long term Hydrogen Storage**

Development and scale-up of catalysts and membrane that will be integrated in the prototypes. By M24, the catalysts will be selected and afterwards scaled-up. In parallel further studies and optimization will be performed until the end of the project

To TRL5



To TRL4

**WP4. Key materials and components for short term Hydrogen Storage**

Development and scale-up of MOFs and Vessel that will be integrated in the prototypes. By M24, the MOFs will be selected and afterwards scaled-up. In parallel further studies and optimization will be performed until the end of the project

To TRL5



To TRL4

**WP5. System integration and validation**

- Development of the two hydrogen storage prototypes.
- Validation of the prototypes at MAH and TUE at TRL5



**WP6. Environmental and Social LCA and economic assessment**

LCA, LCC, Health and Safety of the two prototype systems



**WP7. Dissemination and communication**



**WP8. Project Management**



Selection of most promising Key components & System design

Prototypes ready for delivery

# AMBHER concept and partners

The AMBHER project aims at providing a quantum leap in the development of **hydrogen storage technologies**, both for **long-term** in the form of ammonia, as for **short-term** in the form of **ultra-porous materials**, setting the basis for future commercialization of greener technological pathways all along the value chain.

- Designing and setting up a broad and complete network of value chains.
- Developing a set of cost-effective and environmentally friendly flexible technologies that can be easily tailored for the storage of H<sub>2</sub> in different forms and for different applications (Energy & Transport among others).
- Laying the foundations for new business opportunities,

