

HySTrAm

Hydrogen Storage and Transport using Ammonia

The project has been granted €5,7 million from the European Union's Horizon Europe research and innovation programme to contribute to the deployment of low carbon industry applications and breakthrough technologies, in the field of hydrogen storage.



WHAT IS THE PROJECT'S OBJECTIVE?

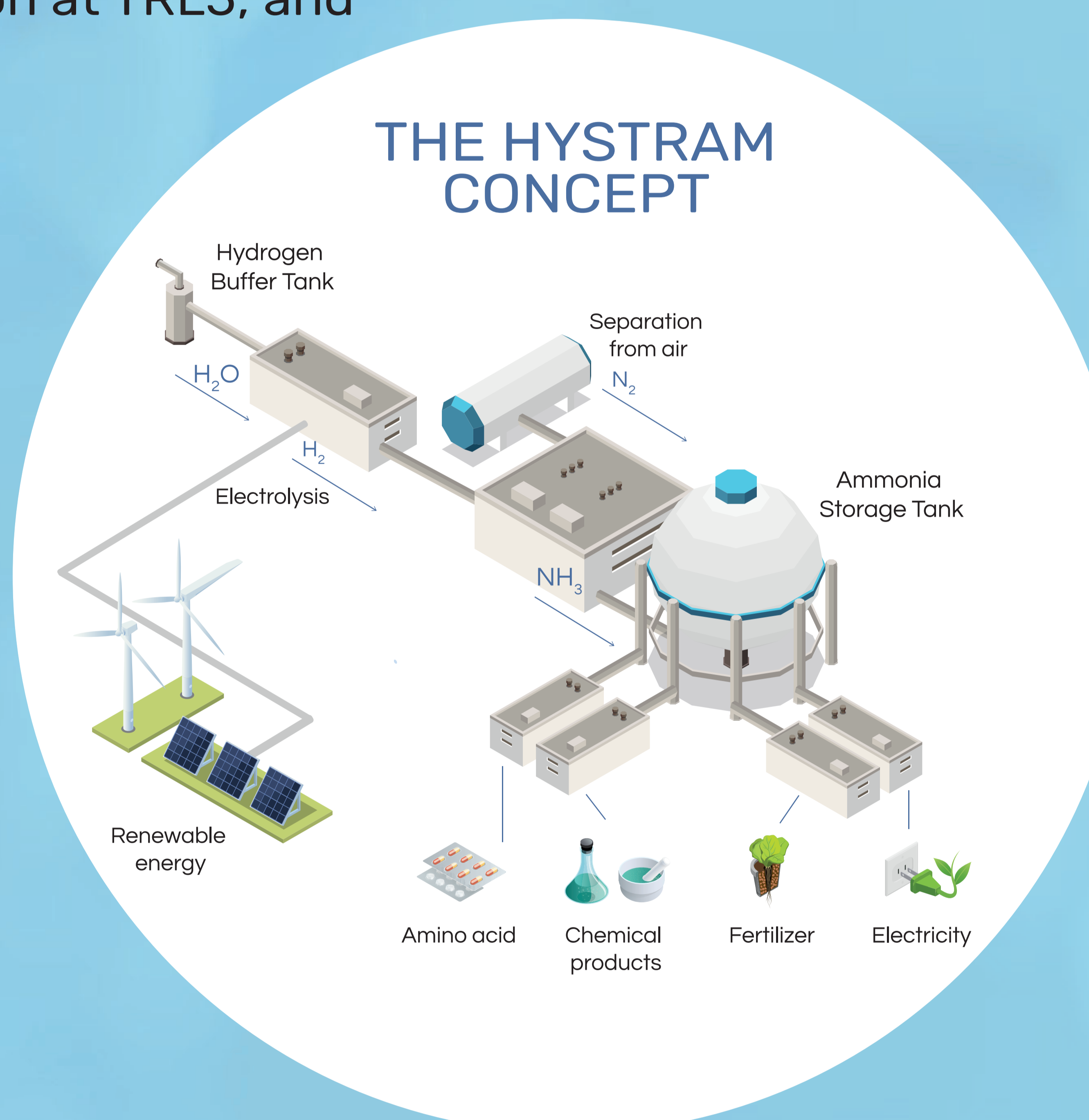
The aim of the HySTrAm project is to build a plant at Technology Readiness Level (TRL5) which demonstrates a production process of green ammonia that is equally cost effective and commercially attractive. The system will test a combination of porous materials and reinforced pressure vessels that will demonstrate lower pressure alternatives for hydrogen storage and safer transport options.

The HySTrAm project is expected to have the following objectives:

- Development of functional catalyst/sorbent materials for ammonia synthesis;
- Development of new ultra-porous materials with high H₂ capacity;
- Realisation of a lightweight composite vessel for physical-adsorption hydrogen storage;
- Design, construction, optimisation and demonstration of dynamically operated packed bed reactors for ammonia synthesis;
- Demonstration of the overall HySTrAm solution at TRL5; and
- Validation of a business case.

TRANSFORMING HYDROGEN INTO AMMONIA

The HySTrAm project will facilitate the transformation of hydrogen into ammonia thereby contributing to the decarbonisation of the energy sector. The innovative solutions will be able to produce 'green ammonia' from hydrogen at lower pressure, thereby making the process more efficient. These solutions will also aim to solve the energy challenges that Europe is facing today. In addition, this will strengthen Europe's technological leadership, and create economic growth and jobs across the full European value chain.



The innovative results will have technological, economical and societal benefits:

- Resilient, sustainable and secure (critical) raw materials value chains for EU industrial ecosystems, in support of the twin green and digital transformations;
- New sustainable-by-design materials with enhanced functionalities and applications in a wide range of industrial processes and consumer products;
- Leadership in producing materials that provide solutions for clean, toxic/pollutant free environment, decarbonising industry, and safeguarding civil infrastructures;
- Leadership in circular economy that strengthens cross-sectorial cooperation along the value chain and enable SMEs to transform their activities and business models; and
- Increased adoption of key digital and enabling technologies in industrial value chains and strategic sectors, paying particular attention to SMEs and start-ups.

STAY IN TOUCH

PROJECT COORDINATOR



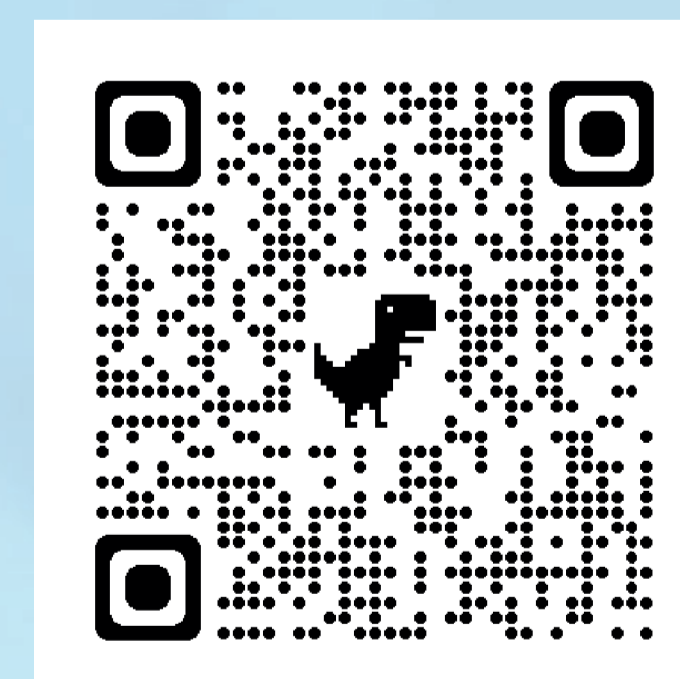
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