Launch of the HYGHER project on high-pressure hydrogen distribution

- **The HYGHER project will demonstrate the feasibility of an innovative, cost-effective, and reliable high-pressure value chain to transport hydrogen from production sites to refuelling stations.**
- **Led by a European consortium of private and public companies with unique and complementary hydrogen expertise, this project has been awarded a €5 million grant by the Clean Hydrogen Partnership.**

*A group of European partners today announce the selection of the **HYGHER** ("***HYdroGen High-pressure supply chain for innovative and cost Efficient distRibution***) project in the competitive call "Demonstration of high-pressure (500-700 bar) supply chain" organised by the Clean Hydrogen Partnership.*

*This new project will demonstrate innovative technologies for transporting hydrogen at high pressure from production sites to refuelling stations – on a scale and at pressure levels that are unprecedented in today's hydrogen mobility market. With a grant of 5 million euros awarded by the **Clean Hydrogen Partnership**, the project will focus on real-life demonstration of innovative components and their optimal integration across the hydrogen distribution value chain. The project has started in January 2024, and will run for 36 months.*

From concept to reality with joint efforts

HYGHER is run by a European consortium of leading research institutions and innovative SMEs. The **European Institute for Energy Research** (**EIFER**, Germany) coordinates the project and will assess the economic performance of the demonstrated value chain. Two innovative SMEs will manufacture the main sub-components: **EIFHYTEC**, a French start-up, will manufacture a thermo-chemical compressor to compress hydrogen at the production site. **RECOMA**, an Italian trailers integrator, will produce two high-pressure trailers featuring novel cascading concepts for optimised filling and unloading. **HYPE**, the pioneering green hydrogen mobility platform launched in Paris in 2015, will operate the entire HYGHER high-pressure distribution value chain, which includes:

- The new innovative high-pressure filling centre, which integrates the **EIFHYTEC** compressor and is connected to one of **HYPE**'s own green hydrogen production units in the Paris area;
- The distribution of compressed hydrogen to **HYPE**'s hydrogen refuelling station (HRS) network in the greater Paris area (Île-de-France) using the project's first-of-its-kind high-pressure **RECOMA** trailers.

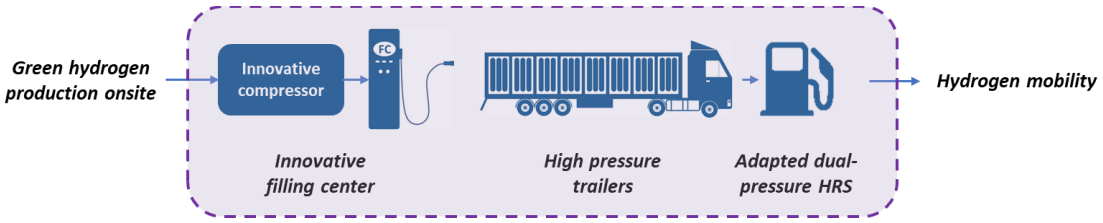
The **Fraunhofer Institute for Chemical Technology** (Germany) will develop a dedicated safety approach including research and improvement for regulations, codes and standards as well as the performance of risk analysis. The **University of Ljubljana** (Slovenia) will ensure early integration of circularity aspects to maximise the sustainability of the value chain.

From the start, technical and market conditions for future upscale will be investigated and replications prepared. To that end, the consortium will be supported by **German technology transfer centre Steinbeis Europa Zentrum,** which will also raise awareness about the potential and benefits of the HYGHER solution, to accelerate market uptake.

Importance of cost-effective hydrogen distribution logistics

When produced from green energies, hydrogen is one of the most promising solutions to decarbonise the transport sector and the EU Council has committed to strengthening the hydrogen refuelling infrastructure. However, hydrogen mobility can only scale-up if it becomes widely available and affordable, which requires solving the issue of logistics (hydrogen distribution), which today represents about 50% of the overall cost of hydrogen at the HRS and remains a major technical and economic bottleneck for the wider deployment of hydrogen infrastructure.

The HYGHER project proposes to demonstrate the feasibility of an innovative, cost-efficient and reliable high-pressure value chain, by combining several innovative technologies ready for large-scale demonstration. By compressing hydrogen at the production site and transporting it at high pressure, strong reductions in CAPEX and OPEX of the distribution chain will be demonstrated, thereby lowering the price of hydrogen at the nozzle. Throughout the project, all requirements regarding design, safety, economic, and regulatory aspects will be addressed in order to facilitate future implementations.



Picture: Scope of the HYGHER project

About HYGHER

HYGHER is an EU project funded by the Clean Hydrogen Partnership which aims to demonstrate the maturity of an innovative high-pressure hydrogen distribution value chain. Deployed in the greater Paris area, the project includes the installation of an innovative filling centre able to compress hydrogen to high pressures, and the operation of two new high-pressure trailers to supply the network of HRS operated by HYPE in the greater Paris area. With a total budget of over €6.7 million, the seven consortium partners are working on improving and integrating all components across this new value chain. With specific efforts on innovative compression, circularity and safety, the project will allow sustainable and cost-efficient hydrogen distribution, removing one of the main barriers for the larger deployment of hydrogen mobility. The project starts in 2024 with a foreseen duration of 3 years. It is coordinated by the European Institute For Energy Research (EIFER, Germany).

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