HYDROGEN USAGE/MARKET UPTAKE

We welcome solutions related to hydrogen usage in the transport/mobility exc. We welcome SMEs developing electric vehicle with or without hydrogen extender (developing/already developed/ with or without extender or with intention to be developed/is being developed, or any similar idea/plans/development in the future). Optimal would be vehicle on hydrogen already developed/being in development, even if in the future.

We welcome also SMEs with any solutions to use hydrogen as a storage (fuel cell). Any developments or already developed solutions are welcome. It is advisable that applicants possess **certifications**, relevant **experience** and the **skills** related to electromobility or/and usage of hydrogen in transport. It is welcome that applicants have already some experiences on the markets related to their planned or already marketable solution. This is advisable to have however not "a must" and can be developed in the future. We welcome also partners already having OR developing solutions related to secure usage/transport of hydrogen**. Innovations/solutions addressing any step within security of hydrogen transport or storage** are very welcome.

FIBERS

We welcome SME's with solutions/innovations or activities related to (glass) fibers. This can be related to winding machines or other usages. We also search for SMEs working/having solutions of impregnation (of the fibers) related to winding process (or not). We are in search of partners with understanding of composite materials, having or developing composite materials or any other related processes. These solutions can be related to hydrogen or NOT.

Catalyst Design

We are seeking innovative solutions for catalyst design in the hydrogenation–dehydrogenation domain, with a focus on overcoming current limitations in durability and efficiency. Applicants should also demonstrate solid experience in catalyst replacement and, ideally, the ability to regenerate catalysts directly on site.

Design & Compactness

We are looking to collaborate with companies that have proven expertise in designing and building engines, to explore opportunities for improving the design and compactness of the DHR and enhancing its scalability for a wide range of future applications. A key selection criterion will be demonstrable capability to introduce upgrades to the current DHR design—

for example, hybrid systems for energy recovery and storage that support improved start-up performance or meet peak-power demands.

Pilot leader will provide applicants with all the technical information necessary for the preparation and development of their project, as well as training sessions on the use of the DHR to familiarize them with its functionality and performance. Agreements must be signed to protect confidentiality and relevant IP.

RENOVATION APPROACH

We seek solutions supporting the development of a modular renovation approach that enables the integration of NACHIP-based energy supply and storage systems into existing buildings. This may include **implementation methodologies, energy-benchmarking tools, communication strategies for building owners, KPI frameworks, and market research for relevant providers, whether already developed, under development, or planned for the future**. We also welcome SMEs able to design and deliver training for emergency first responders, including the preparation of protocols for fire and explosion risk management and the facilitation of knowledge exchange with specialized service providers, with the aim of identifying technology-related risks and improving public perception and acceptance. In addition, we invite comprehensive Life-cycle costing (LCC) analyses for deploying demonstration technologies on representative replication sites located within the eligible FSTP territory, covering at least two different building typologies such as public, multi-residential, or commercial buildings. Across all activities, relevant experience in renovation, energy systems, safety or risk management, or techno-economic assessment is advantageous.

PROCESS OPTIMISATION (DSP TOOL)

Related to DSP (decision support tool) we are looking for solutions for assessment of components. For example defining technical and economic parameters related to energy sector.

We also look for SMEs with experiences in component models. For example, that have already developed simple models of prototype components.

We are also searching for SMEs with already created international list of components needed in the hydrogen segment, such as electrolyzers producers in each EU and non EU country, hydrogen storage solutions, with already available technical and economic characteristics.

Application of hydrogen demo

Applicants are expected to adapt the technology, make necessary updates, and ensure it fits within the hydrogen value chain, ultimately finding its place in a targeted niche use case.