

Workpackage 2, EMR H2-Booster Deliverable:

Case paper “Cross-border H₂-fueling chain”

Project name: “HI-LINE: Hydrogen Inter-Limburg Infrastructure Network”

1. Introduction and challenge

Originating from the roadmap developed within the framework of the Interreg EMR H2Booster, the proposed project aims to implement a cross-border hydrogen fueling station network within the Belgian and Dutch Limburg regions. This is important to meet the future demand for hydrogen infrastructure along the European road network required for a sustainable transport and logistics sector. Therefore, the project is responding to a call for proposals from Connecting Europe Facility program focusing on the development of strategic infrastructure across the TEN-T (Comprehensive) network.

The establishment of a cross-border hydrogen refuelling station network in the Meuse-Rhine area is an ambitious project that presents several challenges and holds significant economic implications. The technological advancements required, along with the substantial investment needed for setting up a hydrogen ecosystem in the province of Belgian and Dutch Limburg, make this project both exciting and demanding.

2. Reason for the start of the project

The genesis of the hydrogen project can be traced back to the Interreg Euregio Meuse-Rhine project, H2Booster, which played a pivotal role in mapping the hydrogen economy within the EMR region. Through extensive research, organizing impactful events, and engaging key stakeholders, H2Booster successfully generated valuable insights into the ambitions, challenges, and potential of hydrogen projects in the area. It also aimed to develop a comprehensive hydrogen roadmap to guide future initiatives. The findings of H2Booster highlighted the critical importance of infrastructure development in realizing the full potential of the hydrogen economy. The project underscored the significance of establishing a robust hydrogen backbone, enabling hydrogen imports, and establishing a network of fueling stations. These elements emerged as the cornerstone of the region's transition towards a sustainable and green energy future.

Furthermore, in preparation of this project, a preliminary techno-economic feasibility study has been performed by consultancy firm Stork within the framework of the Interreg EMR H2Booster. Based on this study, it is estimated that by 2030, at least 3 large-scale hydrogen refuelling stations will be needed in the region, with this number projected to grow by a factor of 20 by 2040 (Stork, 2023). Recognizing the importance of this transition, two prominent family-owned companies operating within the fueling station networks in Belgian Limburg and Dutch Limburg, realized the necessity and

opportunity to join forces to establish a cross-border network of hydrogen fueling stations, in order to meet the growing demands of customers and contribute to the success of the broader hydrogen economy.

3. Objective

The goal of the HI-LINE project is to build multiple (min. 2) hydrogen refuelling stations, strategically located within Dutch and Belgian Limburg and revolving around the TEN-T comprehensive network, which focuses on the most crucial and strategic roads within the European Union. The project aims to support green logistics, reduce greenhouse gas emissions, and promote the adoption of hydrogen-powered vehicles in Belgian and Dutch Limburg, thus contributing to the broader European hydrogen network. The collaborative approach between two fuel station owners, should allow to more efficiently pool resources and optimize the service, hydrogen sourcing and maintenance of the hydrogen installations.

4. Deliverable result(s)

- Thorough evaluation and selection of suitable locations for the fueling stations
- Development of cross-border partnerships with local governments and large logistics players to ensure their active involvement in the project and investment in hydrogen vehicles.
- Construction and establishment of min. 2 hydrogen fueling stations in Dutch and Belgian Limburg, by cross-border collaboration between two fuel station owners.