HYPOP Project:

Raising Awareness for Hydrogen Technologies

28th May, 2025 Webinar
“Hydrogen Innovation: Showcasing Diverse and Promising Applications”

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HYPOP Project Objectives

HYPOP – **Hydrogen Public Opinion and Acceptance (June 2023 – September 2025)**.

Overall objective: to **raise public awareness and trust towards hydrogen technologies and their systemic benefits**, through the following activities:

- the preparation of **guidelines and good practices** that will help to define more effectively how citizens, consumers/end users, and institutional stakeholders can be involved in the implementation of Hydrogen technologies;
- the **creation of a social platform** collecting communication materials (videos, news, scientific papers) on hydrogen technologies, developed according to the early findings of the public engagement activities;
- the **definition of indicators** to be used for Hydrogen Social Life Cycle Assessment for public acceptance and informed decision-making.

HYPOP will focus on two applications: **residential and mobility**, which will enter into the daily life of people.

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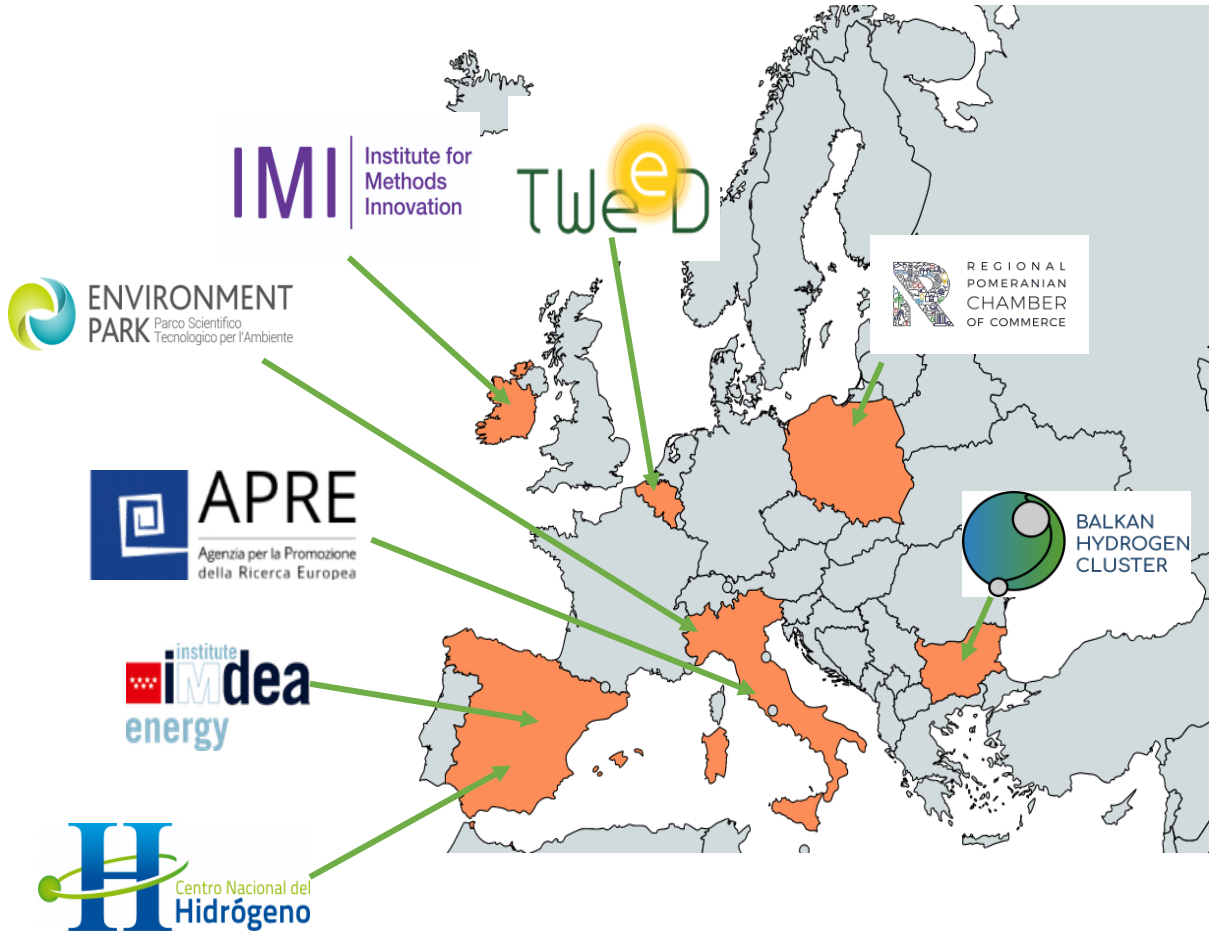
Project Consortium



- **4 Hydrogen Clusters:**
  - Environment Park
  - Cluster TWEED (Wallonia and Brussels)
  - The Pomeranian Regional Chamber of Commerce (RIGP)
  - The Balkan Hydrogen Cluster
- **3 Research Organisations:**
  - Institute for Methods Innovation (IMI)
  - The IMDEA Energy Institute (IME)
  - Centro Nacional del Hidrógeno (CNH2)
- **1 strategic communication and stakeholder engagement specialist**
  - the Agency for the Promotion of European Research (APRE)

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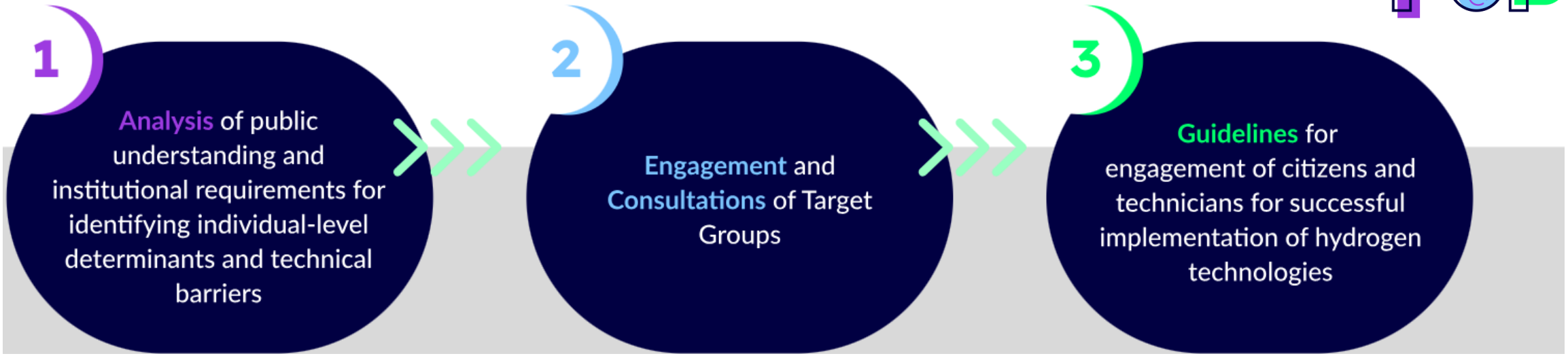
Project Overview



Data from surveys, social & mass media; current **local regulations**

CO-CREATION WORKSHOPS AT LOCAL/INTERNATIONAL LEVEL:

- **Citizens' engagement** workshops
- **Stakeholders' engagement** workshops

- **Guidelines:** how to best involve citizens & public stakeholders & communicate to them
- **Social Life Cycle Assessment indicators**
- **Communication toolkit**
- **Web platform with videos presenting upcoming hydrogen technologies**

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HYPOP Project Target Groups

CITIZENS

- Citizens
- Consumers/end users
- Communication experts

Social Analysis

PUBLIC INSTITUTIONS

- First responders
- Permitting entities
- Certification bodies
- Decision makers

Technical Analysis

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SOCIAL ANALYSIS

What does people think about hydrogen?

- **H_2implementation level in different EU countries (policy, social frameworks etc).**
- **Secondary data analysis previously conducted public opinion surveys** (e.g. Gallup Survey commissioned by the Clean Hydrogen Partnership) to be used as baseline understanding of the public opinion regarding H_2 implementation in EU countries in terms of technology understanding and acceptance.
- **Analysis of public engagement with H_2 via social media across the EU27** to understand engagement and communication strategy.

Final development of a PUBLIC INFORMATIVE AND ENGAGEMENT STRATEGY.

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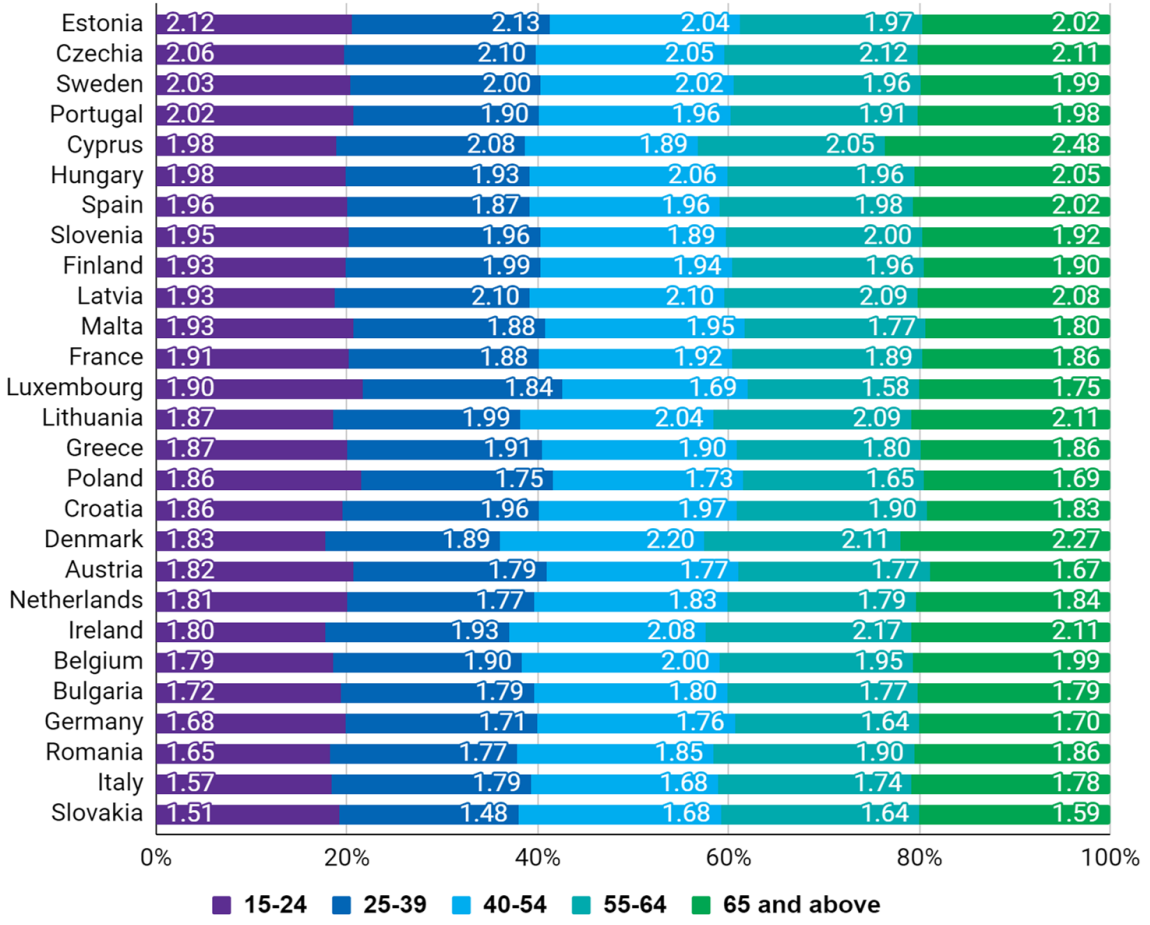
Main findings

- Notable trend that more respondents had heard of hydrogen energy (56%) than those who have never heard of it (17%)
- **General awareness of hydrogen energy but a lack of in-depth knowledge**
- Local infrastructure projects face challenges due to the **"Not In My Back Yard"** attitude
- Increase in European enthusiasm, but **concerns about costs and infrastructure** persist
- Broad acceptance of hydrogen as a sustainable energy source across countries but Western European countries showed higher agreement levels with hydrogen safety than Eastern Europe

Universal call for strategic educational campaigns and clear communication on hydrogen's benefits and safety

Hydrogen familiarity



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HYPOP Project - HOW

TECHNICAL ANALYSIS

Understanding of different EU approaches on:

- **Permitting**
- **Safety**
- **Certification**

for the installation of hydrogen technologies.

Demo projects, hydrogen valleys have been analysed.

UNDERSTAND GAPS AND BARRIERS, DIFFERENCES, BUT ALSO BEST PRACTICES.

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Geographical coverage: HYPOP, EU-13 and Frontrunner countries

EU-13 Countries
Bulgaria (HYPOP country)
Croatia
Cyprus
Czech Republic
Estonia
Hungary
Latvia
Lithuania
Malta
Poland (HYPOP country)
Romania
Slovakia
Slovenia

HYPOP countries
Belgium
Italy
Spain

Frontrunner countries
France
Germany
Netherlands
Switzerland

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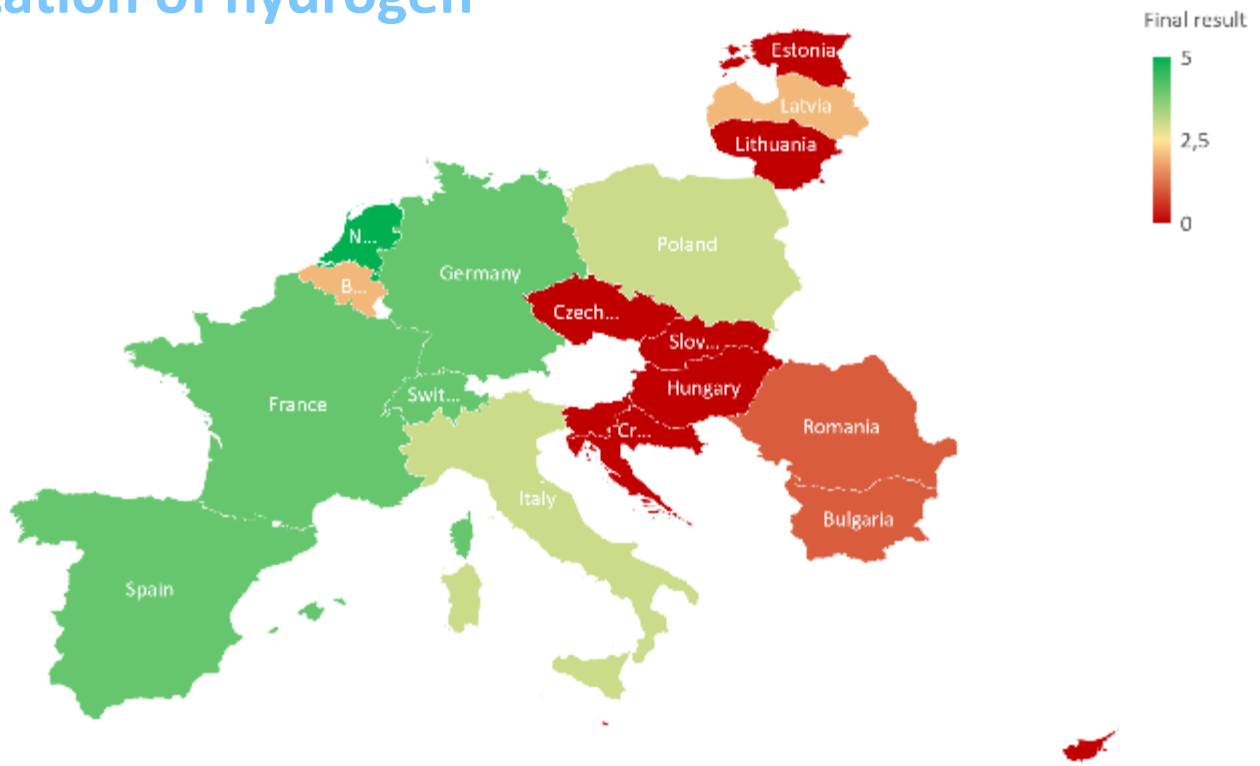
Safety factors influencing the implementation of hydrogen in Mobility and Residential sectors

Strengths and weaknesses

- Availability of guidelines for safety evaluation
- Evidence of implementation/adoption of risk assessment methodologies
- Evidence of regulations, codes and standards guiding safety approach to hydrogen
- Application/adoption/evidence of performance-based approach and consequent requirements
- Application/adoption/evidence of prescriptive approach and consequent requirements



- **RED COLOUR** if the chosen parameter is a weakness affecting negatively safety approach or if it misses information of the specific country
- If the chosen parameter affects positively the safety approach, **GREEN COLOUR** indicates a strength.

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ENGAGEMENT ACTIVITIES

Co-creation workshops targeted to the 2 groups in the HYPOP Countries + international events:

- **Public engagement workshops**: to inform citizens and increase public trust in H_2 implementation;
- **Stakeholders' engagement workshops**: inform and present the main results from the task on requirements' lists for permitting, safety and certification. In particular authorities issuing permitting and authorisations, first responders and certification bodies will be involved.

WORKSHOPS in local languages to ensure engagement + events at large international conferences

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Public engagement strategy

Practical public engagement strategies should:

- Clarify hydrogen technology (**fuel cells, vehicles, production processes**) using simple language
- Directly address and clarify **public safety concerns** (explosiveness, residential infrastructure)
- Customise engagement initiatives for specific **demographic and regional contexts**
- Actively involve **women** to close gender gaps in hydrogen awareness

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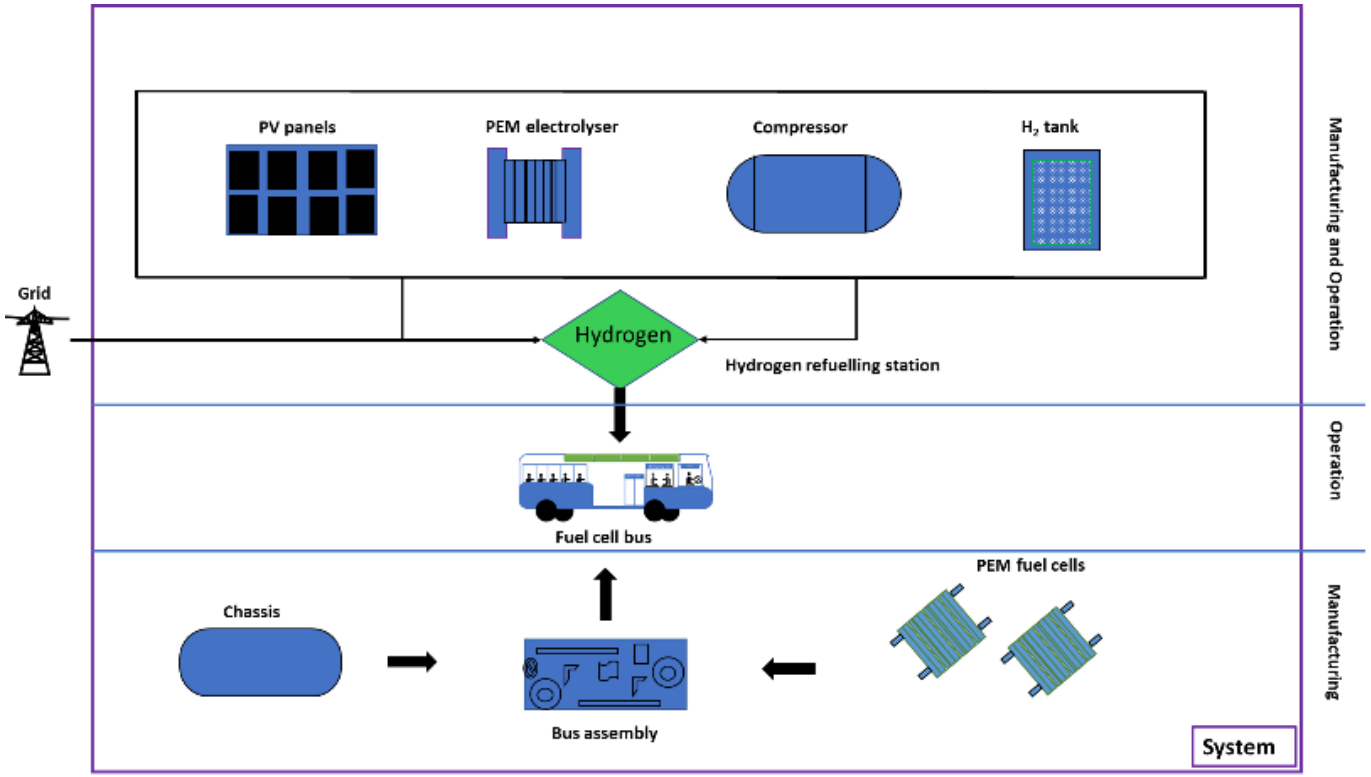
Social life cycle assessment for stakeholders and decision-makers

FCH-tailored S-LCA frameworks for decision-makers and reporting to citizens are expected to serve as a valuable support for practitioners, decision-makers and other stakeholders when it comes to making informed and socially-oriented decisions concerning hydrogen-related systems.

Case study

- The case study covers hydrogen bus operation and manufacturing
- The study also includes refuelling at the station, with onsite hydrogen production and electricity generation



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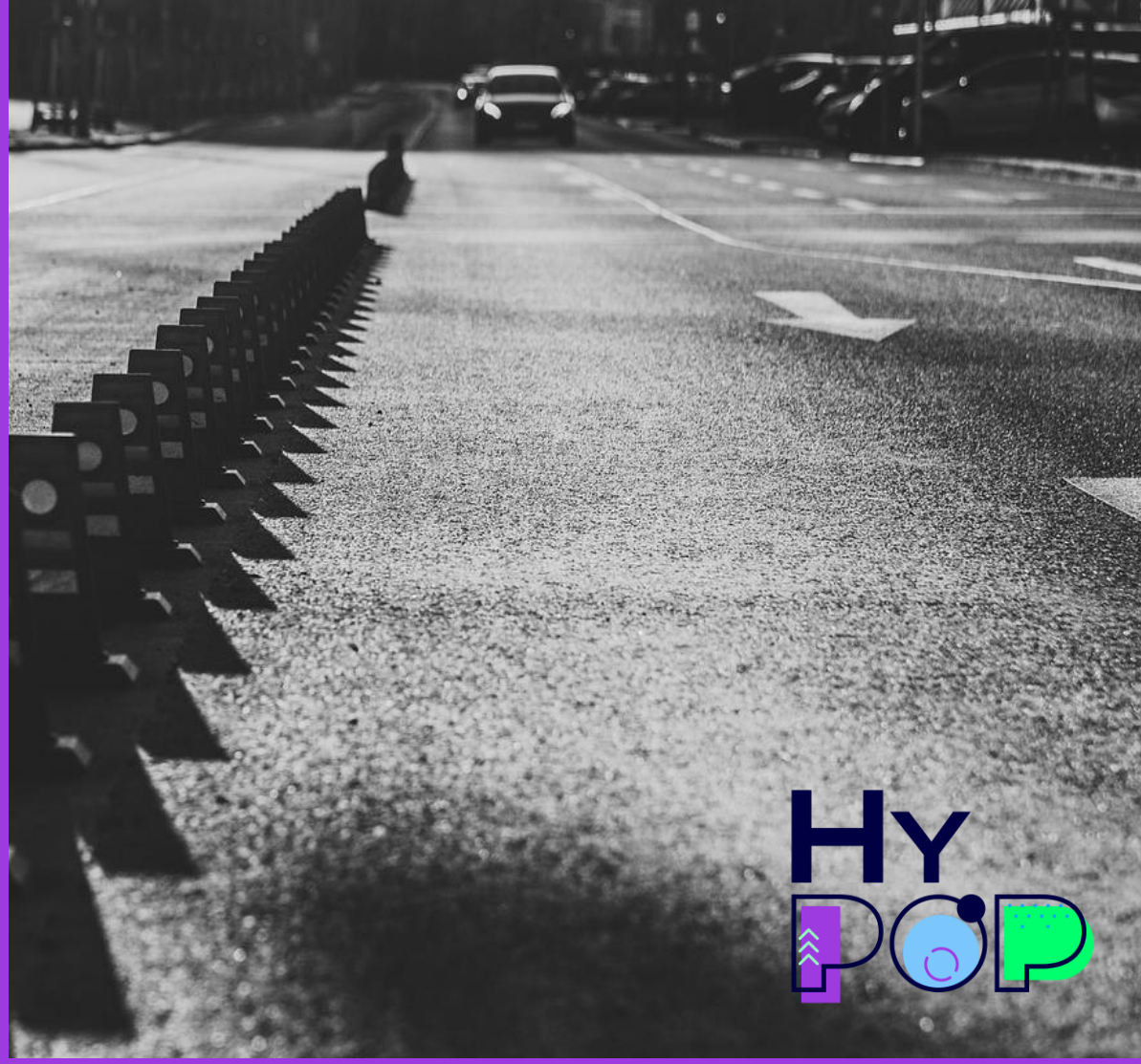
HYPOP Project OUTCOMES

GUIDELINES AND GOOD PRACTICES FOR H_2 ACCEPTANCE

- **Public Engagement** on H_2 technologies' implementation
- **Safety Requirements for H_2 tech installation**
- **Permitting Requirements for H_2 tech installation**
- **Certification Requirements for H_2 tech installation**

Social Life Cycle Assessment indicators

- **Socio-economic and environmental indicators for public acceptance and informed decision-making**



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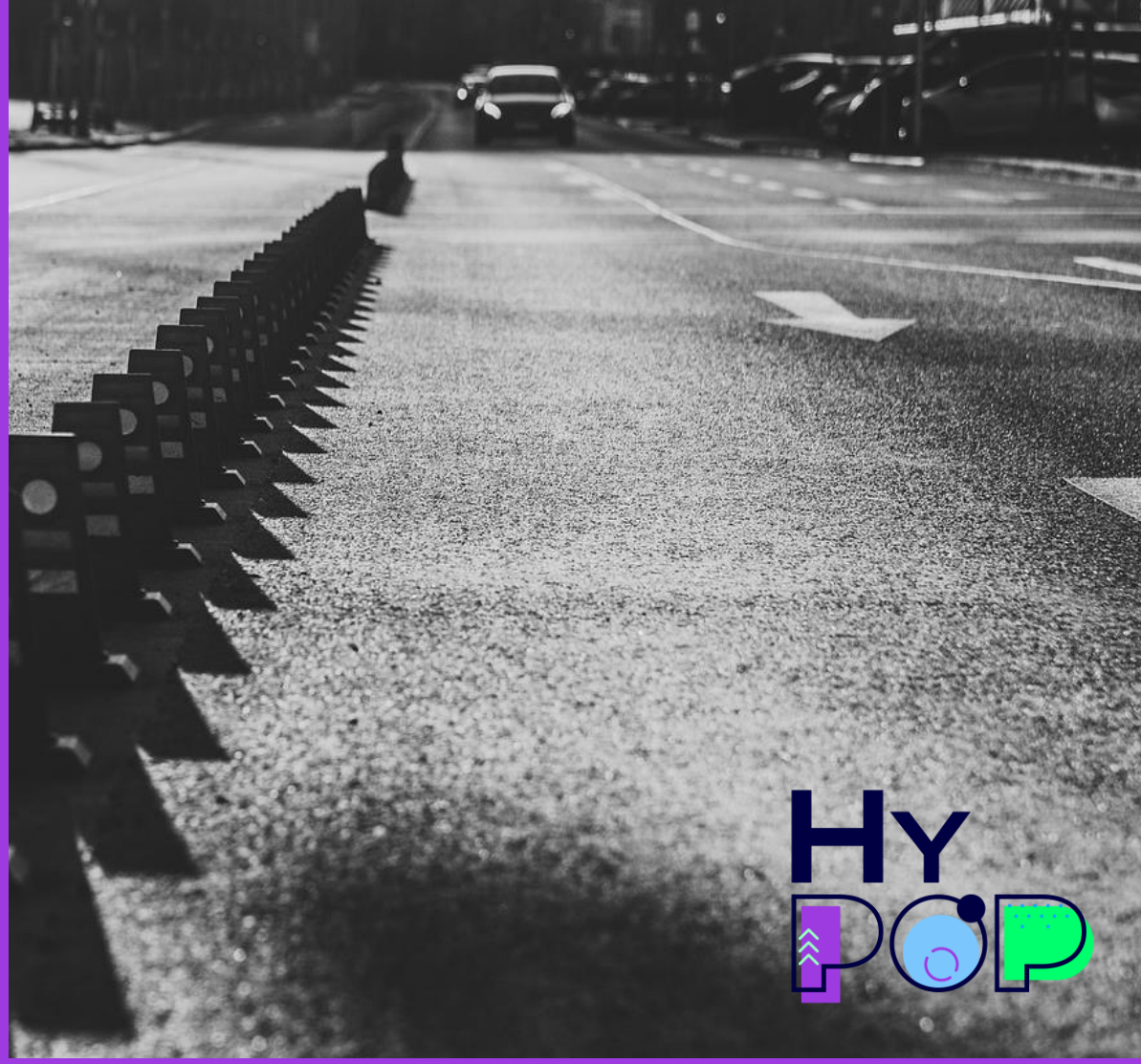
What's next?

- **Mutual Learning Workshop next September**
  Sharing HYPOP achievements and hydrogen perception analysis around Europe, while transferring knowledge and tools.
- **HYPOP TOOLKIT**
  Our website will further implement its contents with useful resources and materials to support the H2 raising awareness activities of future projects.

  Already available PUBLICATION and H2 PROJECTS SHOWCASE.



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Thanks for your attention!

ENVIRONMENT PARK

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Thank you for your attention!

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