Clean Hydrogen Partnership

Topics in the call 2026

Cross-cutting Issues

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Cross-cutting Issues Overview

Main Focus

- Continue raising the environmental sustainability of fuel cell and hydrogen (FCH) systems
- Keep improving safety and trust in hydrogen

What is new

- Development of datasets for environmental analysis of FCH technologies
- Gaining further understanding of potential odorants for hydrogen

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Cross-cutting Issues Overview

Topic	Type of Action	Budget (M€)
HORIZON-JU-CLEANH2-2026-**05-01**: Public datasets of technologies along the hydrogen value chain for life cycle (sustainability) assessment	CSA	2.5
HORIZON-JU-CLEANH2-2026-**05-02**: Pre-Normative Research on hydrogen odorisation: enhancing safety and detection along the hydrogen value chain	RIA	3

Cross-cutting Issues - Topics

HORIZON-JU-CLEANH2-2026-05-01: Public datasets of technologies along the hydrogen value chain for life cycle (sustainability) assessment

Development of datasets for the sustainability assessment of FCH technologies

- Aims at the development and application of **high-quality, open-access, and freely accessible datasets** (Life Cycle Inventories-LCIs), to enhance the data used when performing LCA, LCC, S-LCA, or LCSA studies of FCH systems.
- **≥ 20 datasets** (LCIs) should be developed **for several key FCH-relevant products and technologies,** focused on materials, components, equipment, and technologies.
- Datasets should cover **different FCH technologies at different TRLs.** (inc. emerging tech.), and projects should illustrate **their usefulness through their application** in life cycle (sustainability) assessment studies.
- Building on existing and new datasets (addressing gaps regarding aspects such as critical raw materials, hydrogen losses, recycling, and end-of-life processes), **projects are expected to assess ≥ 1 complete FCH system.**
- Datasets should be **relevant to at least the environmental dimension**, while exploring opportunities for economic and social dimensions.
- **Datasets should be ready for their publication in the hydrogen node of the Life Cycle Data Network (LCDN)**.
- Cooperation with the EC JRC and the JU EHS&CP is expected, and projects should also seek synergies with other initiatives, such as those in IEA

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Cross-cutting Issues - Topics

HORIZON-JU-CLEANH2-2026-05-02: Pre-Normative Research on hydrogen odorisation: enhancing safety and detection along the hydrogen value chain

Pre-normative research on the odorants for hydrogen

- Aim to perform **PNR activities focused on odorants in hydrogen that provide sufficient olfactory warning similar to natural gas**
- Focus should be on **non-toxic and environmentally benign odorants**, and **the development of new odorants is encouraged but not mandatory**
- **Odorant(s) should be thoroughly analysed and characterised at laboratory scale**: chemical characterization and stability tests of the odorising molecule, characterisation of possible degradation and transformation, toxicity, absorption/permeation tests, olfactory tests to ensure the desired detectability, masking effects, etc.
- **Odorant(s) should be tested in a close to real-world environment or conditions** (test bed), to ensure they are tolerated by the materials used in pipelines, compressors, valves, and other materials prone to contact. Proposals should ensure that the odorant and or its degradation molecules **do not enhance hydrogen embrittlement, hydrogen permeability through polymers, or corrosion.**
- Projects should assess **leak detection methods** and provide a validated **strategy for the removal of odorants for sensitive appliances**
- Projects are expected to complement, build, and create synergies with other relevant projects: Met4H2, HyQualNet, etc.