Making an impact on the clean energy transition

MARKET UPTAKE

KEEPING HYDROGEN GREEN


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Untapped potential

Environmentally sustainable hydrogen is essential for decarbonising the energy system. However, FCH technologies have yet to be used as widely or effectively as the energy transition demands. With a series of important guidance documents, a hydrogen roadmap, and green hydrogen certification, the FCH JU is ensuring that hydrogen and fuel cell (FCH) technologies constitute an environmentally friendly solution for Europe.

In 2019, the FCH JU-funded initiative, CertifHy, marked the start of a new green hydrogen market by launching the first-of-its-kind EU-wide guarantees of origin (GO) pilot scheme for green and low-carbon hydrogen. Other FCH JU projects are providing a framework to support the market as it expands. Launched in 2010, FC-HyGuide is considered the reference for life-cycle assessment (LCA) tools, while HyTechCycling has been establishing environmentally sustainable recycling and dismantling processes for fuel cells.

Ready to roll

The 2019 FCH JU Hydrogen Roadmap Europe: A sustainable pathway for the European Energy Transition outlines the importance of hydrogen for achieving a zero-carbon Europe and its potential to decarbonise difficult sectors like long-haul transport, chemicals, and iron and steel. By 2050, hydrogen energy could account for 24 % of final energy demand. By creating an LCA tool and a European framework for green hydrogen GOs, while introducing sustainable practices for precious metal and rare earth use, FCH JU-funded projects are paving the way for widespread commercial uptake and ensuring that FCH technologies are an environmentally sustainable choice.

Hydrogen and fuel cell technologies have a lot to offer the energy transition. The FCH JU is ensuring the environmentally friendly use of these technologies, with a number of cross-cutting aspects embedded throughout its project portfolio and complemented by several initiatives.


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KEEPING HYDROGEN GREEN

A PILLAR FOR CHANGE

Hydrogen is essential for decarbonising the energy system, but it can only play its part if clean production and application methods are used.

FIT FOR THE FUTURE

To ensure FCH technology fulfils its role in the energy transition, the FCH JU is building a guidance and certification framework for green hydrogen. **The goal?** It aims at increasing market uptake and helping FCH technology to reach its full decarbonising potential by putting in place guidelines and best practices for environmentally friendly FCH use. **Key results?** The hydrogen roadmap outlines the importance of FCH for decarbonisation, while piloted green hydrogen certification has demonstrated a high demand for environmentally sustainable FCH.

KEY ACHIEVEMENTS

FC-HyGuide

19 EU EVENTS
in one year, increasing awareness of sustainable FCH

9 HIGH-LEVEL ORGANISATIONS
worked together to create invaluable LCA documents

HyTechCycling

FCH RECYCLING AND DISMANTLING GUIDELINES
created in line with the circular economy

HYDROGEN ROADMAP

17 LEADING INDUSTRIAL ACTORS
worked together to build a hydrogen future

STRATEGY AND ROADMAP
developed for handling critical materials and components

FIRST
comprehensive quantified European perspective for deployment of FCH technologies

CertifHY

900+ STAKEHOLDERS
collaborating to create green hydrogen standards

IMPACT

FC-HyGuide

70+ LCAS
carried out across the entire hydrogen value chain by FCH JU projects

CertifHY

76 000+ GOs ISSUED

4129 GOs
already proving that customers are receiving green hydrogen

HYDROGEN ROADMAP

50 M TONNES
expected global demand for hydrogen by 2025

1 M JOBS
by 2030 via the Hydrogen Roadmap

EUR 820 B PER YEAR
market potential for hydrogen in Europe

24% OF FINAL ENERGY DEMAND
could be met by hydrogen by 2050

560 MT CO_2
savings can be achieved by following the Hydrogen Roadmap

FIND OUT MORE

www.fch.europa.eu/page/fch-ju-projects
www.certifhy.eu
www.fc-hyguide.eu
www.hytechcycling.eu

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FUEL CELLS AND HYDROGEN JOINT UNDERTAKING

A partnership dedicated to clean energy and transport in Europe