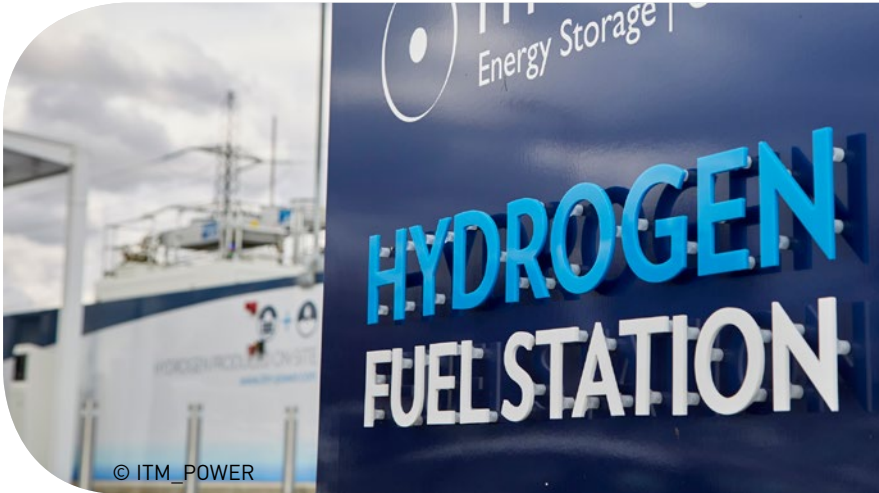




**Making an impact
on the clean
energy transition**

**MARKET
UPTAKE**

BIG RESULTS FOR SMES



Small in size, large in numbers

Illustrating the significant role played by small and medium-sized enterprises (SMEs), these key industrial concerns comprise half of the membership of Hydrogen Europe, a group of FCH JU companies working to make hydrogen power an everyday reality in the energy and transport sectors. The FCH JU financial programme has set aside 27 % of its EUR 77.7-million budget for SMEs, exceeding the Horizon 2020 target of 20 %.

The FCH JU has been a key instrument for SMEs, providing a stable regulatory environment as well as the long-term stability that comes with public-sector funding. The leverage effect means public money also triggers additional private investment. Working alongside larger companies in the same field enables SMEs to tap into the expertise, distribution networks, support and customer pools of those organisations.

Investment that counts

Continued investment in SMEs and rising industry confidence has been underpinned by the above-mentioned pooling of resources, both within the industrial sector, and between research, industry and the European Commission. The European Hydrogen Roadmap has enabled the acceleration of technological development to the point where real-world fuel cell hydrogen solutions are on the verge of wide-scale distribution. The FCH JU already boasts many impressive examples of achievements by funded SMEs, up to and including successful market deployment.

The FCH JU recognises SMEs as key industrial sector actors and is helping some of those involved in fuel cell and hydrogen technologies to develop and market cutting-edge technologies. The emphasis is on collaboration with policymakers, larger companies, research partners and others.

WHAT'S AT STAKE?

Although SMEs have been and continue to be central players making vital contributions to within the FCH JU community, they need targeted support to expand and develop innovative technologies.



GENERATING SUCCESS

The FCH JU has been a key supporting financial instrument for SMEs in the fuel cell and hydrogen sectors, providing funding in excess of the H2020 target of 20 % of its total budget. **The goal?** SMEs are widely recognised as dynamic and innovative power houses, but access to funding and investment remains a key challenge. Through its support to SMEs, the FCH JU is seeking to break that barrier. Participating SMEs also gain numerous advantages by linking with larger companies. **Key result?** Through financial and networking support, FCH JU has helped many SMEs in the fuel cell and hydrogen sectors to achieve their business goals, from obtaining private investment to the marketing of new products and services.

KEY ACHIEVEMENTS

50 %
of all Hydrogen Europe members are SMEs

27 %
share of FCH JU budget is going to SMEs

74 % STACK ELECTRICAL EFFICIENCY
world record achieved by Estonian SME Elcogen for solid oxide fuel cells (SOFCs)

60% SEASONAL ELECTRICAL EFFICIENCY
achieved by Solid Power kWe scale fuel cell micro-cogeneration unit, matching and exceeding the power efficiencies achievable by centralised large power stations

IMPROVED AND CHEAPER H₂ TANKS FOR LIGHT-DUTY VEHICLES
80 % cheaper, half the weight and able to store more hydrogen

10 MW
world's largest high-pressure PEM electrolyser is being developed by UK company ITM Power and will be installed in a Shell refinery in Germany greening the hydrogen utility

IMPACT

ATTRACTING INVESTMENTS TO THE SECTOR

EUR 9 MILLION
private funding recently secured by Norwegian SME NEL Hydrogen

EUR 40 MILLION
private investment obtained by French SME Sylfen

EUR 40 MILLION
investment secured by Solid Power to expand its production capacities in Europe leading to new jobs and cost reductions

EUR 12 MILLION
loan provided by the EIB to ELCOGEN to increase production volumes and start mass-manufacturing processes

FUEL FOR HYDROGEN VEHICLES
Norwegian SME NEL Hydrogen is building around 300 hydrogen refuelling stations per year, enough to serve 200 000 hydrogen vehicles

UTILITY-SCALE STORAGE SYSTEMS
Italian SME Electro Power Systems (now part of Engie Group) offers turnkey power-to-power systems using hydrogen as energy storage

INDUSTRY-SCALE ELECTROLYSERS
advanced electrolysers are reaching the 10s of MWs scale relevant to industrial applications

MORE RESILIENT GRIDS AND LOWER CO₂ EMISSIONS
French SME Sylfen is solving the problem of energy spikes in renewable energy production using H₂ as energy storage

INTERNATIONALISATION OF SMES
Belgium SME Optimum CPV, an on-board hydrogen tank manufacturer, developed innovative performing tanks and expanded activities abroad, now part of Plastic Omnium

FIND OUT MORE

H2 LOGIC / NEL HYDROGEN <https://nelhydrogen.com/>
Low-cost, reliable and user-friendly hydrogen refuelling stations

ELCOGEN <https://elcogen.com/>
The world's most efficient solid oxide fuel cell (SOFC) technology

SYLFEN <http://sylfen.com/en/home/>
Decentralised production and management of energy

SOLID POWER <https://www.solidpower.com>
Highly efficient micro-cogeneration solution with fuel cells

ITM POWER <https://refhyne.eu/>
Advanced high-pressure PEM electrolysers, in this case applied to a refinery environment.



www.fch.europa.eu/page/fch-ju-projects



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**FUEL CELLS AND HYDROGEN
JOINT UNDERTAKING**

A partnership dedicated to clean energy and transport in Europe