





FCH started in 2007 with a vision and a goal:

*To develop by 2020 to the **point of market readiness** a portfolio of clean, efficient and affordable solutions that fully demonstrate the potential of **H2 as an energy carrier** and **fuel cells as energy convertor**, as part of an energy system that integrates sustainable solutions and energy supplies with **low carbon stationary and transport technologies**.*

After 10 year we can say ...**mission accomplished !**

..and the next mission starts.



Decarbonisation has 2 (main) challenges:

- 1. Storage**
- 2. Speed of deployment**

FCH provides solutions for both of them:

Storage:

Both short term/daily storage with batteries, as well as longer term and seasonal storage are needed.

1. Hydrogen is a chemical storage solution.
2. Reversible systems are needed to deliver power-to-storage-to-power, in an efficient, flexible way. Fuel cells are those reversible systems.

Speed

Fast deployment is key to have impact on CO₂.

What are the solutions, which can deliver CO₂ reduction, now ?

Electrification is the mean, **decarbonisation** is the goal.

Every solution that reduces CO2 is needed NOW.

Every solution should be measured on their CO2 reduction per euro invested.

The fastest with the highest impact is still **energy efficiency**.

SOFC: The ideal bridging technology.

Today they operate with natural gas, they can replace coal and reduce CO2 today.

SOFC can be used with many synthetic fuels, including the whole spectrum of H₂-CH₄ mix up to pure H₂,. Used in **electrolysis mode**, they provide a Power-to-fuel-to-Power **storage solution** with high roundtrip efficiency. Like no other technology SOFC can **decarbonize industry**.

Unlike large centralized power plants, there is no long lock-in to conventional or fossil solutions. SOFC distributed power plants are flexible and forward-compatible energy systems with short payback.

**Every MW of SOFC deployed today reduces CO2 today,
and facilitates the introduction of H2 all the way to zero carbon**

We know that subsidizing your way to GW is probably not the right approach.

Subsidies can be used only for the initial phase.

The FCH resources can focus on bringing new applications and technologies to the point of market readiness:
Mini-CHP & Combined Cold Heat&Power for buildings, highly efficient biogas generators (also for dilute gas), power balancing plants serving as generators and storage systems – innovative ideas go beyond

From here on, market and volumes must drive the market, not subsidies.

Legislation is the lever to use, often the barrier to remove.

If there is a stable legislative framework, providing a sufficiently large market, visible for industries...

...and given that our technologies now offer profitable products to satisfy such markets.

The investments to execute the energy transition will not be the bottleneck.