International Partnership
for Hydrogen and Fuel Cells
in the Economy

European Commission Update

31st IPHE Steering Committee Meeting

10 – 11 April 2019

Vienna, Austria

Announcements and/or New Initiatives
(European Commission)

- **Investments/Funding:**

The 2019 Call for Proposals of the FCH JU was successfully launched in January 2019 with a budget of 80.8€ Mil. The deadline for applications is 23 of April.

✓Highlights*: logistics vehicles, hybridisation, MW fuel cells for shipping, high temperature electrolysis, admixture of hydrogen in NG grid (incl. PNR/standards), training of responders, fuelling protocols HDV…

✓International collaboration with IPHE countries is encouraged for all topics

✓International collaboration in support of Mission Innovation Hydrogen Challenge is specifically recommended for some topics (incl. funding)

- **New research & development, demonstration and or deployment activities**

The H2PORTS kick-off meeting

The first internal technical meeting of the European project "H2PORTS - Implementing Fuel Cells and Hydrogen Technologies in Ports" was held in Valencia in February 2019. This project is coordinated by Fundación Valenciaport in close collaboration with the Port Authority of Valencia, and is funded by FCH 2 JU.

Examples of Lessons Learned and Impact
(European Commission)

Program initiative, policy, regulation or mandate	Lessons Learned/Outcomes
FCH JU as public-private partnership with long term budget commitment. **Council Regulation (EU) No 559/2014**	• **665 M€ for the period 2014-2020. Nearly 250 projects funded in the last 10 years.**
Directive 2014/94/EU of the European Parliament and of the Council of 22 October 2014 **on the deployment of alternative fuels infrastructure** and the **Alternative Fuels Infrastructure Regulations 2017**.	• **EU countries have plans for 840 HRS by 2025**
Revised Clean Vehicle Directive and **new CO2 targets for cars, vans and trucks as part of Clean Mobility Package**	

Applications - Current Status and Goals
(European Commission)

Transportation	Target Number	Current Status	Partnerships, Strategic Approach	Policy Support
Fuel Cell light duty Vehicles[5]	No target	- Ca. 1520 FCEVs deployed in Europe (EU28+ CH + NO) of which 650 through FCH JU -Additional ~1390 cars planned/contracted through FCH JU to date	Addressed through FCH 2 JU Demo projects	Subsidy per vehicle in demo projects
FC Bus	No target	-Ca. 73 deployed (including 2 discontinued) of which 55 through FCH JU (of which 5 discontinued) -305 more buses contracted through FCH JU	Addressed through FCH 2 JU Demo projects	Subsidy per vehicle in demo projects
Fuel Cell Trucks[6]	No target	-15 garbage trucks contracted through FCH JU (REVIVE) -12+ more expected from 2018 Call for Proposals (Call 2018)	Addressed through FCH 2 JU Demo projects. As of today marginal activity, however upcoming projects will demonstrate a fleet within the next years	Subsidy per vehicle in demo projects

[5] Includes Fuel Cell Electric Vehicles with Range Extenders
[6] As above

Applications - Current Status and Goals
(European Commission)

Forklifts	No target	-Ca. 328 deployed in Europe (of which 268 via FCH JU)	Addressed through FCH 2 JU Demo projects	Subsidy per vehicle in demo projects
Aviation & Maritime	No target	- 3 fuel cell vessels planned - 1 pilot aircraft tested - 1 pilot aircraft planned	Addressed through FCH 2 JU Demo projects. As of today marginal activity.	Subsidy per vehicle in demo projects
H_2 Refueling Stations	**Target Number**	**Current Status**	**Partnerships, Strategic Approach**	**Policy Support**
70 MPa On-Site Production	No target	-173 HRSs deployed for road transport (buses + cars, MHVs) of which 47[7] via FCH JU out of which: • 9 x 350 delivered H2 • 6 x 350 onsite prod. • 3 x 700 delivered H2 • 10 x 700 onsite prod. • 6 x 350/700 delivered H2 • 5 x 350/700 onsite prod. • 5 (others) trucked-in • 1 (others) onsite - 50 additional HRSs contracted via FCH JU	Addressed through FCH 2 JU Demo projects	Fixed amount of subsidy per HRS installation
70 MPa Delivered	No target		Addressed through FCH 2 JU Demo projects	Fixed amount of subsidy per HRS installation
35 MPa On-Site Production	No target		Addressed through FCH 2 JU Demo projects	Fixed amount of subsidy per HRS installation
35 MPa Delivered	No target		Addressed through FCH 2 JU Demo projects	Fixed amount of subsidy per HRS installation

Applications - Current Status and Goals
(European Commission)

Stationary	Target Number[8]	Current Status	Partnerships, Strategic Approach	Policy Support
Small[9]	No target	Ca. 2350 planned via FCH JU of which 1565 deployed	Medium-scale deployment through FCH 2 JU demo project	Fixed amount of subsidy per unit
Medium[10]	No target	70 planned of which 34 deployed	Small-scale demo projects via FCH 2 JU	Funding dependent on power level
Large[11]	No target	4 planned of which one deployed (in China)	Small-scale demo projects via FCH 2 JU	Funding dependent on power level
District Grid[12]	No target			
Regional Grid[13]	No target			
Telecom backup	No target	10 deployed via FCH JU	Small-scale demo projects via FCH 2 JU	Funding dependent on power level

[8] Targets can be units installed and/or total installed capacity in the size range indicated
[9] <5 kW (e.g., Residential Use)
[10] 5kW – 400 kW (e.g., Distributed Residential Use)
[11] 0.3MW – 10 MW (e.g., Industrial Use)
[12] 1MW – 30 MW (e.g., Grid Stability, Ancillary Services)
[13] 30MW plus (e.g., Grid Storage and Systems Management)

Applications - Current Status and Goals
(European Commission)

H_2 Production	Target[14]	Current Status	Partnerships, Strategic Approach	Policy Support
Fossil Fuels[15]	No target	Out of scope of the FCH 2 JU		
Water Electrolysis[16] (PEM, Alkaline, SOEC)	No target	-34 deployed within FCH JU (incl. 24 at HRSs, 4 at Telecom, 2 for grid autonomy and 4 for grid services) -9 more planned, excl. HRSs (2 for H_2 storage, 1 for refinery, 4 P2G applications, 2 for other industrial purposes)		
By-product H_2	No target			

[14] Target can be by quantity (Nm^3, kg, t) and by percentage of total production; also, reference to efficiency capabilities can be a target

[15] Hydrogen produced by reforming processes

[16] Please indicate if targets relate to a specific technology (PEM, Alkaline, SOEC)

Thank you

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