INTERNATIONAL PARTNERSHIP FOR
HYDROGEN AND FUEL CELLS IN THE ECONOMY

IPHE Country Update April 2017: FRANCE

Name	Laurent ANTONI, Bernard FROIS
Contact Information	Laurent.antoni@cea.fr, +33 4 38 78 60 25
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1. New Policy Initiatives on Hydrogen and Fuel Cell

- **Labelling of 44 projects** from the call for proposals "Hydrogen in territories", corresponding to the step before financing by the territories (December 2016)
- Notification to the EC of a draft decree on the characteristics of hydrogen used as an energy source for transportation (March 2017). EC has 3 months to provide comments. http://ec.europa.eu/growth/tools-databases/tris/en/index.cfm/search/?trisaction=search.detail&year=2017&num=102&mLang=fr&CFID=2603172&CFTOKEN=3e2b0693285e3813-CD201BAB-BE08-BBF6-F644F2F517EE201F
- Announcement of the Mayor of Paris, Mrs Anne Hidalgo, at the C40 meeting in Mexico that **diesel vehicles will be eliminated from Paris by 2025** (December 2016). http://www.businessimmo.com/system/datas/92980/original/discours-douverture-danne-hidalgo-au-sommet-des-maires-du-c40.pdf
- Publication of a report on the **underground storage of energy** in France with a risk analysis for each type of stored energy (Hydrogen is considered) (December 2016) https://www.actu-environnement.com/media/pdf/news-27930-ineris-stockage-energie-sol.pdf

2. Hydrogen and Fuel Cell R&D Update

- Publication of the **National Strategy of Research for Energy.** It is recommended to continue the development of the Hydrogen technologies and their experimentations through deployments in territories (December 2016). http://www.developpement-durable.gouv.fr/sites/default/files/SNRE%20vf%20d%C3%A9c%202016.pdf
- Publication by ADEME of "15 years of R&D in Hydrogen and Fuel cells in France" (March 2017). http://www.ademe.fr/sites/default/files/assets/documents/ademe_lalettre_recherche_18.pdf

3. Demonstration and Deployments 2016/17 Update

French-Spanich Corridor of 10 HRS

A network of 10 refuelling stations will be deployed between Rodez (Aveyon) and Zaragoza (Aragon, Spain) by the end of 2017. This 900 km corridor will allow for hydrogen mobility on a large scale. Implemented under the transboundary cooperation program Interreg/Poctefa 2014 – 2020 (Spain-France-Andorra), this project, titled H2Piyr, received funding support from the European Union in the order of €2.4M and is "the first transboundary hydrogen corridor in Europe".
http://www.usinenouvelle.com/article/entre-rodez-et-saragosse-les-voitures-pourront-rouler-a-l-hydrogene.N453322

Symbio FCell unveils its new range extender FCEV, the Nissan e NV200 for taxi fleets

At the unveiling of Symbio's fuel cell integration to Nissan electric van, at the FC Expo 2017 in Tokyo, Japan, the company announced the new plug-in hybrid hydrogen fuel cell vehicle will deliver at least 500 km of range – an important move from Symbio and a promising breakthrough for fleet managers and the automotive community looking for sustainable growth. http://www.symbiofcell.com/category/media/

Commissioning of the first H2 refuelling station in France producing green hydrogen on-site!

On 11 April 2017, the hydrogen refuelling station of the FaHyence project (collaboration between CASC, EDF, McPhy and EIFER) was officially commissioned. This represents the first hydrogen refuelling station in France able to produce hydrogen on-site and on-demand from renewable energies for sustainable mobility! Symbio delivered six Kangoo H2-type vehicles to different public and private users who now use hydrogen for their daily professional activities. http://www.mcphy.com/en/news/releases/commissioning-of-the-first-h2-refueling-station-in-france-producing-green-hydrogen-on-1751/

McPhy has been granted exclusive distribution rights in Europe for SimpleFuel™, the all-in-one Hydrogen Refueling Station

The SimpleFuel™ team comprising of Ivys Energy Solutions, McPhy North America and PDC Machines worked collaboratively to develop a compact, on-site refuelling solution to enable a new hydrogen infrastructure option. SimpleFuel™ is a turnkey, compact and affordable refueling station. This genuine "energy hub" is a fully integrated hydrogen generation, compression, storage and dispensing system capable of delivering 5-10 kg/day at pressures up to 700 bar. In January of this year, the U.S. Department of Energy announced SimpleFuelTM as the winner of the $1 million H2 Refuel H-Prize Competition. http://www.mcphy.com/en/news/releases/mcphy-has-been-granted-exclusive-distribution-rights-in-europe-for-simplefuel-the-all-in-one-hydrogen-refueling-station-awarded-by-the-us-department-of-energy-1748/

Hydrogen Ship "ENERGY OBSERVER", presented to the public before a world tour of 6 years

Energy Observer is a ship that aims at energy autonomy without greenhouse gas emission, thanks to an embedded hydrogen production/storage/conversion. Energy Observer and CEA developed the ship in Saint-Malo with the support of Accor Group and Thelem Insurance. Launch of the ship was on April 14, 2017. http://www.energy-observer.org/

4. Events and Solicitations

- **11 May 2017** Hydrogen day in Occitanie, Rodez and Albi Eco-race , Albi
- **16-18 May 2017** Meeting of the French Research Grouping HySPaC, Centre Européen de la Céramique, Limoges
- **13-15 June 2017,** Movin'on - Edition 2017 Challenge Bibendum, Montréal, Canada
- **20-21 June 2017,** 5th edition of Hydrogen Days in territories, Nantes

5. Investments: Government and Collaborative Hydrogen and Fuel Cell Funding

- PIA ADEME : funding of a new project VABHYOGAZ for decentralized H2 production from biogas

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Summary France Update as of April 17

Transportation	Target Number	Current Status	Partnerships, Strategic Approach	Policy Support
Fuel Cell Vehicles[1]	1,000 by 2020	185	• National Implementation Plan based on a cluster model approach	• Subsidy for purchase (national government initiative on electrical vehicle, European projects)
FC Bus	No target	0	• European project 3E Motion with 5 Buses in Cherbourg by 2017	• Subsidy for purchase (European project)
Fuel Cell Trucks[2]	No target	1	• Partnership La Poste, Renault Trucks and Symbio FCell	
Forklifts	No target	~100	• Within FCH JU project HAWL, 36 new hydrogen fuel cell-powered forklifts have been deployed at the FM Logistic warehouse in Neuville-aux-Bois.	• Subsidy for purchase (European project)
H_2 Refueling Stations[3]	**Target Number**	**Current Status**	**Partnerships, Strategic Approach**	**Policy Support**
70 MPa Delivered	100 by 2019	1	• National Implementation Plan based on a cluster model approach	• Subsidy for installation and operation
35 MPa Delivered		13	• National Implementation Plan based on a cluster model approach • 1 HRS with green electrolysis on site and 8 public/semi-public	• Subsidy for installation and operation (European and national projects)

[1] Includes Fuel Cell Electric Vehicles with Range Extenders. Objective fixed by the Energy Storage Plan from the "New French Industry"
[2] As above
[3] Public and semi-public (private HRS: 5)

Stationary	Target Number[4]	Current Status	Partnerships, Strategic Approach	Policy Support
Small[5]	No target	53	• European (Ene.field) and national funded projects for residential and small tertiary	• Subsidy for purchase (European and national projects)
Medium[6]	No target	1	•	•
H_2 Production	**Target[7]**	**Current Status**	**Partnerships, Strategic Approach**	**Policy Support**
Energy Storage from Renewables	**Target[8]**	**Current Status**	**Partnership, Strategic Approach**	**Policy Support**
Power to Power[9] Capacity	No target	100 kWe	• Myrte platform in Corsica connected to the grid	
Power to Gas[10] Capacity	No target		• Jupiter 1000 project aiming at 1 MWe by 2018	

[4] Targets can be units installed and/or total installed capacity in the size range indicated

[5] <5 kW (e.g., Residential Use)

[6] 5kW – 400 kW (e.g., Distributed Residential Use)

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

[8] Can be expressed in MW of Installed Capacity to use the electricity from renewable energy generation, and Annual MWh of stored energy capacity

[9] Operator has an obligation to return the electricity stored through the use of hydrogen back to electricity

[10] Operator has the opportunity to provide the stored energy in the form of hydrogen back to the energy system through multiple channels (e.g., merchant product, enriched natural gas, synthetic methane for transportation, heating, electricity)