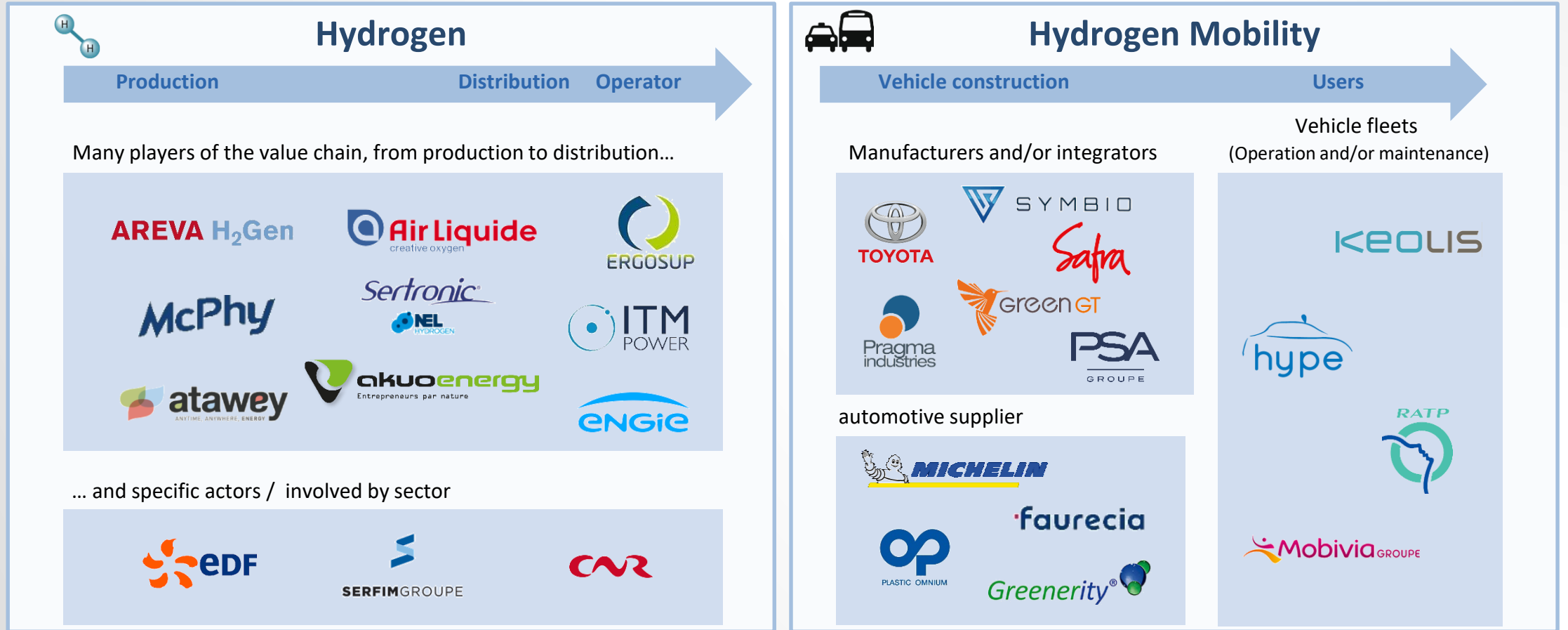


# HYDROGEN MOBILITY IN FRANCE

# CONSORTIUM GATHERING MANY PLAYERS OF THE VALUE CHAIN: FROM ENERGY TO END USERS



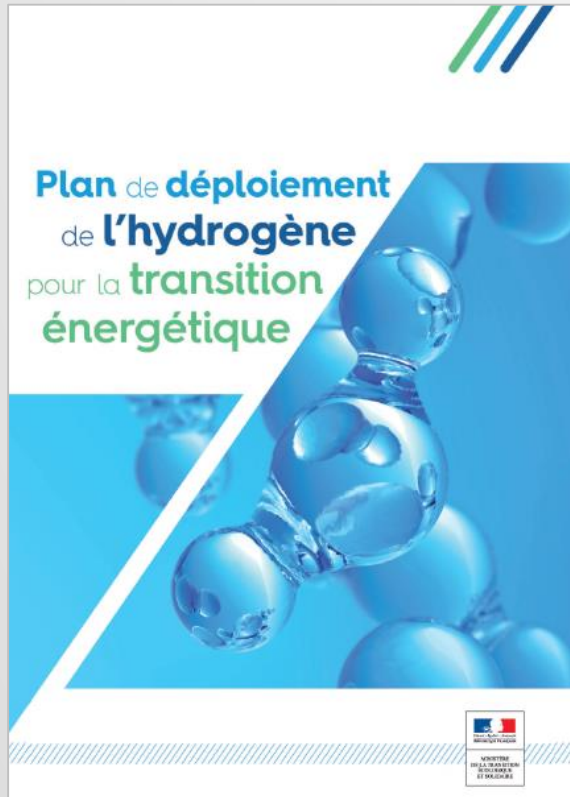
## Laboratories, Consultants & Associations



## ... WHAT WE ACHIEVED

- **A strategy based on captive fleets** with a business model allowing to launch the market and solve at the same time the chicken and egg dilemma
- **A deployment plan** which is being duplicated by other European countries
- A strong involvement in **large scale demo projects**, with the support of European Commission (Fuel Cell Hydrogen Joint Undertaking): Zero Emission Valley, Hyport, Hyway, EasHyMob, Plan NFI, etc.
- **Support from French government and official bodies:** National Plan (June 2019), Strategic French automotive roadmap 2018-2022

# A NATIONAL PLAN FOR HYDROGEN WAS LAUNCHED IN FRANCE IN JUNE 2018



**Development of regional ecosystems of hydrogen mobility** for zero emission solutions for road, rail, river, etc. transport with the deployment of :

- **By 2023 :**
  - **5,000 light commercial vehicles and 200 heavy vehicles** (buses, trucks, trains (TER), boats)
  - **100 hydrogen stations** to refuel vehicles with locally produced hydrogen.
- **By 2028 :**
  - **20,000 to 50,000 light commercial vehicles and 800 to 2,000 heavy vehicles**
  - **400 to 1,000 hydrogen stations.**

**In 2019, 100 million euros will be earmarked for the deployment of clean hydrogen.**

**ADEME** (French environmental and energy management agency) will support this deployment.



# FOUR GREAT CONVICTIONS.

## 1. Electromobility must develop massively – in line with “Europe on the move” objectives moving towards « Zero emissions »

- Electric vehicles with batteries : **less than 2% of the current fleet**
- 2 major obstacles : **the range** (less than 300 km) and the **filling time** (8 h for a standard filling).

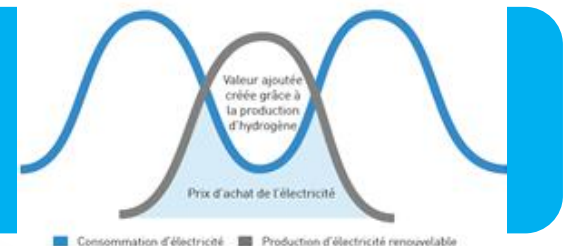
## 2. Electric vehicles with battery and hydrogen are complementary

- Electric hybrid batteries / hydrogen vehicles and hydrogen vehicles : a **filling time less than 5 Mn** and a **range between 370 and 600 km**.
- For the driver : **same use than diesel vehicle but with Zero emissions**.

## 3. Hydrogen mobility improves the use of renewable energies and contributes to the dynamism of the regions.

## 4. Investing in mixed battery / hydrogen electric mobility will reduce the necessary investments in the network

- cf. document « Hydrogène : Agissons aujourd’hui pour la mobilité de demain »



... HYDROGEN MOBILITY IS NOT THE ONLY SOLUTION AVAILABLE BUT IS THE ONLY ONE ABLE TO ADDRESS 3 CHALLENGES AT THE SAME TIME:



**Reduction of CO<sub>2</sub> emissions**

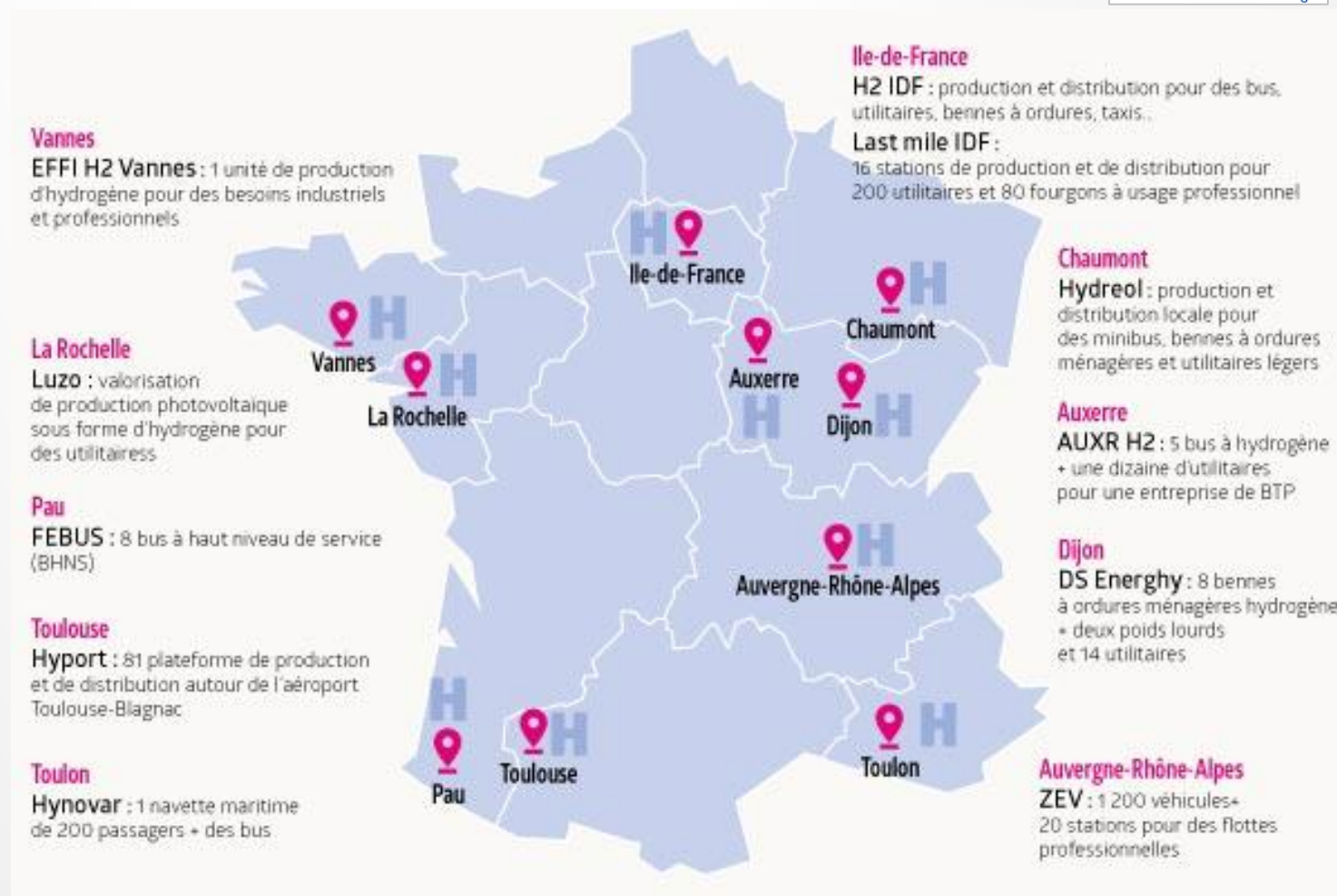
**Air quality**

**Accelerate development  
of renewable energies**

# ADEME CALL FOR PROJECTS « ÉCOSYSTÈMES DE MOBILITÉ HYDROGÈNE »

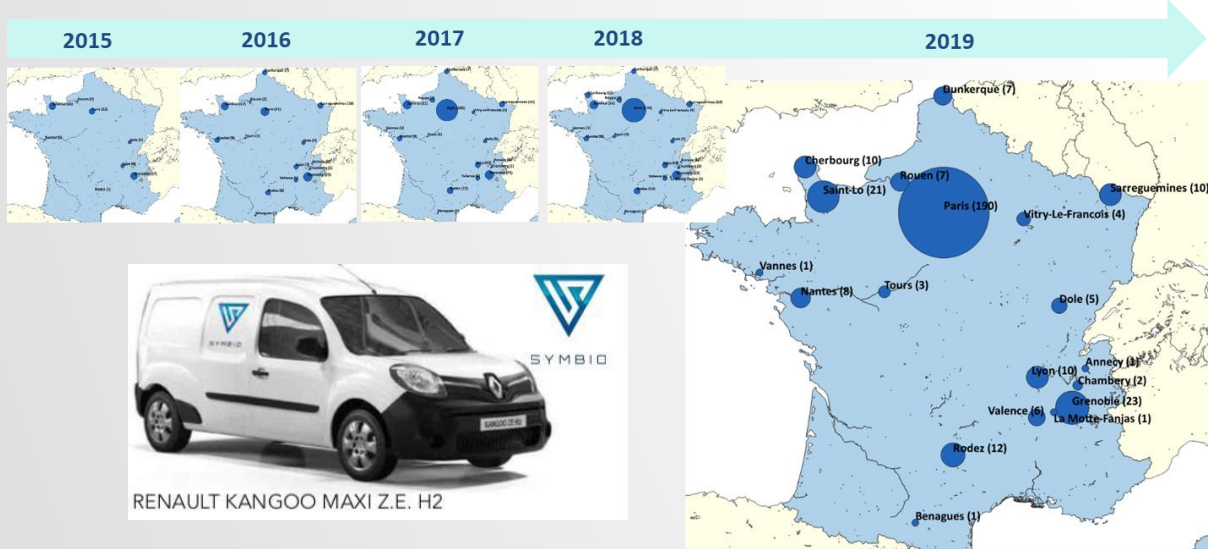


- **24 projects were submitted for this call for projects**, representing a potential investment of 475 million euros.
- **ADEME selected 11 projects** based on 3 assessment criteria:
  - Environmental performances
  - Motivation
  - Maturity of the projects.



# CURRENT VEHICLE DEPLOYEMENT : CARS & BUSES

**MORE THAN 300 HYDROGEN LIGHT VEHICLES HAVE BEEN DEPLOYED IN FRANCE**



**More than 80 Fuel Cell buses** are in the process of being deployed



**& other projects in the process of being defined**

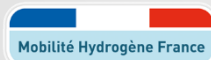


# TODAY : +350 HYDROGEN VEHICLES ARE ON THE ROAD IN FRANCE



- 30 stations and 50 more to come by the end of 2020
- A fleet of 100 H2 taxis in Paris

Source :



.....With regions steering the momentum

# FOCUS : HYDROGEN TAXIS

## « HYPE PROJECT »



- **Hype is the world's first fleet of hydrogen taxis.**
- Launched on 7 December, 2015 during COP 21, by STEP (“Société du Taxi Electrique Parisien”), with 5 first vehicles.
- **Today, the fleet has 100 vehicles, with targets of 200 vehicles at the end 2018 and 600 before the end of 2020.**
- **Hydrogen taxis :**
  - Range up to 500 km
  - Filling in 3 to 5 minutes
  - « zero emission »

A fleet of hydrogen taxis combines several advantages:

- « Zero emission » taxis fleet
- implementation of the captive fleet strategy for hydrogen mobility
- Vehicles with high utilization rates to optimize the business model

### Partners :



# FOCUS : ZERO EMISSION VALLEY : 20 STATIONS, 15 ELECTROLYSERS, 1000 VEHICLES

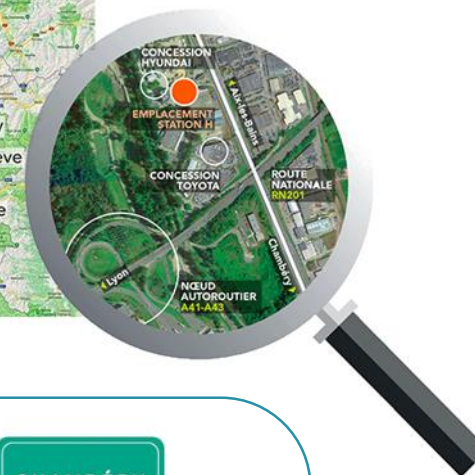


## Zero Emission Valley supported by EU funds



Avec ce projet d'ampleur inédite, la Région Auvergne Rhône Alpes ambitionne de devenir le 1er territoire hydrogène de France & en Europe

Le programme « Zero emission valley » (voir notre article) vient de remporter le soutien financier de l'Union européenne. À la clef 70 millions d'euros pour développer la filière, faire décoller l'usage de la voiture à hydrogène et lutter contre les pollutions.



20 H2 stations

### Partners :



**THANK YOU FOR  
YOUR ATTENTION**

