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Is France now ready to switch to electric mobility?

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Summary

France is one of the biggest markets in Europe with more than 175.000 battery electric cars on the road in March 2019. Strong political support and positive communication are the keys to make French drivers switch from gasoline to electric vehicles. However, some barriers must be removed to ensure a real massification of electric mobility. Every two years, Avere-France and its partner Mobivia Groupe conduct a survey carried out by IPSOS on the French's mobility behaviours and opinions on electric vehicles. This paper aims at explaining the vision of the French population on electric mobility and what needs to been done to ensure a large switch.

Keywords: EV, communication, market development, charging

1 Introduction

1.1 Avere-France: the national association for the development of electromobility working hand to hand with public authorities

Avere-France is a professional association founded in 1978. It is an active member of the AVERE European network and WEVA. As a center of information and expertise, it gathers and represents more than 170 entities, such as vehicle and equipment manufacturers, research centers, consultancies, municipalities, urban mobility service providers or professional users of electric vehicles.

Its main objective is to promote the use of battery, plug-in hybrid and fuel cell electric vehicles - individually and in fleets and for priority uses – in order to achieve a greener mobility.

The main activities to achieve these objectives are related to advocacy, communication, networking, monitoring and participation in French sustainable transports policy making.

Its main activities deal with:

- Communication and promotion of electric mobility
- Lobbying towards national and local public authorities
- Creation of synergies in the French electromobility sector
- Workshops and meetings on specific topics (such as subsidies on vehicles, interoperability, access to private and public charging points, batteries improvement...)
- Cooperate with AVERE and WEVA
- Organization and actions to promote its members.

Thanks to its expertise, Avere-France is a trusted third party on electric mobility and a strong partner of French policy makers for years. It has accompanied it in the identification and analysis on solutions on every stake faced by electromobility today.

1.2 A dynamic French electromobility development but not fast enough to be on track with industry targets neither with long-term climate targets

France is one of the most active markets for electric vehicles in Europe. The 100.000th battery electric car was registered in March 2017 and the 175.000th in March 2019. The government has encouraged for the last 10 years the development of the market with several subsidies on both new and used low emission cars. However, even with double digit growth rates, the current trend is still not sufficient to ensure a deep carbonisation of the transport sector. With a 27% increase for BEV and 24% increase for PHEV in 2018[1] compared to 2017, BEV and PHEV market is still far from the 38% annual growth rate necessary to achieve the targets set by the industry and the government of 1 million electrified vehicles by 2022.

In the scenarios reaching net zero emission by 2050, the share of battery electric and fuel cell drivetrains would reach 96% in 2050 (around 80% for battery electric and 16% for fuel cells), with CO_2 emissions for new cars being 0 gCO_2/km from 2040 onwards, and the large-scale availability of recharging stations and hydrogen refuelling stations. This outcome is also linked to the fact that in the scenario reaching net zero by 2050 e-fuels and biofuels are used with priority in other parts of the energy system, including in transport sectors such as road freight, aviation and maritime, that have fewer options available to decarbonise.

The energy transition and green growth law voted in 2015 has given local authorities tools and obligations to engage and promote the switch towards electric mobility. Unfortunately, it is still not as natural as it should be for drivers to choose an electric vehicle.

For the fourth time, Avere-France and its partner Mobivia Groupe have ordered a survey to measure the French's perception on electric cars. Launched for the first time in 2012, the results help to understand the evolution of the French's needs and mobility habits. Moreover, the survey explains their expectations on battery capacity and their sensitivy and commitment to environmental issues.

2 Mobility habits of the French population

One of the most important irrational fear when it comes to electric vehicles is the autonomy they provide. While it is still the first mean of transport in France as a car is used more than 4 times a week for almost 70% of the population, 52% of the French think the autonomy is too limited for their daily needs. In the end only less than four in ten persons think that electric vehicles fulfil their mobility needs. But despite what they may think, French drivers are already compatible to electric cars as 80% commute less than 50 kilometers a day and that the average daily commute is only 29 kilometers[2].

Most of them are aware of the importance of a massive switch to low emission means of transport as 75% of respondents are willing to change their mobility habits to improve air quality. Nevertheless, few

1 Avere France, Baromètre annuel 2018, January 2019

2 Avere-France, Mobivia Groupe, Le Baromètre de la mobilité électrique vague 4, September 2018

impediments, sometimes not rational, need to be solved to ensure electric mobility become a natural choice for drivers.

3 Perception of electric mobility: the results of the 2018 survey

3.1 Electric car awareness

According to the 2018 survey, most of the French population has a positive image of electric vehicles. They understand the benefits either for the environment, the improvement of the air quality and more important: their budget.

The proportion of people which has already tried an electric car is growing every year from 12% in September 2014 to 22% in September 2018. Driving an electric vehicle is one of the best or even the best way to understand the advantages it offers: it is easy to drive for 82% of the population, cheaper to use than internal combustion vehicles (68%) and reliable (64%).

Some points still need to be explained like charging possibilities and the behaviour switch that is implied. One in four persons has already has access to a charging point either at home or work but the lack of information on how to switch from gas stations to charging points is important. Only 39% of the French population think they are well informed about charging possibilities even if home charging is one of the biggest benefits for the driver.

Even if electric vehicle sale prices are higher than those for same category combustion cars, only 26% of the respondents are aware of the advantages electric vehicles provide regarding the lower cost of ownership. This percentage has decreased by 7 points since the 2014 edition. It is the same proportion when it comes to nationwide subsidies: 27% are aware of the financial benefits they could get from the government when buying an electric car. National subsidies are revaluated every year in December but a long-term political vision is necessary to make sure buyers understand retail prices properly. For example, the ecological bonus given to every low emission new car buyer went from 6.300 euros to 6.000 euros in 2017 while the “prime à la conversion”, an extra-bonus for those who throw an old internal combustion-engine vehicle away, went from 3.700 euros in 2016 to 4.000 euros in 2017 and then dropped to 2.500 euros in 2018.

All those items prove us that a lot of information still needs to be provided to the public to ensure an important switch to e-mobility. Even if the French consider themselves now more informed about electric cars, its global image is damaged but still positive.

3.2 The French are committed to change to low emission vehicles

Despite the global idea of young generations being more interested in mobility as services, there are some encouraging results in the user profile. The 2018 edition survey shows that people under 35 are the most attracted by electric vehicles with close to 50% of the 18-24-year-olds declaring their intention to buy one even if the average French new car buyer is 54-year-old. Used models could be a solution for them: young people are more willing to buy a second-hand electric vehicle than the entire population (82% of the 18-24-year olds eager to buy an electric car could consider an used model versus 64%).

Beside direct benefits for their owners, electric cars can arrange the society itself. A study published in 2016 by Santé Publique France, the French national public health agency[3], explains that almost 48.000 persons die prematurely of air pollution every year in France. The French population is aware of the necessity to reduce its impacts on air quality and understands low emission vehicles are necessary to achieve this purpose. The IPSOS study also shows that the absence of emission of fine particles or smoke is clearly an important asset as it is the first advantage of electric cars for 65% of the respondents.

Nevertheless, it is still important to explain the benefits batteries can provide in a second life use since 20% (+ 6 points since the 2016 study) of the French population question their impact on the environment. The global impact of electric vehicles on the climate is still the subject of a lot of controversy even if a lot of

3 Santé Publique France, Impacts sanitaires de la pollution de l'air en France : nouvelles données et perspectives, January 2016

independent studies are published, such as "*Le véhicule électrique dans la transition écologique en France*" by La Fondation Nicolas Hulot pour la Nature et l'Homme and the European Climate Foundation. It explains how electric cars have an impact on climate change 2 to 3 times lower than internal combustion vehicles mainly due to the absence of fine particle emissions, second life uses such as energy storage and the development of renewable energy[4].

3.3 The electric vehicle: recognised sustainable mobility solution, adapted to today's market needs, with performance expectations similar to thermic vehicles ones

Despite an environmental awareness and a real interest in electric cars, the majority of the French are hampered by points of comparison with combustion vehicles. At the same time, they no longer see electric vehicles as the second cars of the household but now wish they could replace their main combustion vehicle under the same autonomy, conditions of price and access to energy.

The first obstacle to the massive adoption of electric cars by drivers is the autonomy they offer. This point is the perfect example of the comparison between electric and internal combustion-engine vehicles. Drivers have been used for decades to long-range cars they use to their maximum only a few times a year. While a third of the French population would consider buying an electric vehicle with an autonomy of 300-500 kilometres, 40% is waiting for an autonomy over 500 kilometres. 52% of the respondents consider the autonomy is still too limited for their use (- 6 points since the 2016 study) while 80% of them drive less than 80 kilometres a day. This point could be answered with communication regarding daily charging sessions at home as electric car drivers do not need to go to the gas station to benefit the full autonomy their cars provide.

The 2018 edition study shows that 41% of the French (versus 45% in 2016) consider electric cars more expensive than combustible models and 67% of the respondents could buy one if purchase prices were similar. The latest study published by Blomberg NEF[5] shows that electric vehicles would be cheaper than combustion-engine vehicles in 2022. Considering the impact of the battery on the finale sale price of the car, it is important to make sure buyers are aware of their actual needs in term of autonomy. On this topic it is necessary to compare the total cost of ownership between electric and combustion-engine vehicles. In many cases, considering the low cost of electricity compared to gas, low maintenance and advantages such as reduced fares on parking and insurance policies, the possession of electric vehicles is cheaper and cheaper over the years.

Last but not least, charging is a key topic for the French population with 22% considering there is a lack of charging infrastructures across the country while 57% (-5 points) are willing to switch to electric cars if they could easily charge their car at or next to their home. There are already two answers to this subject. With a number of gas stations declining over the past few years, France now offers more charging stations than gas stations: 11.000 according to the French roaming platform GIREVE[6]. This number is increasing as several private companies are investing in developing their own networks. On the other side, home charging is a point that needs to be explained: it is often seen as an expensive installation while electric cars can be plugged into a domestic electric plug.

4 Solutions to improve the change

The IPSOS study also shows that the French are now generally better informed except on charging infrastructures and public subsidies. That means a better communication on electric vehicles and education on environmental issues is needed.

On the financial issue, governmental subsidies have to be maintained until prices are equalized. President Emmanuel Macron has announced in February 2019 at the centenary anniversary of the International

4 Fondation Nicolas Hulot pour la Nature et l'Homme, European Climate Foundation, Le véhicule électrique dans la transition écologique en France, December 2017

5 Nathaniel Bullard, BloombergNEF, Electric Car Price Tag Shrinks Along With Battery Cost, April 12, 2019, www.bloomberg.com/amp/opinion/articles/2019-04-12/electric-vehicle-battery-shrinks-and-so-does-the-total

6 Avere-France, GIREVE, Baromètre régional de la mobilité électrique, April 2019

Organization of Motor Vehicle Manufacturers that the ecological bonus would be maintained at least until 2022[7] for both new and reused cars, battery electrics and plug-in hybrids.

Existing and new support mechanisms have to be maintained to help the access to charging points. The tax credit for energy transition, which allow individuals to deduct 30% of the cost of the installation of a home charging point from their taxable incomes, will be maintain in 2020.

Charging an electric car when living in residential housing is sometimes difficult in France. Since 2016 Avere-France manages the Advenir program, which aimed at developing private charging points in both residential and activity buildings by covering up to 50% of the installation costs including materials for more than 10.000 charging points. In his recent speech, President Emmanuel Macron has announced the program could be extended in 2021 while it is supposed to end in December 2020.

5 Charging on the road

Used for decades to go to gas stations to fill up their tanks, most drivers believe public charging stations are needed to charge electric cars. As they are less visible than gas stations, 22% of the respondents think there is a lack of charging stations in France, which could be an obstacle for them to switch to an electric vehicle. According to GIREVE, almost 26.000 public charging points are installed across the country and available for every electric car driver. France has now one of the highest ratios with 6.8 electric cars per charging point which is better than the European Union recommendation of 10 electric vehicles per charging point.

Most of them have been installed upon the request of local authorities in charge of the development of charging networks and financed by the French national environment and energy management agency Ademe between 2016 and 2018.

In March 2018[8] the Advenir program has been authorized to take over and finance charging points on public spaces and in the street encouraging on-demand installation. Advenir aims at financing 3.000 charging points and covers up to 40% of the installation costs.

Figure 1: 10.491 charging stations across France in January 2019

The development of fast charging stations on highways is also one of the solutions engaged to ensure a massive switch to electric cars. In 2016, one of the first national charging network Corri-Door has been installed by IZIVIA, an EDF branch with the financial help of the European Union. It now offers 200 fast charging stations located along major highways, one every 80 kilometres. In 2020, a second phase of development will bring 300 new fast charging points mostly located in cities and activity areas[9]. Several other charging operators such as Ionity and Alego are developing fast charging networks across France and Europe.

6 Conclusion: some initiatives are on the way to help French drivers to go electric

Autonomy, charging infrastructures or financial issues: all those blocking points have been answered over the past few years. Unfortunately, electric cars still only represent 2% of the newest registrations in France[10].

7 Avere-France, Emmanuel Macron présente son plan pour développer la mobilité électrique, February 2019
8 Journal Officiel Français, Arrêté du 8 février 2018 portant reconduction des programmes « FEEBAT » et « Advenir » dans le cadre du dispositif des certificats d'économies d'énergie, February 2018
9 IZIVIA, Sodetrel devient IZIVIA press release, October 2018
10 Avere-France, Baromètre de la mobilité électrique, April 2019 and CCFA, Marché automobile français, April 2019

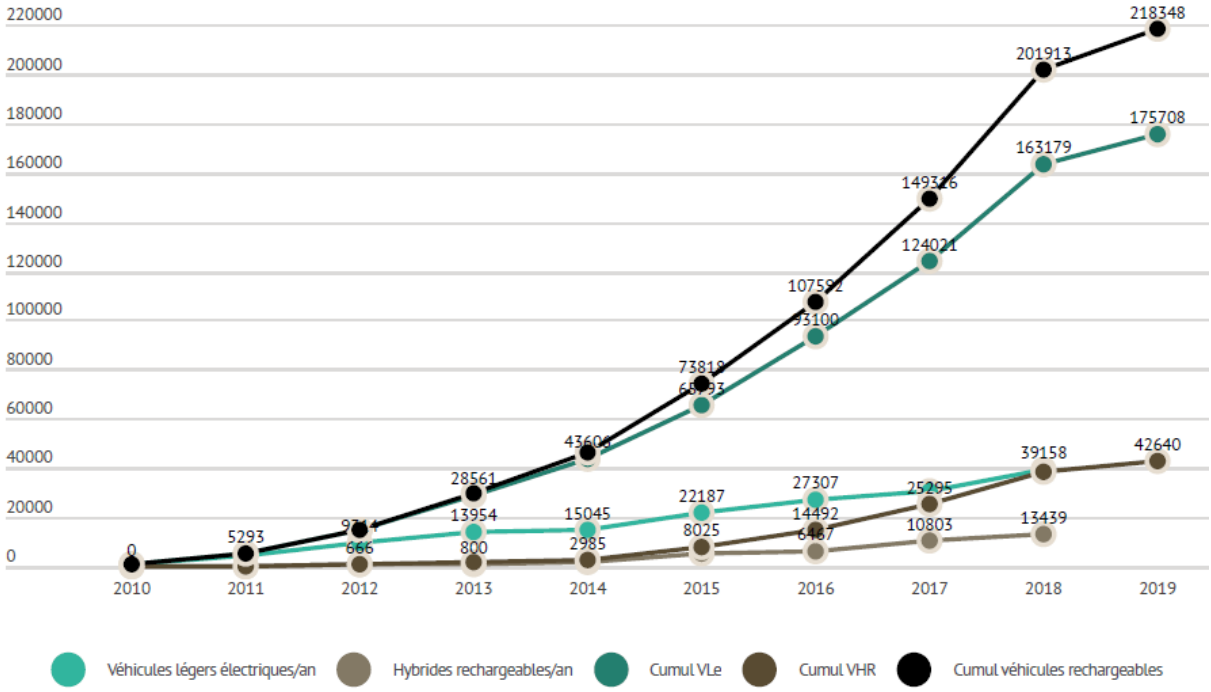

Figure 2: evolution of electric car registrations in France

In a perspective of fast development to mass market one of the biggest challenge is to explain the importance and the benefits of electric mobility for consumers. In 2019, Avere-France and 20 of its partners both public and private are developing a website "Je-roule-en-electrique.fr" to explain those subjects and to remind drivers that switching to an electric vehicle is simple. Several simulators will provide personalized information to the user such as all the public subsidies it is entitled, charging possibilities at home or at work… Even if several new electric models have been recently launched offering different ranges, it is important to reassure drivers on their mobility needs and to remind them that they overestimate them. The website will also provide a catalog of vehicles so users will be able to compare the different models available on the market.

The Mobility bill tabled in Parliament in spring 2019 will also propose some solutions to ensure to respect of the "right to plug" in residential housing or to facilitate charging at work by tax-exempting employers offering charging possibilities.

At last regarding the capacity of buying an electric car on a financial point of view, several carmakers have launched second hand offers with first-generation vehicles at low prices. This could be an answer to those who cannot afford a new vehicle and are still obliged to drive a polluting one.

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Figures

Figure 1: 10.491 charging stations across France in January 2019. French Ministry of Economy and GIREVE, January 2019

Figure 2: evolution of electric car registrations in France. Avere-France, April 2019

Authors

Cécile Goubet is tbe General Secretary of Avere-France, the French association for electric mobility. She has a strong background in energy and climate policies. For more than ten years she worked on delivering solutions to decarbonize the economy at both international, European and national levels. After working as a business developer and as a market analyst on those issues in various public and private companies, she chose to focus on one aspect of the energy and climate transition: the transport sector.

For Cecile Goubet, decarbonization of the transport sector is an absolute key driver to achieve the goal of developing a low carbon and competitive economy.

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