

ELECTRIC CARS: A DRIVER OF EUROPE'S ENERGY TRANSITION

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At a time when China is leading the transition to electric vehicles, Europe is at risk of lagging behind. In order to push European manufacturers to be proactive players in the transformation of the automotive industry, the EU must adopt ambitious measures as a priority, measures which will play a major part in modernising the European economy, creating quality jobs, fighting climate change, facilitating the rise of renewables and improving air quality for all Europeans.

As announced last month in the new EU industrial strategy¹, the European Commission is gearing up to propose new incentives to increase the number of clean vehicles on our roads by 2030. Following the fraud scandal on diesel engines (Dieselgate), the President of the Commission Jean-Claude Juncker wishes to put Europe on the same path as many national governments in recent months, by preparing for the end of diesel and petrol vehicles².

The future of the automotive industry is decisive for Europe. At the centre of the European economy, this industry plays a major role in terms of jobs. As regards energy, transportation accounts for one third of the EU's final energy consumption, while road transportation alone represents almost 20% of the continent's CO₂ emissions. For public health, air pollution causes 430,000 premature deaths each year in the European Union, and petrol and diesel cars are a major source of this pollution.

An inevitable change of course

The dependency on fossil fuels, pollution peaks, climate change and the recent scandals mean that the internal combustion engine is a technology of the past. Despite calls from the Commission and the civil society, car manufacturers are struggling to rethink their economic model. Yet the automotive industry should operate a shift in its approach before it heads for a fall. The industrial environment is indeed witnessing several opportunities brought about by electrification, digital technology, collaborative economy and automation. As highlighted by Johannes

Teysen, CEO of the energy supplier E.ON, the power sector has also struggled to deal with major changes (e.g. renewable energy sources and energy efficiency), lulling itself into a "false sense of security"³.

Is the electric car the solution?

Electrification is part of the solution for the automotive industry: electric cars have low CO₂ emissions⁴ and can modernise the European economy on the basis of a major existing industry, while retaining the convenience of private vehicles for consumers. Asian and American competitors, in particular BYD and Tesla, have already taken this concept on board and are demonstrating increasing performance levels. Unlike Europe, China has even applied a quota to manufacturers, stating that electric cars must account for at least 10% of production by 2019⁵. This system will allow the government to offload the financing of major subsidies to promote these vehicles. As Volkswagen, BMW and Renault are among the ten companies who sold the greatest numbers of electric cars worldwide in 2015, some European manufacturers are still in the running, but are starting to lag behind.

Obstacles preventing electric cars from taking off

Why are there not more electric cars on our roads in Europe? Firstly, some manufacturers attempted to block the adoption of measures in favour of electric vehicles, in order to maximise their short-term profits, to the detriment of their economic viability in the medium term. Secondly, technological and physical

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1. Communication from the Commission dated 13 September 2017, "Investing in a smart, innovative and sustainable industry - A renewed EU Industrial Policy Strategy"

2. France and the United Kingdom announced the end of diesel and petrol vehicle sales by 2040 while the Netherlands plans to apply this change as early as 2030. In addition, financial incentives and taxes are used in many European countries.

3. "Das trügerische Gefühl der Unangreifbarkeit", Opinion piece published in Tagesspiegel, 11 September 2017 (in German).

4. The use of electric cars does not directly generate emissions of CO₂ or air pollutants. The assessment of actual emissions for electric cars must, however, be calculated over the entire life cycle, and in particular take into account the pollution caused by the generation of the electricity used to charge the car's battery.

5. "China Gives Automakers More Time in World's Biggest EV Plan Reference", Bloomberg News, 28 September 2017.

barriers continue to make the adoption of the electric car difficult:

- **The cost of the battery** is still too high.
- **The network of charging points must guarantee an interoperability between different systems and countries, and is not yet sufficiently dense** in Europe to overcome drivers' legitimate concerns of 'running out of battery'.

European solutions to lift these barriers

Ahead of the European Commission's proposals, some measures should be rolled out as a priority in order to initiate the full deployment of electric vehicles and thereby make European industry a global leader in this field⁶.

1. Invest in batteries. Battery performance is constantly improving, and yet its development potential should be stimulated by more public investments and an industrial policy that structures the **European battery production sector**. The company Northvolt aims to launch the mass production of batteries in Sweden from 2020⁷. This initiative is a first in Europe and should pave the way for other gigafactories, which would cut the cost of batteries.

2. Roll out charging points. In terms of infrastructure, the EU is already active⁸ in setting requirements for the installation of accessible charging points by 2020⁹, and the Commission will soon publish a new action plan to support this. A **contribution from the Juncker Plan**¹⁰ would lead to the installation of more

charging points, including in peri-urban and rural areas for an integration that is fair and accessible to all citizens. This would also improve the visibility of European funding in public utility projects.

3. Develop a comprehensive European strategy. The approach favoured by many countries and cities involving restricting the use of petrol and diesel cars¹¹ underscores the desire for change. Its application could be optimised by adopting it on an EU scale through a **European industrial policy for clean vehicles**, as supported by the French President Emmanuel Macron¹². Such a policy would **create a forum for dialogue and cooperation between public authorities and the industry** in order to launch a transition which is integrated, ambitious and fair. This strategy would have to take into account the conversion of jobs in this sector as well as the opportunity provided by electric vehicles to integrate renewable energy sources as the battery can store the electricity they generate. It should also result in more ambitious European legislation on authorised CO₂ emission levels. The current measures defining the performance standards of new vehicles¹³ have been significantly diluted under pressure from the car lobby, the influence of which remains weakened by Dieselgate. The revision of these standards would provide an opportunity to push manufacturers to produce "clean" vehicles only.

Given the developments of vehicle technologies and their use, and Europeans' attachment to this mode of transportation, the transition process must not be perceived as a failure of the conventional automotive industry. **At a time when American and Asian competitors are faring well in the race, there is an opportunity for development and innovation in Europe** to design and roll out a mobility system which is more efficient, more competitive and above all more sustainable.

6. The proposals stated in this paper are for the most part taken from the study conducted by Thomas Pellerin-Carlin, Jean-Arnold Vinois, Eulalia Rubio and Sofia Fernandes, "Making the energy transition a European success. Tackling the democratic, innovation, financing and social challenges of the Energy Union", Studies & Reports No. 114, Jacques Delors Institute, September 2017.

7. Ibid. Section 2, Box 2, p. 83.

8. These efforts are also visible in the proposal to revise Directive 2010/31/EU on the energy performance of buildings, aimed at installing charging stations by 2025 in all car parks, with over ten parking spaces, belonging to non-residential buildings that are new or undergoing renovation.

9. Directive 2014/94/EU on the deployment of alternative fuels infrastructure.

10. Financing through the European Fund for Strategic Investments. For a detailed presentation of the Juncker Plan, see Eulalia Rubio, David Rinaldi and Thomas Pellerin-Carlin, "Investment in Europe: making the best of the Juncker Plan", Study No. 109, Jacques Delors Institute, March 2016. See also Study No. 114, Section 1.3.1., p. 56.

11. For instance, the city of Paris wants to ban petrol-powered cars by 2030.

12. Address by Emmanuel Macron, "A sovereign, united, democratic Europe", 26 September 2017, La Sorbonne, Paris.

13. Regulation (EC) No. 443/2009 and Regulation (EU) No. 333/2014