

POLICY POSITION ON ELECTROMOBILITY

ENVIRONMENT



Executive Summary

The FIA European Bureau supports the European Commission in the broad approach taken in its “Fit for 55” package; in particular, the FIA EB is in favour of the proposals to revise the vehicle fleet CO₂ emission targets and energy taxation, the promotion of sustainable renewable energy, and the inclusion of road transport into the existing emissions trading.

Electromobility has a significant role to play in delivering a smooth transition. It fits into a global megatrend of electrification, digitalisation, and automation. Already with today’s EU27 electricity mix, electric vehicles constitute an efficient way of lowering emissions from the transport sector. As new electric vehicles’ prices decrease, the total cost of ownership for users will become increasingly attractive, since the operation costs are currently lower than those of ICE powered cars. A new ecosystem of freedom and new services may open for our members if they are able to produce their own fuel with PV solar cells on their premises.



However, the FIA European Bureau believes that technology neutrality is key in the transition to climate-neutral mobility. The objective should be to ensure that motorists enjoy at least the same level of convenience as they do with conventional fuels and powertrains, at a comparable cost level.

The FIA European Bureau believes that the transition to climate-neutral mobility requires a **variety of powertrains and energy carriers** to be effective, and efficient. The use of sustainable electric power will be the overall trend in the transport sector, which could be used either directly in batteries (PEV and PHEV) or, after a conversion process, as e-fuels.

The EU should invest into **research and development** to find alternatives for resources currently needed for carbon reducing technologies. This would strengthen the EU energy independence and reduce the pressure to deplete these resources around the world. Important players, such as the IEA, raise concerns about the availability of raw materials (lithium, cobalt, copper) to decarbonize the transport sector by replacing all current vehicles with BEV.

This position paper addresses both the policies and regulatory measures to promote the uptake of electric vehicles, and the deployment of the related necessary charging infrastructure. The FIA European Bureau further proposes measures to support the use of electricity produced from renewable energy and, where appropriate, highlights the potential to reform and revise applicable EU legislation. It focusses on the **in-use measures** that should be taken to support the deployment of electromobility based on renewable energy in the coming years.

Electromobility

Definitions

Pure Electric Vehicles (PEV)¹ or BEV (battery electric vehicles) are fully powered by an electric motor, using electricity stored in an on-board battery that is charged by plugging into the electricity grid.

Plug-in hybrids (PHEVs) have an internal combustion engine (running on petrol or diesel) and a battery-powered electric motor. The combustion engine supports the electric motor when required, and the battery is recharged by connecting to the grid.

Hybrid electric vehicles (HEVs) are powered by an internal combustion engine (running on petrol or diesel) but also have a battery-powered electric motor that serves to complement the conventional engine. Their electricity is generated internally from regenerative braking and the internal combustion

¹ Recommendation to use the definitions from UNECE Mutual Resolution No 2:
https://www.acea.auto/files/ACEA_Pocket_Guide_2020-2021.pdf



engine, so they do not need recharging from infrastructure. The hybridisation level ranges from mild to full.

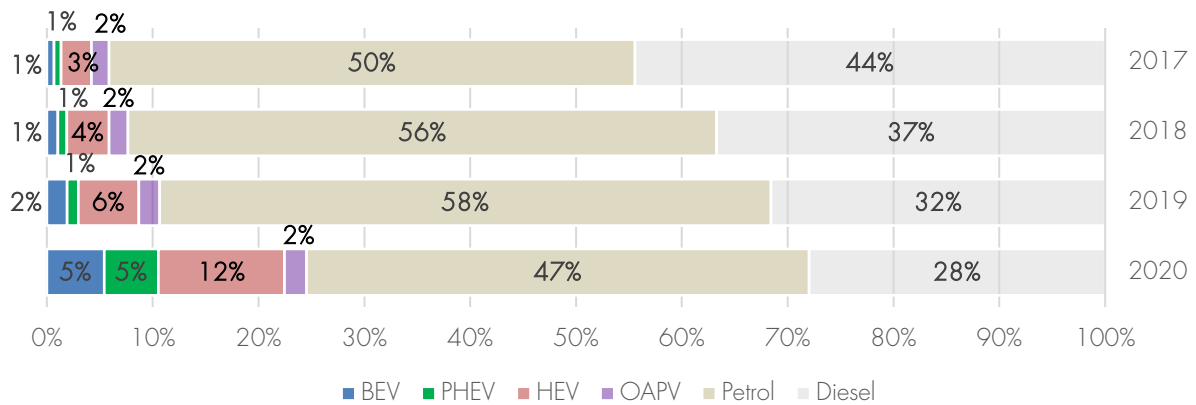
Other alternatively powered vehicles (OAPVs) are vehicles other than PEVs, PHEVs and HEVs.

Electric mobility market

Overall, in 2020, hybrid electric vehicles made up 11.9% of total passenger car sales across the EU, up from 5.7% in 2019. Pure Electric Vehicles saw a similar surge in demand in 2020, accounting for 5.4% of all new car registrations in the European Union, compared to a 1.9% market share in 2019. The same development can be observed for plug-in-hybrids, which accounted for 5.1% of all car sales, coming from 1,1% in 2019.

Despite the overall decline of 3 million units in car registrations as a result of COVID-19, which mostly concerned diesel- and petrol-powered vehicles, as conventional fuel types still dominated EU car sales in terms of market share (75.5%) in 2020 (Source: [ACEA](#)²), the share of electrified vehicles has significantly grown in 2019 and 2020³.

New passenger cars by fuel type in the EU-27



Source: ACEA

² <https://www.acea.be/press-releases/article/fuel-types-of-new-cars-electric-10.5-hybrid-11.9-petrol-47.5-market-share-f>

³ see ACEA https://www.acea.auto/files/ACEA_Pocket_Guide_2020-2021.pdf (p6)



Relevant legislation

- Communication COM (2013)17 on a European alternative fuels strategy
- Regulation 2019/631 on EU CO₂ targets for new cars
- Directive 2014/94/EU on EU Alternative Fuels Infrastructure
- Directive 2009/30/EC on fuel quality
- Directive 2018/2001 on renewable energy
- Directive 1999/94/EC on car CO₂ labelling
- Regulation 2017/1151 on type-approval of motor vehicles with respect to emissions from light passenger and commercial vehicles (Euro 5 & 6)
- New proposal: proposal for a regulation on batteries and waste batteries, repeal of Directive 2006/66 / EC and amendment of Regulation (EU) No. 2019/1020)
- Directive 2000/53/EC on end-of-life vehicles
- Directive 2005/64/EC on re-use, recycling and recovery of vehicle parts

Introduction

The trends in annual new car sales of different fuel types shows a high prevalence of internal combustion engines, but also a rapid increase of electrically chargeable vehicles. When being charged with electricity produced from renewable sources, Pure Electric Vehicles significantly reduce CO₂ emissions of road transport. The **shift towards electric mobility should therefore be accelerated**. However, the EU needs to ensure that open questions - such as **battery recycling, sourcing of rare materials** and the switch to electricity produced from renewable sources - are properly addressed and answered.

Infrastructure

Studies show that, for many users, **charging mostly takes place at home or at the workplace**⁴. Authorities should ensure that **tenants or owners have the possibility to install charging infrastructure** for private use in a simple and uncomplicated way, and legislation should mandate charging infrastructure filling for new buildings. The possibility of **charging at the workplace should also be promoted with incentives**.

⁴ Some studies indicate that as little as 5% of charging takes place in public locations, (Hardmen et al, A review of consumer preferences of and interactions with electric vehicle charging infrastructure, 2018).

Home charging is four times more frequent than public charging



Through overarching planning, and simple processes and approvals, EU Member States should ensure, in line with demand, that the **most appropriate forms of charging infrastructure** are in place in key public locations, are well maintained, and that Key Performance Indicators are set. While **slow speed charging** options cover most needs for home and work charging, fast options⁵ will be needed for long distance travel, urban areas, or popular touristic destinations, to save time when travelling⁶.

To achieve an extension of charging infrastructure, the EU should prescribe **minimum amounts of interoperable public charging** points (through setting national targets / minimum number of charging points related to Pure Electric Vehicle fleet). It is essential that motorists have easy **access to information** about the locations, condition, and availability of charging points, particularly as, in some cases, stations can be occupied for extended periods of time and/or out of service, which will obviously be inconvenient for users.

Consumer needs

Range anxiety, lack of knowledge of both charging protocols and electric vehicles, and price are frequently cited as barriers to the swift uptake of electric mobility.

Several countries are providing incentives for the purchase of electric cars, mostly the exemption of purchase taxes or VAT, free parking, or use of dedicated lanes. In Norway, the government foresees small electric vehicles to reach price parity with ICE by 2022/2023 (and larger vehicles in 2024/2025); incentives could be an effective means to lower the purchasing barrier until electric vehicles total cost of ownership becomes competitive. The price of individual motorized mobility should not unduly increase when subsidies for electric mobility are withdrawn.

⁵ This is possible with publicly accessible fast charging points with a charging rate above or equal to 50 KW.

⁶ ICCT (2018, Lessons learned on early electric vehicle fast-charging deployments).



Awareness raising efforts and driving training activities can also help alleviate consumers concerns. In the short term, specific driver training could be offered to new electric vehicle owners and those driving for business and commercial purposes, to raise their awareness of the **specificities of electric propulsion**, and provide targeted advice, e.g., to maximise the energy regenerating features of their vehicles and increase the driving range.

Tariffs, transparency, and payment methods

Drivers must **understand the price of charging** in advance of using a charging point. Recharging an electric vehicle should be as simple and transparent for consumers as refuelling at a petrol station.

EV users also face a **lack of transparency and unfair pricing models** with time-based tariffs. The rate of charging is often negatively affected by variables such as temperature or the number of users at a charging station. When the user pays according to the amount of time, he can receive much less electricity than expected. To address this problem, the FIA European Bureau demands that **tariffs are based on the amount of electricity received** (e.g., euro/KWh). The prices per unit should be transparent before re-charging and should also be included in the total billing after charging. This would help users optimize their charging patterns at home or in public stations.

Once the battery is fully charged, parking fees may be applied to **incentivise users to free up the charging facility** for others. The customer should be informed about the level of charge and the change in tariff.

Furthermore, the **lack of transparency and comparability of contractual charging price models** must be addressed. Consumers should be able to easily compare the actual costs of charging of different contracts through online websites.

Publicly accessible charging points must provide the possibility to **recharge without entering a contract** with the operator, what is known as charging on *ad-hoc* basis. Consumers should also have the possibility to compare the different pricing schemes for *ad-hoc* charging. In addition, to prevent operators from charging excessive fees for *ad-hoc* charging, a tariff cap should be set to ensure that rates are not disproportionately higher than the contract-based pricing options.

Motorists also complain about the **payment options for *ad-hoc* charging**. Often it is the case that a smartphone app is required. This situation is clearly not convenient for the user, and it can be particularly difficult when travelling abroad. Motorists deserve the freedom to choose the most convenient payment method and, therefore, several payment options should be offered, including by debit and credit cards.



Electricity supply and grid

Further development of the **electricity distribution** networks is an important lever to support electric vehicle use. In many places, the number of dedicated electric vehicle charging stations that can be installed is limited due to the constraints imposed by the local grid capacity. This issue arises for instance for motorway service area operators, and for companies and organisations looking to electrify their vehicle fleets and charge them all in a common operational hub.

The upcoming infrastructure expansion **requires huge investments** in electricity supply and electricity grid. It must be ensured that the additional electricity supply in time originates from renewable sources, otherwise the lifecycle emission reductions from electric mobility are hampered.

Smart grids, distributed generation and storage, and demand-side management should be promoted to increase the flexibility of the system and compensate for the loss of flexibility on the generation side of intermittent renewable sources, such as wind or solar. Public charging systems should have an intelligent metering system.

Charging electric vehicles should ideally be smart, and usage should be incentivised using **price signals and allow for bi-directional charging**. Smart charging could allow for motorists to save money, ensure against power outages, charge at the most convenient time of day, and benefit from selling energy back to the grid.

Sustainable energy

The Renewable Energy Directive should help to accelerate the use of **renewable electricity** in the transport sector and, in consequence, reduce the sector's CO₂ emissions. It should be ensured that low-emission and energy-efficient vehicles enjoy an **advantage regarding vehicle taxation**. Policies should give a clear outlook to consumers about the perpetuation of these tax advantages and current subsidies.



The FIA European Bureau

The FIA European Bureau engages in European research and innovation programmes to support and promote the development and the deployment of alternative fuelled vehicles, such as:



The **ELVITEN** project which focuses on demonstrating the benefits of light electric vehicles (such as e-bikes and scooters).



The **Green NCAP** scheme and the Green Vehicle Index (GVI) project which promote the development of vehicles that are clean, energy efficient and environmentally friendly.



The **MODALES** project which encourages the adoption of driving behaviour and vehicle maintenance that can help lower emissions.



The **FIA European Bureau** is a consumer body representing 67 Motoring and Touring Clubs and their 36 million members from across Europe. The FIA European Bureau represents the interests of our members as motorists, riders, pedestrians, and passengers. The FIA European Bureau is working to ensure safe, affordable, clean, and efficient mobility for all. Learn more at www.fiaregion1.com.

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