

Are PHEVs the new evil in mobility?

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Recent publications from NGOs based on independent testing state that PHEVs are fake electric cars and should basically be considered and taxed in the same way as ICEs. They even claim a new Dieseltgate is on its way. The media coverage that has followed this has been massive: PHEV-bashing is the latest mantra.

What is the problem?

The adoption of PHEVs is rising fast and they represented 3.5% of the European Passenger Car Market in 2020 (Jan to Sep), growing in parallel with BEVs (4.1% over the same period). This increase is due to a more abundant product offering in mainstream segments (Volvo XC40, Peugeot 3008, Toyota RAV4, Renault Captur...), often incentivized by fiscal advantages, in a context where OEMs need to push these vehicles to ensure compliance with EU CO2 regulations. In terms of environmental performance however, the study indicates that:

- Average fuel consumption of PHEVs proves higher than homologation values by 2 to 4 times
- Real life CO2, NOx and PM emissions largely overshoot theoretical values, especially in certain situations such as excessive usage of an ICE engine on an empty battery, or using the battery charging mode while driving (up to 12x above official values).

The dream pitch...

PHEVs were introduced into the market with an attractive pitch: no range anxiety, a good stepping stone towards electrification (initiating the learning curve on charging), a “Swiss army knife” vehicle that can cover all types of usage (planned and spontaneous trips, with multiple passengers or alone, for commuting or vacationing).

.... vs the nightmare scenario

When a 2.5-ton PHEV, chosen primarily to reduce taxes (as a company) or Benefit In Kind (as a driver), is driven on the autobahn/motorway 100kms each day and is not recharged (we have great stories of charging cables untouched in its original packaging after 4 years), the dream pitch turns into a real fiasco. This type of scenario means that a fleet manager ends up with a huge fuel bill (much higher than for an ICE equivalent due to the additional weight of the car) and a dramatic increase in CO₂ / NO_x / PMs emissions than initially targeted.

Can PHEVs be a helpful alternative for your fleet?

Yes, absolutely. We tested the use of PHEVs in our own fleet and the results were positive. At ALD Automotive in the UK, we carried out an internal test on our own company cars which clearly demonstrated that when used properly the fuel and CO₂ benefits outperformed baseline ICEs. At our Corporate Headquarters (equipped with charging stations) we also conducted an in-depth analysis of our total cost of mobility and observed that our PHEVs surpass official consumption during weekdays by a reasonable 20-30% and use 50% less fuel than an equivalent size vehicle powered by an ICE engine. Personal use during holidays show more variation depending on individual habits.

Similarly, French media Caradisiac conducted a test amid the current controversy using two versions of the C5 Aircross (PHEV petrol and petrol). The results highlighted the absolute necessity to avoid forced battery charging as it resulted in up to 18l/100km in petrol consumption in urban areas. It will also come as no surprise that PHEVs using hybrid mode largely beat ICE in city centers... and more surprisingly, on suburban and national roads as well! On an “empty” battery, consumption figures are significantly higher than homologation values, yet they remain inferior to ICE vehicles in cities and mixed roads.

Are PHEVs for everyone?

Certainly not. PHEVs are a different animal in the powertrain spectrum since their impact on the environment is not so much due to the technology itself but rather to how the vehicle is used. Practically speaking, this means how often the driver charges the car, how fast they drive, how long they drive the car, etc. By simply applying strict eligibility screenings of employees when attributing vehicles, many of the undesirable side-effects of PHEVs can be avoided. A very straight-forward yes/no question to start the PHEV test: “*Can the user manage his daily commuting using electric mode?*” If the answer is “no”, move on to the next available technology.

Behavior vs policy

You can't put all your eggs in the same basket and only rely on individual behaviour to make the equation work. It would be naive to rely solely on user discipline (or environmental consciousness). Where PHEVs have proved not to work was also the result of bad policy: putting these vehicles in the hands of the wrong employees of course, but also falling short in other key areas such as building driver awareness, providing training, implementing engagement rules and monitoring strict adherence.

So who is at fault when it goes wrong?

Let's look at all the stakeholders in the process within the corporate arena: public authorities, OEMs, leasing companies and corporates drivers. Now add the multiple reasons why real-life experience can be a disaster from a financial and environmental point of view: inexperience, learning curve, opportunism, box-ticking, complacency, wanting a good conscience, financial optimization, commercial interest. Just connect the dots between the stakeholders and the reasons (multiple answers are possible!).

A collective responsibility

BEVs will dominate the market within a decade and their rise is a key condition to reducing emissions from the transport sector. BEVs also have better life cycle CO2 emissions, provided that the electricity used is relatively decarbonated. We believe the market balance between BEVs and PHEVs will remain relatively equal in the near future, but as BEV technology improves and infrastructure develops, we anticipate BEVs to capture most of the growth and become dominant in the medium term (2025 onwards). Still, PHEVs have a role to play in the transition phase, if not beyond 2030, under the strict condition that their real-life performance improves.

At ALD Automotive, we think **all stakeholders around the table have an important role to play:**

- **OEMs:** in providing vehicles that show reasonable fuel consumption in pure ICE mode, improving driver handover and training and being fully transparent about all consumption data in all usage circumstances;
- **Corporates:** avoiding the trap of fiscal tax optimization and consider the TCO/CO2 picture over the whole contract term, dumping the "one grade – one car" dogma and implement differentiated car policies, being strict on driver eligibility, providing charging solutions in the office and at home, using a "carrot and stick" approach (monitoring and providing alerts on fuel consumption, capping fuel reimbursement etc.)
- **Drivers:** they have the power! Charging, charging and more charging. In addition, using the battery for what it's for by avoiding forced battery charging and extremely frequent long-haul travelling. Last but not least, adapting the vehicle size to their actual needs and fundamentally, being reasonable: irrespective of powertrain technology, the footprint of a large premium SUV will always be higher than a C-hatch!
- **Leasing companies:** implementing the right consultancy approach to identify the best suited scenario for any customer need, supporting their recommendations with data (with TCO simulation tools that anticipate real driving and charging behaviours), daring to advise against PHEVs when the conditions are not right (and for them, when they are right!); and offering an end-to-end electric product, embedding charging solutions in the most seamless way possible.

It is a thin line between having a healthy and welcomed debate and taking sensational positions that will cast a shadow of doubt on electrification, instead of supporting an acceleration of EV adoption. Let's not forget that each km driven in electric mode means no CO2, no NOx and practically no particulate matter emissions in city centers! Do you really want to go back to ICE age?

At ALD Automotive, we are ready to play our part. We can make PHEVs work with you in real-life, together!

If you'd like to find out more about you can start the energy transition of your fleet, contact us at:

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