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Accelerated Vehicle Obsolescence

Alert on a sector in transition

HOP STOP PLANNED OBSOLESCENCE

Who is HOP?

HOP – *Halte à l'obsolescence programmée* – is a French association regulated by the "Loi de 1901" law, that fights for the sustainability of products and against programmed obsolescence. Created in 2015, it is a national environmental protection association which is an approved consumer association. It aims to unite and defend citizens, engage public and private decision-makers to move towards sustainable and repairable products. HOP wishes to contribute to the quest of the United Nations's sustainable development goals, especially the 12th (ODD12) which is "a call for producers, consumers, communities and governments to reflect on their habits and uses in terms of consumption, waste production, and the environmental and social impact of the entire value chain of our products."

HOP's work mainly involves raising public awareness and mobilizing stakeholders, as well as legal action and advocacy in France and Europe. It has created the websites produitsdurables.fr and bonusreparation.org. The association initiated a network of volunteer companies in 2018, the *Club de la durabilité*. Renowned for its expertise on electrical and electronic equipment, the association has written numerous reports on everyday products: printers, televisions, washing machines, tights, etc. In this new report, HOP looks at vehicles, to alert consumers and public decision-makers to the risks of accelerated obsolescence and the available solutions.

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Summary

It is necessary to reduce the health and environmental footprint of the road sector. This must be achieved above all through sobriety measures and by switching to other, less polluting means of transport. But the automobile sector is undergoing significant changes, as by 2050 there should be no more combustion-powered vehicles on the road. This change is leading to the accelerated obsolescence of the current fleet of individual vehicles, and the gradual electrification of the vehicle fleet.

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The lifespan of vehicles is currently estimated at 19 years, but the regulations shaking up the automobile sector are speeding up their obsolescence. According to a Senate report, at least 34% of the French car fleet will be excluded from Low Emission Zones (LEZ) by 2025. While many people are discriminated against by this regulatory obsolescence, it may seem explained from a health and environmental point of view. The transition goes along with a number of aid measures (conversion bonuses, ecological bonuses, electric leasing, etc.). However, they only partially address the issues, as motorists are faced with complex economic and ecological trade-offs in a market dominated by second-hand cars (nearly 75%). The question remains, however, what will become of these vehicles, which are polluting but still functional.

To replace older vehicles, public policies are inciting the purchase of new electric vehicles. In Europe and France, the current political choice is to electrify the vehicle fleet by introducing standards and economic incentives (such as the Corporate Average Fuel Economy [CAFE] regulation). Since new combustion and hybrid vehicles will no longer be allowed on the European market from 2035, almost all manufacturers are now offering a range of electric cars. When in use, these cars consume electricity, which at first glance is less expensive and less polluting than hydrocarbons in Europe. Therefore, they are an asset in the fight against global warming. However, they are more expensive to produce, and their manufacture has a greater carbon impact than the production of combustion-powered cars, because of the battery. Furthermore, the production of electric vehicles involves other sorts of impact that need to be taken into account when

assessing the sector's total ecological footprint (eutrophication, natural resources, etc.). So, to promote sustainable mobility, the durability and repairability of electric vehicles are a prerequisite of the transition.

In this report, the authors highlight numerous flaws in the well-oiled machinery of the circular economy, historically developed in the automobile sector. They identify three major issues that are critical to the sustainability of modern vehicles.

Firstly, the lifespan of electric vehicles is at risk. Despite the presumable batteries' endurance, there is currently no framework for their durability, nor sufficient guarantees of reliability for consumers. Repairability is made very complex, if not impossible, by the difficulties of disassembly (use of resin, foam, irreparability of the modules, etc.).

Furthermore, in order to reduce production costs, a number of manufacturers are moving towards design techniques that make repair economically, if not technically, impossible. Another striking example is giga-casting, an industrial practice that involves molding a large number of car parts from a single block, which could result in a large part of the vehicle having to be discarded and replaced after an impact. For now, the risk of "giga-waste" that this entail affects only a few electric car models, but HOP fears that this practice will become widespread. Generally, the sector is facing problems related to the dismantlability of vehicles, the access to spare parts and components, and the reduction in after-sales services by some manufacturers. The risk of having a rise of "disposable cars" is real. The new routes taken by some manufacturers, which prioritize lower production costs to the detriment of vehicle repairability, must not become the norm. Finally, the growing presence of on-board electronics and software, which make connected vehicles look like "smartphones on wheels", increases the risk of software obsolescence and makes repairs outside manufacturers' approved networks more complex (for example, because of "serialization" practices, unavailability of some electronic components, blocked access to essential data for diagnosis or repair, etc.).

Possibly exorbitant repair costs (directly for customers or for insurance companies); hasty renewal of the vehicle; new "hidden" costs at the time of purchase linked to software updates; services or applications, after-sales service with little or no availability, etc. The consequences of these practices affect consumers, who have no grasp of the total cost of owning a vehicle at the time of purchase. The economic players making up the circular economy ecosystem could also be affected (repair, reconditioning, second-hand market, etc.). In some respects, incumbent European car manufacturers could be seen as victims of these practices. At issue is their fierce competitiveness in the face of electric vehicles sold at attractive prices by a handful of American or Chinese competitors, who are dragging quality down.

As the experts interviewed for this study have pointed out, the automobile industry is a long-term business. However, for HOP, this should not be synonymous with inertia or inaction in the face of the worrying signs of an unsustainable trajectory. What we need to do now is laying the foundations for good practice in the circular economy of the electric car fleet, which is set to replace combustion engines, in order to combine lower CO2 emissions, respect for consumers and responsible production. The association has put forward seven recommendations for public decision-makers (particularly in Europe), to guarantee the sustainability and repairability of future combustion and electric vehicles.

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Among these, HOP suggests:

- introducing repairability guarantees for batteries;
- imposing repairability standards: parts that can be dismantled and are available for at least 20 years;
- fighting the threat of software obsolescence: ban software locks that prevent parts from being repaired/reused, and maintain software availability for at least 20 years.

Our proposals

01 Incorporate Standards for the Durability and Repairability of Batteries in Europe

The European Union is able to intervene on the durability and repairability conditions of equipment, as shown by the Eco-design standards and the European regulation on smartphones. It is essential to obtain standards that promote the repairability and durability of electric vehicles, and batteries in particular. HOP recommends that batteries and all other spare parts or essential components should be available for at least 20 years, in line with the lifespan of vehicles. Consideration should be given to standardizing some parts in order to limit the storage effort and its environmental impact, as well as opening up to open-source 3D printing once the legal availability period has expired. The battery regulation of 12 July 2023 is insufficient to a great extent, and the regulation recently offered by the European Commission is still incomplete. We are calling for batteries themselves to be repairable, with, for example, the possibility of disassembling and replacing components such as modules.

02 Ensure that Vehicles can be dismantled

One practice in particular is targeted here: mega and giga-casting, which compromises the dismantlability of vehicles. As the technological neutrality principle is particularly important in an industry as fast-moving as the automobile industry, HOP is calling for a discussion with stakeholders to address this issue as effectively as possible, and to ensure that these practices do not hinder repair.

03 Support the Market for Spare Parts in the Circular Economy

To ensure that repair is still affordable, we recommend opening up the debate with all the concerned stakeholders to look at solutions, such as introducing a deposit on new spare parts or extending the “1 for 1” take-back strategy that already exists for some electrical and electronic appliances. A progress report will be needed to identify any critical points for professionals in the implementation process. In addition, developing the standardization of parts and components is likely to facilitate reuse, repair and reconditioning activities.

04 Offer a Repairability Index

The vehicle passport (“circularity of vehicles” regulation), which requires information to be provided on vehicles at the time of registration (in particular pollutant emissions, fuel and energy consumption, range, battery performance over time), is inadequate. HOP and the EEB (European Environmental Bureau) regret that it does not take into account vehicle wear and tear, and repairability.

The introduction of a repairability index, or even a durability index, in the automobile sector, which many of the interviewed players are in favor of, could protect consumers and improve design practices.

The main advantage of this measure would be to inform consumers at the time of purchase about the maintenance and repair costs they will have to bear over the vehicle’s life. While HOP believes that the repairability and durability index is an interesting lever, it can in no way replace the introduction of minimum legal eco-design constraints (see point 1). Its success also depends very much on the ambition and applied methodology.

05 Extend the Legal Vehicle Warranty

The warranty period for the automobile sector is identical to the one for other goods. The legal guarantee of conformity covers motorists against defects in their vehicle for a period of two years.

We recommend extending the legal warranty on electric vehicles' batteries (with repair taking precedence over replacement) for at least ten years, in order to take manufacturers ownership of the promises they make in terms of lifespan (in terms of number of kilometers). In this way, manufacturers could be incited to ensure their vehicles reliability and repairability, since they will be held accountable in the event of irregularities.

06 Prevent Software Obsolescence in Vehicles

Serialization practices (electronic locks) preventing the repair and reconditioning of parts must be regulated, or even prohibited, to ensure that vehicles can be repaired and Spare Parts in the Circular Economy used. Adopting standards to prevent software obsolescence is necessary.

We recommend that the "Circularity of vehicles" regulation includes a minimum regulatory maintenance and warranty period of 20 years, for operating systems and vehicle updates. For information, smartphones, whose useful life is estimated at four years according to the Fnac Darty after-sales barometer, have their software maintenance obligation set at a minimum of five years.

Lastly, motorists must be guaranteed access to their vehicle's data (particularly the battery's state), and be able to share it with the repairers of their choice (i.e. "portability to third parties"), thereby promoting repairability at affordable prices, without brand monopolies or discrimination against independent repairers. In this matter, HOP is calling for the publication of the sector-specific regulation setting out the principles established by the Data-Act, which is long overdue.

07 Regulate EPR Channels to Prioritize Repair and Reuse

It would seem advisable to avoid manufacturers' stranglehold on the supply, in order to guarantee the development of a competitive market in the circular economy. Ultimately, the aim is to offset the rise in prices for Spare Parts in the Circular Economy or the prioritization of recycling (to meet the obligations to include recycled materials in new vehicles). HOP and EEB think that the Extended Producer Responsibility (EPR) system focuses too much on the vehicles' end-of-life, and that it fails to prioritize the different levels of waste: first prevention, then reuse, repair, reconditioning, and finally recycling. The State must be the guarantor of this, in the general interest.

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