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Point of view

The European regulation on new cars is more relevant than ever!

by **Maxime Gérardin**
Project Manager at the High Commission for Strategy and Planning

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For months, the European automotive industry has been increasingly critical of regulations on new car emissions. Too rigid, not pragmatic enough: criticism is flying, even in France, where the industry's difficulties long predate the decision to ban the sale of new combustion engine cars in 2035[1]. However, on closer inspection, these regulations now contain the right incentives to bring about the affordable small electric cars that the President of the European Commission is calling for, and more broadly to break the European car market out of the deadlock it finds itself in.

In recent decades, new cars have moved upmarket: they have become larger and increasingly well-equipped... Rather than exaggerating the responsibility of safety standards or blaming electric cars for a pre-existing trend, we need to pay attention to the demographic fundamentals of the car fleet: it is now growing more slowly and is made up of better cars than in the past, cars that are more practical in everyday use and more durable. Consumers are therefore making rational decisions by keeping their cars longer, while new car sales are falling back on an increasingly narrow audience.

Electric cars can help break this vicious circle, thanks to their objective qualities: very low running costs, high reliability and extremely long life expectancy – enough to give more buyers reasons to turn to new cars. But for this to happen, the still tentative move

[1] INSEE, the National institute for statistics and economic studies, estimates that the French automotive industry has gone from 193,400 jobs in 2005 to 118,200 in 2015, a drop of 39% in ten years.

downmarket in the electric car (EV) offer needs to accelerate. This is the challenge addressed by the European initiative for affordable "E-cars" announced in September by Ursula von der Leyen.

A few regulatory adjustments could promote these affordable cars, such as exempting small battery cars from lane-keeping and anti-drowsiness aids. But these alone will not provide the powerful incentive needed for these cars to sell in large numbers and thus become truly affordable.

However, existing regulations, by forcing greater adoption of electric vehicles and giving small cars a clear advantage from the beginning of 2025, are pushing precisely towards affordable electric vehicles. It is no coincidence that the ë-C3 and Panda, the future iD.Polo and iD.1, the electric Twingo, etc. are now arriving on the market. To reinforce this movement, push for the development of even more affordable cars and encourage sales, it is crucial not to relax these regulations. It is within this framework, and protected by the commercial defense instruments that are necessary today, that technological catch-up with the Chinese automotive industry – whose lead is unfortunately not limited to electric vehicles – can be achieved.

However, those regulations operate through high steps, every five years. This leads to phases of acute concern when those steps near – hence the current debates. In order to avoid repeating this experience in 2030 and 2035, it would be legitimate and necessary to smooth the regulatory constraints over the period 2028-2035, or to keep the current approach when assessing compliance, relying on a three-year moving average. But the overall constraint should not be weakend – which can only be guaranteed by independent experts' scrutiny.

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Introduction

It is difficult to overstate the adversity and uncertainty that intensifying geopolitical rivalries and the surge in Chinese overcapacity are creating for European industry. For the automotive sector in particular, the loss of export markets is particularly acute, and all this comes at a time when European demand has fallen by nearly 20% compared to pre-Covid levels, when the trend towards higher-end cars is increasingly being questioned, and above all when all aspects of the technological disruption caused by advances in electric batteries must be urgently managed, with the almost vital challenges of technological catch-up and securing value chains.

However, in 2025, we are also at a regulatory: all-electric cars, which accounted for 15.8% of new sales in the European Union in the first eight months of 2025 (17.7% in France), are now prompted to cross, in many countries, the delicate threshold where they must appeal to a wider range of buyers, even though the general population still has very little experience with these cars, which currently account for less than 3% of the European vehicle fleet[2] .

Against this backdrop, since January 2025, the President of the European Commission has been conducting a "strategic dialogue" on the automotive industry through direct meetings with its main leaders.

Since then, the automotive industry has certainly continued to strengthen and promote its electric offering, as was clearly illustrated at the Munich car show last September. **But it has also stepped up its criticism of the European framework, with a view to both weakening it and strengthening measures to support and protect the industry.** There is cause for concern that this criticism is being disseminated much more widely than news of progress, fuelling the recriminations that regularly target electrification, the ideal scapegoat.

We therefore hear that the regulations are not pragmatic, that they are too rigid, that they fail to take a global view of the issues at stake, or even that electrification is the result of a misdiagnosis. This prevailing discourse will reach the ears of new car buyers, who often already had a understandable wait-and-see attitude, as well as those of the many decision-makers who can facilitate electrification. Everyone will become even more cautious. **Ultimately, because it has been said that electrification is happening more slowly than expected, it will indeed end up happening more slowly than expected.**

This outcome will not serve the interests of consumers, nor will it reduce oil imports, protect the climate, or serve the long-term interests of the European automotive industry, which ultimately depend on catching up technologically with its Asian competitors.

We argue here that European regulations on new car emissions take the right approach and are now more relevant than ever in order to promote the growth of affordable European electric cars. **We also point out what we believe to be its shortcomings, which need to be corrected**, and examine several other issues raised by the current debates, in a context where there is no doubt about the importance of continuing and deepening the policies that support the European automotive industry and its transition to electric vehicles.

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[2] And soon 3.5% in France (for passenger cars, in both cases).

The electric car, as it has begun to be deployed, can only appear disconnected to the majority of motorists today, because it is too expensive to purchase[3].

Of course, most users do not buy new cars anyway: **French households now buy more than six used cars for every new car purchased**. Those who still buy new cars are increasingly found among households who have already purchased and paid off their homes, and are therefore ageing significantly. As for the other households, which are the majority, their future equipment will depend on the choices made today by the fraction of businesses and households that buy new. Ideological considerations aside, it is in their best interest that the cars they buy tomorrow are mostly electric, hence much less expensive to run and maintain, and likely to last longer. **In fact, contrary to the common perception that transition policies are "anti-social", electrification places the burden of change on more affluent businesses and households.** It is they who are asked to be pioneers, with the learning costs and uncertainties that this entails. **Second-hand buyers will make the transition later and much more gradually,** once the answers to various questions have been worked out: the full development of fast charging and the stabilisation of its pricing models, the streamlining of the electrification of corporate and residential car parks, the development and dissemination of expertise on the (slow) ageing of batteries and their diagnosis, etc.

A slow renewal

Nevertheless, for the ordinary user who is (soon to be) convinced of the advantages of electric vehicles, accepting this reasoning will require a great deal of patience. **The long-term trend, well before electrification, is towards a slowdown in fleet renewal**: in France[4] , annual new sales now represent only 4% of the rolling fleet, compared with more than 8% until the 1990s. The fall in this indicator can be explained by the fact that the fleet is approaching full development[5] ; but also, increasingly, by the longer life of cars, both in terms of years and mileage. For example, according to ministerial statistics on the French fleet, **the number of passenger vehicles over 20 years old rose from 1.9 million at the beginning of 2011 to 3.3 million at the beginning of 2020, and then to 4.9 million at the beginning of 2025**; and the median mileage of private vehicles scrapped has increased by 15% in ten years, from 2014 to 2024[6] .

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[3] Surveys looking at the barriers to the adoption of electric cars clearly identify the cost of purchase, ahead of range or other factors, as the primary barrier: see, for example, at European level, the Consumer Monitor 2023; or, more recently, at French level, the 2025 edition of the Harris Interactive survey for Driveco.

[4] Given the heterogeneity of the statistical methods used in European countries, statistics from the French fleet are used here. At the European level, it represents a kind of median situation between countries, particularly Nordic countries, with higher purchasing power and a younger car fleet, and southern and eastern countries where the car fleet is older.

[5] However, it has not yet reached this level, as it continues to grow - in France, by around 1% per year.

[6] NB:

- Specifically, this is the mileage recorded during the last technical inspection of cars that were subsequently sold to a scrapyard.
- This trend is not recent or Covid-related: on the contrary, the growth in this median mileage was faster until 2018 than thereafter.

The mechanisms that lead to longer lifespans have been little studied. In any case, there are two main categories of causes:

- Good news for consumers: whatever one may say about the planned obsolescence of cars or the poor repairability of systems packed with electronics, the cars on the road today, mainly those produced since 2000, are generally reliable, built to last and not very "disposable[7] ". Perhaps they have also been driven more carefully than their predecessors?

- A less pleasing factor, namely the rapid rise in the price of new cars, which encourages people to keep their existing vehicles on the road for longer.

Indeed, beyond electric cars, it is the prices of all new vehicles that raise serious questions. Even leaving aside the semiconductor supply crisis[8] , the long-term trend is towards higher-end models, with cars becoming both larger and better equipped. The successive Renault Clio models illustrate this: the first of the name, in 1990, was the size of the current Twingo III[9] . Today's Clio, which is similar in size to the R19 and Mégane of the time, comes with an "SUV" version, the Captur, and, now that it is much better equipped, needs the help of the Dacia Sandero, which itself is no longer particularly 'low-cost', to maintain a range closer to the entry level. And even as the definition of segments (A, B, C, etc.) drifted upwards, the market share of the smallest segments declined[10] , with the A segment (Fiat 500, etc.) even coming close to disappearing!

Has moving upmarket become a dead end?

This move upmarket is partly understandable. If the post-war years saw the success of the most popular, not to say the most basic, cars, from the 2CV to the Beetle and, a little later, the Fiat 500, it was because car numbers were growing at an exceptionally rapid rate[11] : since not all employees and workers could buy their boss's old car second-hand, it was necessary to produce cars for them too! But this was a historical exception. When the fundamentals of fleet demographics are moving in the opposite direction (see above, the rate that fell from 8% to 4%), it is quite normal for the population through which new cars are put into circulation to shrink[12] , and therefore for the new supply to move away from the needs of the general population.

- Many cars do not end their French life at the scrapyard, particularly due to exports.

[7] For example, Bernard Jullien has calculated that, over the last fifteen years and in constant euros, French households' car maintenance expenditure has grown by 14%, while the number of cars owned by households has grown by 15%, even as they have aged.

[8] This temporarily restricted production, allowing manufacturers to increase their prices and focus on the most profitable models.

[9] Even less voluminous, as it is significantly lower.

[10] See Acea (2024), "New cars in the EU by segment", September.

[11] Around +10%/year in France in the late 1950s.

[12] As a sign of this trend, since 2017, French businesses and government agencies, rather than households, have accounted for more than half of new purchases, even though their fleets represent only 9% of passenger cars and 13% of kilometres travelled.

It is also understandable that manufacturers want to showcase new or improved features: they need selling points!

But price increases inevitably affect demand, and consumers as a whole cannot be prevented from comparing new vehicles with the ones they already own through the used car market. Nowadays, almost all of these vehicles have the features that used to make new cars so attractive: power steering, air conditioning, four doors and a tailgate, more than enough power, good soundproofing, etc. It is therefore not surprising that households are making the rational choice, albeit with a degree of frustration, to keep their cars on the road for as long as possible, to add the infotainment system they lack via their smartphones, and to spend their discretionary income elsewhere.

This has created a vicious circle, with all manufacturers slowly and collectively drifting towards a product range aimed at an increasingly narrow audience.

The only consolation is that this dynamic will ensure the vitality of maintenance and repair, an activity that is present in all regions and cannot easily be delocalised. On all other criteria, the outcome can only be worrying.

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Faced with this impasse, does electrification provide a way out? By offering not only something new, but also very low running costs[13] and unprecedented reliability, could it not give customers with slightly lower purchasing power a very good reason to return to new cars?

Our answer here is "yes", without hesitation, but without ignoring the difficulties for manufacturers in reopening up to this customer base. The automotive industry is not just about engineering and manufacturing, but also about marketing, and it is much more difficult to introduce a new offering than to renew an offering aimed at an already well-known customer base.

As a matter of fact, we're not there yet: the downmarket move of the European electric offer, although clearly underway, remains modest so far. Even the Dacia Sandero has not yet received its electric equivalent! More generally, there are still very few models offering basic equipment, or very small sizes, or foregoing breathtaking acceleration and top speeds... And while small-battery models are starting to become available for everyday use, we are still waiting for the relatively small aerodynamic cars that will lower the cost of entry into long-distance travel, and therefore into versatile electric cars, for both professionals who drive a lot and households without bulky transport needs.

[13] Statistics on the fleet in circulation clearly show the importance of this criterion for the majority of users: at the same age, diesel cars travel significantly more kilometres per year than petrol cars. Market forces therefore very rationally manage to put these cars, which have slightly lower fuel costs, in the hands of users who travel the most kilometres per year.

However, the question of this move downmarket has been raised in a radical way since reports[14] and European car manufacturers' executives highlighted the Japanese "*kei cars*[15] " model; and especially **since the President of the European Commission, in her speech to the European Parliament on 10 September 2025 on the state of the Union, announced a [legislative] initiative "for affordable small cars", or "E-cars", produced in Europe.**

A European-style *kei car*?

If we interpret this as a call to replicate the Japanese model, two questions arise: what regulatory definition should be given to this new category of vehicles? And, more crucially, what measures should be taken to encourage consumers to turn away from their old combustion-engine cars and choose this new offering instead? - and in large numbers, otherwise the very high sales volumes needed to produce at low cost will never be achieved.

This is no small task: for *kei cars* to occupy a third of the Japanese automotive landscape, thereby successfully moderating the increase in the size of cars as a whole, it was necessary not only for the government to take vigorous action when they nearly disappeared in the 1980s[16] , but also to grant and maintain very favourable tax treatment[17] : over thirteen years of ownership, the tax difference reportedly exceeds €4,000[18] ! Obviously, exempting certain vehicles from some safety regulations will not bring about a price reduction of this magnitude.

As for the definition of this category, it should remain simple and give manufacturers the flexibility to develop products that are likely to appeal to a wide audience. If the argument is based on a strict limitation to everyday journeys, then a battery size threshold, for example 30 or 35 kWh, could be the key criterion. This criterion would justify the removal of driving aids that are useful mostly on long journeys (lane departure warning, drowsiness detection, etc.); and, if implemented in the very short term, it would lead to the production of more electric cars with the same amount of batteries, which is highly appropriate as long as European battery production has not yet ramped up sufficiently. However, it would also be regrettable to rule out cars with slightly higher

[14] These include Gerpisa (2024), *European regulations for an affordable sustainable (battery) electric vehicle,* October : and La Fabrique de l'industrie (2025), "Lightweight and affordable: the keys to a successful electric car", January.

[15] In Japan, this is a regulatory category of small cars that has existed since the post-war period, defined solely by maximum power and dimensions (short and narrow cars, but often tall), and benefiting from a very favourable tax regime. After various ups and downs, which are well documented in the aforementioned report, they now account for around a third of new sales, the number of cars on the road and the number of kilometres travelled in Japan, and are even more prevalent in rural areas than in cities. The Mitsubishi i-MiEV, also known in Europe under the Peugeot iOn and Citroën C-Zero names, was a *kei car;* the Dacia Spring, derived from a Renault Group model originally designed for China, is not one but is very similar.

[16] See the aforementioned reports by Gerpisa and La Fabrique de l'industrie.

[17] Relative to that of larger cars, which is particularly heavy in Japan.

[18] Same report; figure for 2022.

ranges, which could be even more appealing to the working classes[19] and which would cover more kilometres each year, thereby better reducing petrol consumption. Ultimately, the small size of the car we want to encourage is not measured by its dimensions, weight or power, but simply by its sale price[20] : basically, we want affordable cars!

Whichever definition is chosen, we will then be faced with the question of which safety requirements a European *kei car* could be exempt from. It will be difficult to argue that those aimed at protecting pedestrians and cyclists are less necessary than in larger cars. As for those aimed at protecting its occupants, downgrading them would give the impression of a double standard... The choices will therefore not be easy. It should simply be noted that in Japan, there is no difference in safety requirements between *kei cars* and larger cars. The necessary review of safety standards[21] should certainly aim not only to identify the standards from which smaller cars could be exempted, but also to re-examine the relevance of each one.

... and how can we encourage their sales?

Next comes the question of the advantages that future affordable European small cars could enjoy. At a time when many are seeking to weaken European regulations, the answer seems obvious: these cars should be given greater weight in the calculation of the average emissions to which each manufacturer is subject, a weighting that would be justified by the positive impact on the pace of fleet renewal.

This type of proposal also echoes the criticism that the central criterion of the regulation, namely CO_2 emissions from exhaust pipes, is too narrow – a criticism that calls for a life cycle analysis (LCA) approach. In principle, one can only agree with this aspiration. The next step is to put it into practice.

How many kilometres?

In LCAs, everything depends on the assumed lifespan, in kilometres, of the vehicle. But what do we know?

[19] The most natural market for low-range electric cars is multi-motorised households; however, multi-motorisation is currently strongly correlated with income... (see, for France: SDES (2024), « Le parc automobile des ménages en 2023 : moins de voitures pour les plus modestes, plus souvent anciennes et diesel » ("The household car fleet in 2023: fewer cars for the most modest households, more often older and diesel"), July). In the same vein, it should be noted that Citroën Ami/Fiat Topolino quadricycles are currently sold mainly to well-off families.

[20] Or, more precisely: its sale price, divided by the annual mileage that the car's versatility allows.

[21] We describe this work as necessary above all because these standards have been pointed to as the main cause of the rise in car prices, to a public that is often resistant to "driving aids" and unaware that economies of scale significantly reduce their cost.

- As mentioned above, combustion engine cars are clocking up more mileage: in France, scrapped cars now average around 220,000 kilometres[22]. That's not counting the many used cars that are exported! And this figure applies to cars produced on average in 2004, while the discussion about possible LCAs focuses on cars that will be produced twenty-five or thirty years after these...

- The first wave of hybrids, notably Toyota, has clearly shown that these cars are likely to significantly extend service lives.

- More than that, feedback from all-electric cars already shows that they will have, on average, a very long life: exceeding 500,000 kilometres will become commonplace. This is due to the virtual absence of moving parts and vibrations, and the fact that batteries now withstand the equivalent of 2,000 or 3,000 charge-discharge cycles very well.

Several conclusions can be drawn from this:

- It generally makes no sense to compare cars with different technologies on the basis of a single assumption about their lifespan. Yet this is what is always done.

- The still widespread analyses that compare cars over 150,000 kilometres make even less sense. The 240,000 kilometres assumption seen in various organisations[23] seems more realistic for combustion engine cars, although perhaps conservative.

- Therefore, **the manufacturing footprint of combustion engine cars actually constitutes a relatively modest part of their life cycle footprint: around 15%, and in any case less than 20%; the rest comes from fuel consumption**[24] .

- **Electric cars do not automatically have a higher manufacturing footprint than combustion engine cars** when this footprint is compared to their higher mileage potential.

- The maintainability and reparability of battery-powered cars are essential to ensure that they achieve their mileage potential. It will be important to continue making progress in this direction, following the initial advances contained in the European battery regulation.

- In any case, **let us not hide the fact that in the very long term, after the revival that affordable electric cars could bring about, the new car market is likely to become**

[22] More specifically: the last technical inspection of those scrapped in 2024 indicated an average of 211,000 kilometres, to which must be added the kilometres driven thereafter, at an average rate of around 8,000 kilometres per year at that age.

[23] Notably ICCT and Green NCAP.

[24] Of course, a realistic consumption figure should be used, slightly higher than that given by the approval cycle, and the "upstream" emissions of the fuel, i.e. its extraction, production and transport, must be taken into account.

smaller than it is today[25] , not to mention the effect of the possible spread of autonomous cars[26] .

It should be added that these considerations cast more than a shadow of doubt on the environmental benefits of plug-in hybrids: they too will have a long lifespan, partly thanks to their electric component[27] and partly thanks to the mileage potential of their combustion engine component, which owners are unlikely to voluntarily give up.

This brings us to the last issue to consider, in order to be truly "holistic[28]": the difficulty of (re)accelerating fleet renewal. This central issue has recently been raised to argue that finally bringing low-cost electric cars to market would accelerate renewal (which is certainly true, but unfortunately difficult to quantify) and to advocate for scrappage incentives (proposed as a trade-off for weaker regulations).

Of course, scrappage incentives could be useful, in moderate doses, and preferably when the new car market has largely shifted to electric vehicles[29] . But they will not be a major tool for fleet renewal, due to their cost and probably also to the social difficulties they would create by skimming the cheapest cars off the market.

Current regulations: much more pragmatic than they're portrayed?

Therefore it turns out that the current regulations are indeed pragmatic in focusing efforts on the new car market, which is the only way to bring about a slow but sure decline in fuel consumption without having to take hypothetical measures later on that are technically, economically or socially unrealistic[30] .

What other points should be added to this observation?

[25] In the French example, the distance travelled each year by the entire vehicle fleet no longer increases (in 2023 and 2024, it was at the same level as in the period 2011-2014, after having been 4% higher in 2016-2019). And when final demand stabilises, the demand for new cars becomes, broadly speaking, inversely proportional to their lifespan.

[26] If low-cost "robotaxi" services become available, the number of cars needed in the fleet will start to decline…

[27] However, this alone will take them less far than a purely electric car, as the mileage lifespan of an all-electric car is roughly equal to the number of battery cycles multiplied by the range on a single charge.

[28] Term used by European manufacturers' associations and their equipment suppliers in their letter of 27 August 2025 to the President of the European Commission.

[29] In a world where electric technology did not exist, accelerating the renewal of the fleet would of course make sense for air quality, and also for greenhouse gas LCA when the reduction in consumption exceeds around 15% (this is the same percentage already mentioned about the emissions of producing a new car, which must be offset by lower fuel consumption). The relevance of renewal acceleration, which is also costly, is therefore not entirely clear. And in our world, where new vehicles are more and more electric, accelerating renewal too soon becomes a misstep: we are then depriving ourselves of renewal by the much more electrified vehicles that will soon be available.

[30] Furthermore, it should be remembered that this regulation meets all the usual recommended criteria, which are generally welcomed by the private sector: clarity, simplicity, no multiple goals but a single target to be met, with flexibility on how to achieve it (until 2034, it will be possible, for example, to produce slightly less battery-electric cars if all combustion engine sales are quickly converted to hybrids, etc.).

LCA, an ideal to pursue

Truly embracing the LCA approach would mean questioning manufacturers about the lifespan of the vehicles they offer – a very difficult question, somewhat uncomfortable for combustion engine cars still on the market: if these cars offer the prospect of high mileage, they pose a problem for decarbonisation; and if they can only be expected to achieve low mileage, they may not be a good deal for the consumer.

But this does not prevent progress from being made on the issues highlighted by LCA, starting with accelerating fleet renewal.

Affordable electric cars: a priority goal

It remains relevant to marginally accelerate fleet renewal. **In the short term, the challenge is to make more affordable electric cars much more widely available.**

This is precisely the effect that the 2025 regulatory threshold is beginning to have. The fact that models such as the Citroën ë-C3 and Fiat Panda, the future iD.Polo and iD.1 and their variants in the Volkswagen group, the future Renault Twingo and its Dacia variant are now or will soon be available is no coincidence, but a development the regulation encourages:

- firstly, by forcing manufacturers to find less affluent customers for electric vehicles, even if it means (re)expanding their customer base to the middle classes;
- secondly, **because since the beginning of 2025, the coefficient that modulates manufacturers' targets according to average sales weight has created a very clear incentive to develop and sell lighter** vehicles[31] .

The very first step to be taken to promote affordable electric vehicles is therefore to refrain from **weakening the pressure already exerted by existing regulations**. We will not have affordable European electric cars without reserving high sales volumes for them!

Only then will new measures make sense, such as **the creation of a category of European *kei cars*, with the associated regulatory facilities and, above all, economic incentives that will promote these cars** and, more broadly, any affordable European electric offering.

Furthermore, the second incentive mentioned above, based on weight modulation, will be phased out gradually in 2030 and completely in 2035. It would be advisable to put in place a mechanism to counteract this phase-out, in order to continue to steer car development towards relatively fuel-efficient formats: for example, by adding a modulation based on aerodynamic performance, from 2030 onwards?

[31] This is the coefficient "a_2025", which has become negative, whereas its predecessors were positive. In practice, to achieve a manufacturer's target, selling 100 one-tonne electric cars is now worth as much as selling 115 two-tonne electric cars (in the case of a manufacturer or pool whose "ZLEV" factor is at its maximum). Therefore, there already is a credit in favour of light electric cars since 1 January 2025. And this represents a major turning point: in 2024, these 100 one-tonne electric cars were only valued as 76 two-tonne electric cars…

The manufacturing footprint must be taken into account

Even though the manufacturing footprint of cars is relatively low compared to the traffic emissions of combustion engine cars, it would be desirable to finally take it into account.

It should be noted, however, that in order to achieve the desired effects, the accounting rules to be adopted are not self-evident: for example, the most common LCAs generally encourage the incorporation of as much recycled material as possible, which, if applied liberally to car steel, would largely be an unnecessarily costly mistake[32].

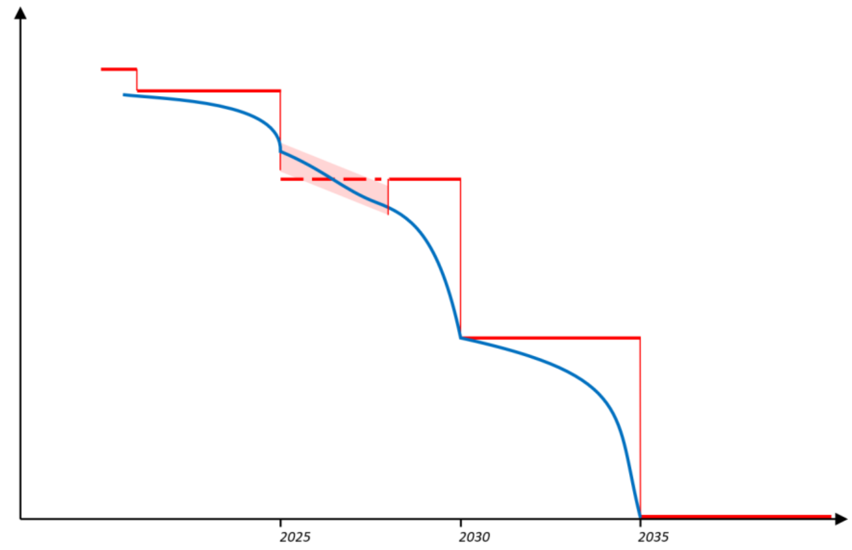
Above all, in our current geopolitical context, this issue is inextricably linked to trade disputes (customs duties, local content rules, etc.). **In this context, let us fully embrace the opportunity to play our cards as a market of 450 million Europeans; let us not be afraid of pioneering measures such as the French "eco-score"; and let us continue to make progress in taking into account the carbon footprint of products.**

The real flaw in the regulation: very high steps between five-year plateaus

That said, **there is a real flaw in the regulation: rather than charting a gradual trajectory from year to year, it tightens the target through very high steps, one every five years only**. These high steps form "corners" (see figure below) that are difficult to navigate, especially if manufacturers, as is their right, do not change their sales mix "in a straight line" to anticipate these regulatory steps more smoothly:

Figure 1 – The European regulatory constraint on emissions from new passenger cars

[32] This is because the steels that are pressed to make mass-optimised body parts are among the least tolerant of impurities contained in recycled scrap. Furthermore, as the availability of steel for recycling is far from sufficient to cover all production, it is logical that this automotive use should continue to be covered by non-recycled steel. For more details, see Gérardin M. and Ferrière S. (2025), "https://www.strategie-plan.gouv.fr/en/publications/decarbonising-steel-and-other-base-metals-lets-send-right-signals Decarbonising steel and other base metals: let's send the right signals", *Analysis Note,* No. 149, High Commission for Strategy and Planning, January .



Reading: the regulatory constraint is shown in red; an outline of the trajectories that manufacturers are led to follow are shown in blue.
Source: HCSP

This results in periods when the offer and the sales mix change relatively little; interspersed every five years with rapid change, in a brief period of high uncertainty (all it takes is a delay or commercial flop in the launch of a model for a manufacturer to find itself in difficulty!), leading to a certain frenzy, and last-minute requests for the rules to be relaxed. This was the case in 2020-2021; then in 2025 – the response, given last April by the Commission, was to smooth out the targets over the period 2025-2027, which is represented schematically by the red sloping area in the graph above; and we can predict that this will be the case again as we approach 2030 and then 2035.

It would therefore be legitimate and useful, at a time when all issues are being reopened, to retrace the regulatory trajectory for the period 2028-2035, smoothing it out to eliminate this flaw (in the diagram above, this would mean following a trajectory close to the blue line, without the "angles" in 2030 and 2035); and to make permanent a three-year moving average system, which would help manufacturers to absorb unforeseen events and the fluctuations resulting from their product renewal cycles.

Of course, the challenge would then be to ensure that this smoothing does not become yet another opportunity to weaken the constraint: **the operation would have to be carried out under the watchful eye of independent experts**.