

Position

on the European Commission's proposals for a regulation on type-approval of motor vehicles and engines and of systems, components and separate technical units intended for such vehicles with respect to their emissions and battery durability (Euro 7) and repealing Regulations (EC) no. 715/2007 and (EC) no. 595/2009 (COM(2022) 586 final)



ADAC e.V. is a non-profit association whose primary task is to support and maintain the mobility of its members. Its core activities are to provide Assistance, Advice and Protection after breakdown, accident or illness. ADAC is dedicated to road safety and road safety education. Independent consumer protection tests educate the association's members and contribute to advances in vehicle safety, environmental protection and climate protection, among other things. ADAC is a recognised consumer association. It provides advisory services for members in legal, technical and tourism-related areas. ADAC is also committed to promoting motorsport and tourism, to preserving, maintaining and utilising heritage vehicles, to supporting air rescue services and to safeguarding and promoting the interests of recreational boating. To represent the interests of road users, ADAC campaigns for progress in the transport sector with a focus on environmental protection and climate protection. ADAC is registered in the Lobby Register of the German Bundestag in line with the Lobby Register Act, register number: R002184. Lobbying is conducted in line with the code of conduct laid out in the Lobby Register Act and the ADAC lobbying code of conduct.

ADAC e. V. appreciates the opportunity to comment on the aforementioned draft regulation and comments as follows.

Primary comments:

ADAC advocates clean vehicles that contribute to better air quality and, in this way, protect the health of citizens. New emission limits should be ambitious and can be tightened within the generous margins currently in place, but they must remain technically feasible. The principle of applying regulations that prescribe a certain outcome instead of construction regulations (i.e. prescribing the reduction target and not the technical solution) must also apply to the further development of emission limits for vehicles. At the same time, the approval criteria (pollutant emissions) for new vehicles must be ambitiously advanced in the spirit of technical progress. Tackling the issue at the source (ideally at the production facility) is the simplest and most efficient method.

However, the initial objective of tightening the limits and the measurement procedure must not be to manoeuvre a specific technology, such as the internal combustion engine, into extinction. Likewise, the more stringent regulations must not stop smaller and cheaper vehicle models from being sold at an affordable price for consumers because additional technical requirements and their failure to comply with legal regulations make their production disproportionately expensive.

ADAC e.V. therefore issues the following detailed statements:

1. Technology-neutral limits (Annex I, Table 1)

Technology-independent identical limits for petrol and diesel engines have been one of ADAC's fundamental demands for decades. The standardisation of limits for all drive systems is therefore welcomed. Likewise, extending the particle number limit (PN) size range from 23 nm to 10 nm to ensure that it also covers ultra-fine dust particles is appreciated.

2. Limitation of ammonia emissions (NH₃) from passenger cars (Annex I, Table 1)

We welcome the definition of an ammonia limits (NH₃) for passenger cars analogous to the previous emission legislation for heavy-duty vehicles. Ammonia emissions, which are also a precursor substance of secondary aerosols, can be avoided with minor technical effort.

3. No limitation of the climate-relevant gases nitrous oxide (N₂O) and methane (CH₄) from passenger cars (Annex I, Table 1).

In ADAC's view, the greenhouse gas methane (CH₄) should also be included in the group of climate-relevant gases (greenhouse gas emissions, GHG) alongside carbon dioxide (CO₂). CNG vehicles in particular emit considerable volumes of this gas. ADAC's latest findings indicate that nitrous oxide (N₂O) is only produced in small quantities, and by diesel vehicles in particular. However, its climate-damaging effect is 298 times higher than that of CO₂. This is because some catalytic coatings used in catalytic converters of diesel vehicles reduce NO_x and convert it to N₂O in the catalytic converter. This problem must be addressed. The measurement procedure is identical to that for NH₃, so it would be feasible to include N₂O in the regulations when introducing an NH₃ limit. The fact that the current draft regulation only limits the climate-damaging gases N₂O and CH₄ for M₂, M₃, N₂ and N₃ vehicles is incomprehensible. Corresponding limits must also be introduced for passenger cars.

4. Cold start budget (Emission budget for all trips less than 10 km, Annex I, Table 1)

For technical reasons, it is currently barely possible, or only possible with a great deal of additional technical effort, to comply with the limits stipulated for all emissions from internal combustion vehicles directly after a cold start. This is because the exhaust gas aftertreatment system only becomes fully effective when a minimum temperature is reached in the engine and exhaust tract. The European Green Vehicle Index funding project, in which ADAC e.V. also participated, comprehensively investigated the cold-start behaviour of vehicles in real-world operation. Researchers compared the first eight kilometres of a real-world journey (RDE cold) from a cold start with a complete RDE drive.

The results show that the nitrogen oxide (NO_x) emissions from diesel vehicles in particular are on average 300% higher over the first eight kilometres. In contrast, cold starts in petrol vehicles (petrol and CNG) mainly affect carbon monoxide emissions (CO). The CO emissions of petrol vehicles were also found to be around 300% higher on average over the first eight kilometres. Conversely, cold starts barely affect particulate emissions. This is because particulate filter systems are generally fully operational and effective immediately after starting the engine.

Based on the findings mentioned above, ADAC advocates the introduction of a cold start budget to accommodate the technical limitations of modern exhaust gas purification systems. However, ADAC finds the permitted cold start budget, which is 10x higher for the first 10 km, to be excessive and recommends that the cold start budget be reduced.

5. Elimination of conformity factors for emission measurements in real-world road traffic, RDE (Recitals 8 and 9)

The establishment of identical emission measurement limits on the test bench and in on-road traffic (RDE) is precisely what ADAC has been demanding for quite some time. We therefore welcome the elimination of the RDE conformity factors.

6. Extended driving conditions (Annex III, Table 1)

ADAC has long been calling for compliance with the limits under all operating conditions to be included in the regulations. We therefore welcome the extended test conditions (ambient temperatures, altitude etc.) in principle. However, fundamental precepts, such as reproducibility, comparability and transparency, must apply during any type-approval procedure to also safeguard legal certainty. Therefore, the test requirements should be defined in a way that reflects the broad spectrum of realistic operating conditions and representative traffic situations. Extreme driving conditions that are far removed from reality (biased driving) cannot be fully covered due to the many theoretical possibilities. Therefore, the defined test conditions should be as realistic as possible. Green NCAP already offers one method of defining realistic test conditions. The test procedures carried out by Green NCAP also include exhaust gas measurements in the laboratory and on the road (RDE, real driving emissions). However, the tests go far beyond the legal driving conditions previously used and so cover all realistic operating conditions. Detailed information on the test procedure is explained at www.greenncap.com.

7. On-board fuel consumption monitoring system (OBFCM) for all drive types (Article 4)

According to article 4 para. 6c, all vehicles must be equipped with an on-board fuel consumption monitoring system (OBFCM). This means that the previous exemption for purely electric vehicles and gas-powered vehicles (CNG, LPG) no longer applies. We welcome this change as deviations between laboratory values and consumption values in on-road driving can also be observed in purely electric vehicles and gas-powered vehicles.

8. On-board monitoring, OBM (Article 4, Article 6)

Article 4 para. 6b states that all vehicles must be equipped with an on-board monitoring system (OBM) in addition to the existing on-board diagnostic system (OBD). However, OBM requirements (implementation regulations, tolerances/limitations etc.) are not specifically defined. This means that it is not currently possible to assess either the feasibility or effectiveness of this stipulation. The requirements described in Article 6 para. 6 are insufficient in this respect and have yet to be specified in detail.

9. Data access

ADAC very much welcomes that the explanatory statement of the proposal addresses the need for a sector-specific regulation concerning access to in-vehicle data. It also emphasises the importance of fair access for third party providers. Merely applying the Data Act as a horizontal framework is not sufficient to fully reflect the specific problems that arise in the automotive sector. A specific vertical regulation and the present Euro 7 proposal therefore need to complement each other.

In principle, ADAC welcomes the provisions of Article 4 as a step in the right direction. Article 4 states that on-board diagnostic systems (OBD) and their further development into continuous monitoring systems (OBM) will become mandatory. It is vital that the OBD/OBM interface should provide access to all available data in addition to vehicle emissions.

Restricting access to the data required for classic automotive services does take the current transformation of the automotive industry into account. The regulation should allow new services to be developed based on the reliable data available from the interface.

There are also critical concerns regarding data sovereignty and data security from the point of view of consumers. It is not essential that these be addressed in the Commission's Euro 7 proposal, but they must then definitely be dealt with in the badly-needed sector-specific regulation. Access to vehicle data should in general comply with the following basic principles:

- Neither the vehicle owner/driver nor the service providers chosen by the vehicle owner may be monitored by the vehicle manufacturer
- Third-party companies must be able to develop new services in a vendor-neutral way
- Independent service providers must be able to reach customers using the same channels as the vehicle manufacturer

10. Durability (Article 6, Annex IV)

Article 6 states that the vehicle manufacturer must demonstrate compliance with emission limits, fuel consumption data etc. They must also demonstrate that components/systems, such as OBD, OBM or OBFCM, remain functional over the durability period of 160,000 km or 8 years specified in Annex IV, Table 1. It also defines an extended service life (additional lifetime) of up to 200,000 km or 10 years. A deterioration factor of 1.2 can be applied to the emission limits stated in Annex I, Table 1 during this period as set out in Table 2.

As the service life of passenger cars has increased significantly in recent years, a fixed period of 240,000 km or 16 years comparable to the US regulations would be advisable.

11. Battery durability (Article 6, Annex II)

Article 6 states that the vehicle manufacturer must demonstrate the durability of the traction batteries of electric and plug-in hybrid passenger cars as specified in Annex II, Table 1. These specify a residual capacity of 80% for up to 100,000 km or 5 years. For older cars or higher mileages, the required residual capacity is 70% up to 160,000 km or 8 years.

As the service life of passenger cars has increased significantly in recent years, it would be advisable to stipulate 240,000 km or 16 years with a residual capacity of 70% in a similar manner to vehicle durability regulations. The fact that this is quite possible is shown by the current guarantees offered by some manufacturers.

It must be based on a standardised, uniform testing and evaluation procedure, particularly when determining the state of certified energy (SOCE) and the state of certified range (SOCR).

12. Tyre wear (Recital 12, Annex I, Table 6 and Annex III, Table 5)

In the view of ADAC, non-exhaust particle emissions from tyre abrasion should not be included in the framework of exhaust gas legislation. Instead it should be included in the framework of tyre system approval. It is not currently possible to evaluate the envisaged measurement procedure (Annex III, Table 5) or limits (Annex I, Table 6) as neither have yet been defined. As with all type testing procedures, essential principles, such as reproducibility, comparability and transparency, must also be applied to this process.

13. Brake abrasion (Recital 12, Annex I, Table 4/5 and Annex III, Table 4)

In ADAC's view, non-exhaust particle emission from brake abrasion should not be included in the framework of exhaust gas legislation. Instead it should be included in the framework of brake system approval. It is not currently possible to evaluate the envisaged measurement procedure (Annex III, Table 4) or limits (Annex I, Table 4/5) as neither have yet been completely defined. Limits and measurement methods can only ever be considered and evaluated collectively. As with all type testing procedures, essential principles, such as reproducibility, comparability and transparency, must also be applied to this process.

14. Tamper protection (Article 4)

Article 4 para. 7 states that all vehicles must be provided with up-to-date tamper-proofing for fuel and reagent injection systems, engine and engine control units, traction batteries, odometers and pollution control systems.

This implements a long-standing demand of ADAC. However, tamper-proofing must also encompass vehicle safety systems, vehicle networking systems and automated driving functions. It is considered to be a basic requirement for the entire vehicle.

To ensure that only tamper-proof systems, components and independent technical units for vehicles receive type approval, the required tamper protection must be precisely defined and subsequently also tested by a neutral party. For example, they could be inspected according to the transparent and internationally recognised Common Criteria procedure.

In this context, it is also essential to extend the general vehicle inspection (HU) to include testing for approved hardware, firmware and configuration of the engine control and exhaust gas purification systems. The law must stipulate both the necessary test specifications and that the aforementioned systems can be easily tested.

15. Euro 7 - Additional differentiations/levels (Article 5)

Article 5 introduces the optional levels Euro 7+, Euro 7A and Euro 7G and the combinations of these levels Euro 7+A, Euro 7+G, Euro 7+AG and Euro 7AG in addition to Euro 7.

Article 5 para. 1 states that the following requirements apply to Euro 7+ vehicles: For passenger cars with internal combustion engines and hybrids, verification must be provided that their emissions are at least 20% below the limits specified in Annex I, Table 1. For electric cars, battery durability must be confirmed to be at least 10% higher than the requirements set out in Annex II, Table 1. For plug-in hybrids, both verifications are required.

Euro 7A refers to vehicles that are equipped with adaptive control functions (Article 5 para. 3). The designation Euro 7G is given to vehicles with internal combustion engines that are equipped with geofencing technologies (Article 5 para. 4).

The additional Euro 7 levels (Euro 7+, Euro 7A, Euro 7G) and combinations of these classifications (Euro 7+A, Euro 7+G, Euro 7+AG, Euro 7AG) must be critically scrutinised. ADAC had called for new requirements and limits to be defined in a single level (Euro 7) as part of emissions legislation. The many differentiations stipulated by Euro 6 have already cost manufacturers a huge amount of additional effort and expense for type approvals. Additionally, they have also led to great confusion and a lack of understanding, especially among consumers/vehicle buyers.

Given the low emission volumes produced by Euro 7 vehicles, it is unreasonable to use the Euro 7+G level as a basis for excluding other Euro 7 cars from certain zones of the road network by employing geofencing.

16. Euro 7 - Introduction deadlines (Article 10, Article 20)

Article 10 para. 4 and Article 20 (second sentence) states that the requirements of Euro 7 will apply to new passenger car approvals from 1 July 2025. It is not yet possible to specifically evaluate the introduction dates as various regulations have yet to be defined to complete the Euro 7 legislation within the framework of delegated acts. We must also consider that a corresponding bridging period must be allowed between the publication of the delegated acts and their implementation within the framework of the type-approval procedure (acquisition of necessary measuring instruments, conducting measurements, type approval etc.). For example, 15 months would be plausible in conformity with the General Safety Regulation (GSR).

We must also consider making a distinction between new type approvals (new types) and initial approvals (all types) with a transitional period of one year, as has previously been customary.

The scheduled introduction period also overlaps with the introduction dates of the planned Euro 6e. Adjustments will therefore be necessary.

17. Euro 7 - Amendments/additions by delegated acts of the EU COM (Article 16)

Article 16 states that amendments/supplements made to the regulation are to be determined independently by the EU Commission through delegated acts without the involvement of the Parliament and Council.

ADAC advocates that changes to or the redefinition of emission limits, measurement procedures etc. must always be carried out via the ordinary legislative procedure with the involvement of the EU Parliament and Council of Ministers.

ADAC rejects the granting of authority to the EU Commission to issue delegated acts for these measures, as has sometimes been done in the past. The ruling of the Court of Justice of the European Union (CFI) on the invalidity of the compliance factor for nitrogen oxides (NO_x) showed that the latter approach can be called into question.

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