



CO₂ STANDARDS FOR HEAVY-DUTY VEHICLES

EXECUTIVE SUMMARY

By moving people efficiently, public transport can significantly cut emissions from the transport sector in addition to improving road safety, congestion, air pollution and quality of urban life. The proposed CO₂ standards will improve availability of zero-emission vehicles. To reach the European climate targets, every mode – including public transport – needs to contribute by reducing emissions wherever possible. UITP and its members have been at the forefront of clean bus deployment and the current uptake of zero-emission buses is promising.

As the International Association of Public Transport, UITP represents more than 500 public transport companies and authorities across Europe. Our sector's key messages are:

- **The 2030 zero-emissions target for urban buses strongly affects public transport.** Its feasibility not only hinges on manufacturers, but also on whether the public transport sector is able to only procure these vehicles from 2030 onwards. UITP is concerned that the timeline may not be feasible for the entirety of the sector.
- **The definition of an urban bus should be adjusted.** In line with the Clean Vehicles Directive, the target for urban buses should concern only class I buses and not class II buses with low-entry, which are also used on regional and interurban routes.
- **Accelerating the transition to green public transport requires public support.** Policy makers should create enabling conditions for public transport operators and authorities to facilitate the transition to zero-emission buses. This includes sufficient funding for buses and their charging and refuelling infrastructure, including depots.
- **A negative impact on public transport and modal shift needs to be avoided.** This policy, which is aimed at decarbonising the transport sector, should not lead to a reduction in the public transport offer due to financial constraints.
- **The timelines of Euro 7 and the HDV CO₂ Standards should be aligned.** Several manufacturers have already announced they will not invest in Euro 7 for the class I segment, resulting in a de-facto zero-emission mandate already in 2027.

PUBLIC TRANSPORT: MOVING PEOPLE SUSTAINABLY

Today, transport emissions represent around 25 per cent of the EU's total greenhouse gas emissions. To tackle climate change, it is essential that we change the way people travel and promote modal shift. Public transport is the backbone of sustainable mobility. By moving people efficiently, public transport can significantly cut emissions from the transport sector in addition to improving road safety, congestion, air pollution and quality of urban life.

To reach climate neutrality in 2050, the EU must reduce its transport emissions by 90 %. We are at a decisive moment for achieving the European climate goals, and **every mode – including public transport – needs to contribute by reducing emissions wherever possible.**

LEGISLATIVE FRAMEWORK

For public transport operators and authorities, the 2019 Clean Vehicles Directive sets a clear framework for clean bus deployment and creates long-term certainty for the period from 2021 to 2030. The proposed revision of the CO₂ emissions targets for heavy-duty vehicles (COM(2023) 88 final) newly includes buses in rules that push manufacturers to put more zero-emission vehicles (ZEVs) on the market. Since the Clean Vehicles Directive was a demand-side measure and put the burden on operators and authorities, UITP welcomes that this initiative is directed at improving the supply. However, this regulation indirectly also affects those entities purchasing the buses, and **UITP is concerned about the timeline of the zero-emission target for new urban buses.** Legislators should be conscious that the urban bus target does not only hinge on whether manufacturers can produce sufficient quantities of zero-emission buses, but also on whether the framework conditions allow the public transport sector to buy only these vehicles from 2030 onwards.

CLEAN BUS DEPLOYMENT

UITP and its members have been at the forefront of clean bus deployment with European projects like ZeEUS, ASSURED and the Clean Bus Europe Platform. These initiatives link cities already deploying clean buses with cities less familiar with these technologies, sharing best practices. The Clean Bus Report 2022¹ shows that the overall number of clean buses² rose from around 20,000 in 2018 to 30,000 in 2021.

The share of zero-emission buses has been steadily rising over the past years. Public transport operators and authorities are keen to deploy zero-emission buses, since they further increase the climate benefits of public transport, combined with advantages like noise reduction for public transport users through electrification. The Clean Vehicles Directive sets minimum targets for clean zero emission bus procurement at

¹ https://cms.uitp.org/wp/wp-content/uploads/2022/05/ASSURED-Clean-Bus-report_final2.pdf

² As defined in the Clean Vehicles Directive (Directive 2019/1161/EU)

up to 22,5 % from 2021-2025 and 32.5 % from 2026-2030³. Given the current trajectory, public transport operators and authorities will be able to meet and likely surpass the targets of the Clean Vehicles Directive: Already in 2022, 30 per cent of new urban buses procured in 2022 were zero-emission⁴.

The State of Clean Bus Deployment: In 2022,...

- ... 62.5 per cent of new city buses in Europe had an alternative driveline,
- ...30 percent of newly registered city buses were zero-emission, doubling their share compared to 2021,
- ...new registrations of battery electric city buses grew by 26 per cent, from 3.282 in 2021 to 4.152 in 2022,
- ...and 99 fuel cell buses were registered.

CHALLENGES AND ENABLING CONDITIONS

Despite these success stories, there is still a long way to go and the challenges of deploying zero-emission buses need to be addressed. The challenges of electrification are generally linked to purchasing vehicles, transforming depots and deploying charging infrastructure⁵. Policy makers should therefore create **enabling conditions** for public transport operators and authorities to facilitate the transition to zero-emission buses. This includes sufficient funding for buses and their infrastructure.

- **High upfront cost for battery electric and fuel cell electric buses:** Zero-emission buses still come at a higher price than their counterparts with a combustion engine. While the total cost of ownership is projected to become more advantageous in the coming years, the high upfront costs are still a barrier to entry. Through economies of scale, the proposed CO₂ standards for heavy-duty vehicles could contribute to lowering prices in the medium to long term. In the short to medium term, however, public funding is still a prerequisite for companies to purchase zero-emission buses (see *below*).
- **Funding for infrastructure deployment:** Setting up the necessary charging and refuelling infrastructure is a major cost factor when shifting to buses running on electricity or hydrogen and requires public support. Unfortunately, the European initiative for deploying alternative fuels infrastructure (AFIR⁶) only marginally considers public transport, since bus charging infrastructure (both in depots and opportunity charging) is usually not publicly accessible.
- **Multi-stakeholder planning procedures:** Setting up the infrastructure for zero-emission buses means managing the construction, maintenance and

³ Applicable for LU, SE, DK, DE, NL, AT, BE, IT, IE, ES, CY, and MT, with lower quotas for remaining Member States

⁴ Based on data by Chatrou CME Solutions

⁵ [UITP Knowledge Brief on Large-Scale Bus Electrification, July 2021](#)

⁶ Regulation on the Deployment of Alternative Fuels Infrastructure

ownership of charging infrastructure. In this process, there is a close need for coordination between the public transport authority, the public transport operator and the electricity distribution system operator. Lengthy permitting procedures need to be factored into deployment timelines.

- **Funding and financing:** While operator's own resources are a key component, most projects also include various external financial instruments, from national schemes to long-term financing from the European Investment Bank (EIB) or the Horizon 2020 funding programme. The feasibility of zero-emission bus deployment therefore hinges on the availability of public funds, which varies significantly between Member States. The sector recognises the current co-financing mechanisms as fragmented and insufficient. UITP and its members therefore call for this issue to be addressed within the post-2027 Multiannual Financial Framework, where parts of the existing EU funding programmes should be reinforced to scale-up zero-emission urban bus fleet procurement. Additionally, the General Block Exemption Regulation should be modified to make a larger percentage of the additional costs for emission-free buses eligible for funding.

Since the proposed Regulation is industry policy aimed at vehicle manufacturers, it does not adequately factor in all these challenges. Overall, legislators should keep in mind that this policy – which is aimed at decarbonising the transport sector – should not lead to a reduction in the public transport offer due to financial constraints.

UITP'S RECOMMENDATIONS

2030 TARGET FOR URBAN BUSES

Given the lifetime of heavy-duty vehicles, the course for reaching climate neutrality by 2050 must be set well in advance. Mirroring the EU's ambitions, UITP's European members committed to achieving net-zero greenhouse gas emissions at the latest by 2050⁷. When a bus is used for approximately 12 to 15 years, this means that 2035 is an important threshold for stopping the purchase of conventionally fuelled buses.

Public transport is strongly linked to local circumstances. In addition to varying national strategies, individual cities and regions have also chosen different paths towards decarbonising the transport sector. These specificities result in a variety of perspectives among public transport authorities and operators on the feasibility of the 2030 zero-emission target for urban buses:

- Many larger European cities are either already procuring only zero-emission urban buses today or have a clear strategy for doing so by 2030. The Regulation is likely to positively impact them by sending a clear signal to the market. They could pursue their established plans for achieving zero-emission local public

⁷ [UITP Press Release, November 2019](#)

transport with the added benefits of increased availability of vehicles and potentially lower prices and therefore support the level of ambition proposed by the Commission.

- In line with the Clean Vehicles Directive, part of the public transport sector opted for a two-pronged decarbonisation strategy, procuring buses running on natural gas or biomethane in addition to battery electric buses. Since the proposed CO₂ Standards are entirely based on tailpipe emissions and not a well-to-wheel approach, these strategies would not be considered future-proof under the new Regulation. This is particularly disruptive to municipal utility companies with a circular approach who planned to decarbonise their bus fleets using locally produced biomethane. Following years of heavy investments into alternative fuels, several authorities and operators consider the 2030 timeline to be unrealistic since they would have to completely restructure their clean bus deployment strategies, find additional depot space in overcrowded city centres and deal with stranded assets such as refuelling infrastructure for gas buses.
- Parts of the public transport sector, especially smaller companies, are keen to deploy zero-emission buses but have so far been unable to do so for financial or operational reasons. They see a real risk of being left behind and not receiving adequate support in time to only procure zero-emission buses from 2030.

UITP is confident that the trend of zero-emission bus deployment will continue and that many European cities will be able to go fully zero-emission in their bus deployment from 2030 or even earlier. However, given the challenges outlined above, we consider that this will not be possible for the entirety of the sector under the current conditions. In the interest of providing European citizens with an attractive and clean public transport offer, Member States need to step up and commit to supporting the public transport sector on this journey.

DEFINITION OF URBAN BUSES

For buses, the Clean Vehicles Directive exclusively sets procurement targets for classes I and A. These types of vehicles have been at the forefront of public transport operators' and authorities' efforts to transition to low-carbon alternatives. However, **the Regulation goes beyond the Clean Vehicles Directive to include class 2 buses with low-entry and interurban profiles** (vehicle categories 31L2 and 33L2) in the 2030 zero-emission target for urban buses. These vehicles were not previously covered by any procurement targets, meaning the ambition level would go from 0 to 100 in a single step.

This overshoots the mark, especially since class II buses with low-entry are also used for longer distance public transportation, both regional and interurban, which remains harder to decarbonise. This issue is particularly prevalent in the Nordic countries. The

HDV CO₂ standards should be aligned with the Clean Vehicle Directive to make sure that the buses easiest to decarbonise have the highest level of ambition. Where non-ZE class II buses are still needed for operational reasons after 2030, the Commission's categorisation also creates an accessibility issue by making low-entry options unavailable. **Class II buses with low-entry should therefore be excluded from the definition of an urban bus.** To achieve this, the vehicle categories 31L2 and 33L2 should be moved out of the sub-group subject to zero-emissions vehicle targets into the current "coach" segment in Annex I 4.2 and deleted from the sub-group "urban heavy buses" in Annex I 4.3.2.

EXEMPTION POSSIBILITY

In its proposal, the European Commission recognises the need for flexibility where the purpose of a vehicle cannot be equally served by a zero-emission vehicle (Art. 3b). Member States will be allowed to exclude a limited share of urban buses registered in each reporting period. This is sensible and reflects the local character of public transport, with operating conditions that vary significantly from place to place. However, the provision remains vague since the Commission has yet to adopt Delegated Acts defining the maximum share of vehicles that can be excluded. These details should be clarified as quickly as possible. In addition, the exemption possibilities in the Commission proposal exclusively relate to socio-economic cost-benefit in view of specific territorial morphology or meteorological circumstances. They do unfortunately not cover cases where public transport authorities may have to reduce the public transport offer due to being unable to deploy zero-emission buses and their infrastructure, e.g. because of previous large-scale investments in low-carbon technologies such as biogas.

SECURITY OF SUPPLY IN PUBLIC PROCUREMENT

The new public procurement procedures (Art. 3c) will have a strong impact on standard practices of public transport authorities by attributing a significant role to security of supply. Under the proposal, the tender's contribution to security of supply would be given a weighting between 15 to 40 per cent of the award criteria. This puts an additional burden on public transport authorities, which should be avoided. The assessment criteria include information that authorities do not currently collect from operators and on which they possess limited expertise, for example on spare parts. Without procedures in place to verify compliance, these selection criteria would amount to ticking a box in a tendering document asking if the operator guarantees security of supply. To ensure attractive public transport, service level requirements – such as the operator having to complete a specific percentage of all scheduled trips – play a larger role. The minimum weight of the security of supply criteria should therefore be lowered to reflect these concerns.

CONNECTIONS TO THE CLEAN VEHICLES DIRECTIVE AND EURO 7

The Clean Vehicles Directive sets mandatory targets for the public procurement of clean and zero-emission vehicles over two reference periods: From 2021-2025 and 2026-2030. Should the Commission proposal of a 2030 zero-emission target for urban buses be maintained, there will be no need for a revision of the Clean Vehicles Directive. Following an overlap of the two legislations in the second half of 2030, the procurement targets of the Clean Vehicles would become redundant.

The proposed mid-2027 timeline for introducing Euro 7 is at odds with the proposed 2030 phase-out of non-ZE buses. Several manufacturers have already announced they will not invest in Euro 7 for the class I segment for such a short period, resulting in a de-facto zero-emission mandate already in 2027. To avoid this, the timelines of Euro 7 and the HDV CO₂ Standards need to be aligned to allow for a seamless transition to zero-emission buses. Generally, UITP considers that given the ever-increasing deployment of zero-emission buses, Euro 7 is not needed for urban buses.

PUBLIC TRANSPORT BENEFITS



This is an official position paper adopted by UITP EU Committee. UITP is the international association representing public transport stakeholders. In the European Union, UITP brings together more than 500 urban, suburban and regional public transport operators and authorities from all Member States. We represent the perspective of short distance passenger transport services by all sustainable modes: bus, regional and suburban rail, metro, light rail, tram and waterborne. Visit our website: uitp.eu