

Position

Fair and effective CO₂ rules for trailers and semi-trailers

October 2026



1 Summary

The trailer industry supports the objective of effectively reducing CO₂ emissions and the consumption of fossil energy in road freight transport. Trailers and semi-trailers have no propulsion system of their own and therefore cannot directly influence CO₂ emissions. Their impact arises exclusively through the interaction between the towing vehicle, payload and operating profile. Optimization must therefore always take place at the level of the overall transport system. Regulation should consequently be as practical as possible, take into account the high complexity of trailers, and appropriately reflect both technical feasibility and the economic capacity of this predominantly SME-based European industry.

Available market data do not demonstrate that the CO₂ fleet targets applicable from 2030 onwards of -10% for semi-trailers and -7.5% for other trailers can be reliably achieved by all affected manufacturers using the technologies that are currently available on the market, recognised within the VECTO model, and economically viable. Even among portfolios already optimized for weight and rolling resistance, a significant additional CO₂ reduction effort remains. This would primarily require the widespread deployment of additional aerodynamic or other technologies whose market penetration, economic viability and operational suitability have not yet been sufficiently demonstrated.

Despite the possibility of accumulating emission credits between 2025 and 2029, the target requirements will apply in full from 2030 onwards. At the same time, penalties of €4,250 per unit of excess CO₂ emissions create disproportionate burdens in relation to vehicle value, profit margins and the limited influence of trailer manufacturers on actual emissions performance.

An early review, a phased and vehicle-type-specific CO₂ target pathway, fair treatment of special-purpose vehicles and small series, further development of VECTO-TRAILER, and a proportionate penalty regime are therefore required.

2 Our Key Demands

- I. Complete the review under Article 15 of Regulation (EU) 2019/1242 at the earliest possible date and ensure that the results take effect in sufficient time before the key product and investment decisions relating to 2030.
- II. Introduce revised CO₂ fleet targets for trailers and semi-trailers from 1 July 2030 in a gradual, technology-neutral and vehicle-type-specific manner.
- III. Suspend sanctions and penalty payments until fair and technically robust requirements have been defined, and subsequently align them with vehicle value and the economic capacity of the trailer industry.
- IV. Further develop VECTO-TRAILER to adequately reflect real transport efficiency and trailer-specific equipment and design features that are necessary for operational purposes.
- V. Introduce a fleet allowance covering up to 250 vehicles with the least favourable efficiency ratio per manufacturer for very small bespoke and specific production series, highly customer-specific trailer bodies, and inherently heavier trailer configurations.
- VI. Increase the “small-series exemption” from fewer than 100 to 250 vehicles per reporting period and align it with the scope of Regulation (EU) 2022/1362.
- VII. Requirements and penalties for trailer manufacturers must be linked to the market penetration of zero-emission towing vehicles. It would be appropriate to phase out the sanctions for trailer manufacturers entirely once a 64% reduction in CO₂ emissions from towing vehicles has been achieved, in line with the targets set out in Regulation (EU) 2019/1242 for lorries and tractor units.
- VIII. Simplify VECTO certification, including simplified certification procedures for aerodynamic add-on devices and other components, and abolish the associated audits.
- IX. In the medium term, evaluate a methodology that achieves comparable CO₂ reductions in the European trailer fleet without the need for complex VECTO certification procedures.

3 Background and Need for Action

The regulation imposes an independent fleet target on trailer manufacturers, even though real-world CO₂ performance is determined only by the towing vehicle in combination with the trailer. At the same time, effective system solutions such as longer vehicle combinations and improved freight performance per trip are either not recognised or insufficiently considered. Different national vehicle requirements, particularly regarding permissible heights and dimensions, as well as potential competitive distortions between vehicles registered inside and outside the European Union, must also be included in the review.

3.1 Bring Forward the Review Without Delay

The review currently scheduled for completion by the end of 2027 comes too late because it will no longer influence key product, investment and type-approval decisions for 2030. The review should therefore be completed as early as legally and procedurally possible. It should cover the level of the CO₂ targets, the implementation timetable, sanctions, scope, competitive neutrality, treatment of small production series and the practical applicability of VECTO-TRAILER. Any further delay will cause considerable economic damage to the European and German trailer industry, as the scope for corrective action steadily diminishes as 2030 approaches.

3.2 Introduce a Realistic and Differentiated Target Pathway

Instead of an immediate step change in target requirements from 2030 onwards, a minimum five-year implementation phase is required. The existing possibility to accumulate emission credits during the period from 2025 to 2029 is sensible and supported by industry, but it cannot replace a binding and technically justifiable intermediate target pathway. As a political and technical starting point for the review, the industry proposes the following phased approach:

- Three-axle standard semi-trailers: 5.0% from 2030 and 7.5% from 2035.
- Trailers with special designs, one- and two-axle trailers, and trailers other than semi-trailers: 2.5% from 2030 and 5.0% from 2035.

The precise target levels should be assessed during the review on the basis of robust technology, cost and market data for each trailer sub-category. The determining factor must be what reductions can realistically be achieved using available, affordable and operationally suitable technologies and whether these reductions are compatible with the transport task being performed.

For very small production series, highly customer-specific designs and inherently heavy operating configurations, a limited fleet allowance should be introduced. Under such a scheme, each trailer manufacturer could exclude up to 250 trailers with the least favourable efficiency ratio. To avoid distortions between manufacturers of different sizes, such a rule could be accompanied by a percentage-based limit or a clear technical definition of the special trailers concerned.

The existing small-series exemption for manufacturers registering fewer than 100 vehicles per reporting period should be increased to 250 trailers and counted in accordance with the scope of Regulation (EU) 2022/1362. The exemption must be applicable without disproportionate administrative requirements and should not hinder the growth of SMEs.

3.3 Suspend Sanctions and Ensure Proportionality

A moratorium on sanctions is necessary for as long as the CO₂ target levels, modelling methodology, treatment of special-designed trailers and competitive neutrality issues have not been robustly clarified. Any newly defined penalty level for trailer manufacturers must take into account the significantly lower vehicle value, the typically low profit margins within the trailer industry and the limited number of technical options available on trailers. A value-based coefficient or financial cap should link penalties to the economic value of the trailer.

Market data indicate that substantial financial risks may arise if product portfolios remain unchanged. Such model calculations depend on future reference values, registration volumes, possible emission credits and product changes. Nevertheless, they demonstrate that the current penalty per unit of excess CO₂ emissions bears no reasonable relationship to vehicle value or industry profit margins.

Disproportionate penalties can negatively affect employment, investment and supply capability, encourage relocation to lower-cost countries and increase imports, thereby weakening German and European value creation. Climate policy can provide effective incentives only if requirements are technically achievable and economically sustainable.

3.4 Make VECTO-TRAILER more Realistic and Technology-Neutral

The VECTO-TRAILER model should compare vehicles with comparable operational purposes and accurately reflect the real transport efficiency of multi-purpose and special-designed vehicles (e.g. intermodal trailers). VECTO already incorporates standardised mission profiles, payload adjustments and normalisation of different loading volumes. Nevertheless, necessary additional weight, customer-specific operational requirements and the economic or operational suitability of certain technologies are not sufficiently differentiated.

In particular, the following measures are necessary:

- Adjusted annual mileage assumptions and mission profiles for genuinely different applications (e.g. 45,000 km for intermodal trailers and sector-specific deviations in maximum payload due to lightweight freight);
- Appropriate treatment of increased unladen weight of the trailer resulting from functionally necessary design features, such as intermodal rail and ferry transport capability, robustness requirements for coil transport, double-deck designs, cargo securing systems, specialised loading and unloading equipment (tail lifts, truck-mounted forklift brackets, split side walls, lifting/folding roof systems), and multi-compartment refrigerated vehicles etc.;
- Use of robust real-world vehicle CO₂ data for evaluating the calculation methodology and establishing continuous validation of VECTO results against technically feasible measures;

- Transparent review of regression and normalisation methodologies under Regulation (EU) 2019/1242, particularly with regard to cargo volume and small subgroups;
- Consideration of effective system solutions such as longer vehicle combinations with higher transport weights and greater transport performance per trip;
- Reduction of administrative burden throughout the VECTO process, including certification, parameterisation and validation procedures, and a reduction in audit requirements.

3.5 Link Penalties to the Emissions Development of Towing Vehicles

As direct CO₂ emissions from towing vehicles decline, the real climate impact of trailer efficiency changes. Efficient trailers remain important even when used with battery-electric or other zero-emission towing vehicles because they affect energy consumption, range, charging requirements and potentially battery sizing. However, a penalty system permanently based solely on simulated g CO₂/t·km values will increasingly fail to reflect the actual climate contribution of trailers.

Requirements and, in particular, financial sanctions should therefore be regularly adjusted in line with the actual CO₂ emission development of the European towing-vehicle fleet. A politically verifiable approach could be the linear reduction of sanctions corresponding to the emission reductions achieved by newly registered towing vehicles. A complete phase-out of sanctions for trailer manufacturers once a 64% CO₂ reduction has been achieved, in line with the targets established in Regulation (EU) 2019/1242 for rigid trucks and tractor units, would be appropriate.

3.6 Recognise Efficiency Potential in a Technology-Neutral Manner

The regulation should recognise all demonstrable efficiency contributions, not only those currently represented in the simulation tool. In addition to well-known measures such as aerodynamic improvements, weight reduction, rolling-resistance optimisation and suitable axle concepts, this should include higher transport performance per trip enabled by user-specific equipment features, greater vehicle lengths and weights, and combinations thereof.

Current market data also show that conventional efficiency measures cannot be added indefinitely. Even where manufacturers place trailers on the market with reduced unladen weight and ultra-low rolling-resistance tyres, significant gaps to the specific 2030 CO₂ target remain across their trailer fleets. Achieving the remaining reductions would therefore require additional aerodynamic or other technologies whose large-scale market availability, customer acceptance, reparability and economic viability must first be demonstrated before new binding targets are introduced.

Ultimately, what matters is and remains the demonstrable reduction of CO₂ per tonne-kilometre actually experienced by the customer, rather than what is modelled within VECTO.

4 Economic and Industrial Implications must be taken into Account

European trailer manufacturing is characterised by diverse applications, small production series and a high proportion of small and medium-sized enterprises. Their resources for research, development and regulatory compliance are more limited than those of globally diversified industries. According to industry data, the annual turnover of the trailer industry in the European Union is approximately €9 billion, while typical net margins are often below 3%. These indicators should be taken into account before revised penalty levels are determined.

A proper impact assessment must evaluate effects on employment, investment, imports and production relocation alongside actual climate benefits. It must also assess whether national vehicle requirements, particularly differing permissible heights and lengths, lead to unjustified differences in regulatory scope. Vehicles performing comparable transport tasks should be treated according to consistent criteria regardless of their country of registration or national regulatory framework.

5 Conclusion

The trailer industry remains committed to climate protection objectives. However, the current design of Regulation (EU) 2019/1242 combines ambitious targets, which have not yet been demonstrated to be achievable for the trailer sector, with transition periods that are too short, significant modelling and market risks, and potentially disproportionate penalties.

Available market data show a substantial gap between regulatory assumptions and current market reality. Even manufacturers that already make extensive use of lightweight construction, low rolling-resistance tyres and efficient axle concepts are unable to meet the 2030-CO₂-target across their entire fleet. Achieving the remaining reductions would require, in particular, the widespread deployment of additional aerodynamic or other technologies whose required market penetration, economic viability and operational suitability cannot yet be sufficiently demonstrated.

An early, evidence-based adjustment is therefore essential. A phased and vehicle-type-specific CO₂ target pathway, fair treatment of special-purpose vehicles and small production series, a transparent and realistic VECTO-TRAILER model, proportionate penalties and regular adaptation to the CO₂-emissions development of towing vehicles would allow the regulation to strengthen climate protection, innovation and European value creation simultaneously.

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