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From:	General Secretariat of the Council
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Subject:	Proposal for a Regulation of the European Parliament and of the Council amending Regulation (EU) 2019/1242 as regards strengthening the CO_2 emission performance standards for new heavy-duty vehicles and integrating reporting obligations, and repealing Regulation (EU) 2018/956 – General approach

Delegations will find in the Annex the text of the general approach on the abovementioned proposal, approved by the Council (Environment) at its 3973rd meeting held on 16 October 2023.

The changes to the previous version of the text (ST 13843/23), as resulting from the discussions at the Council, are indicated in **bold and underlined**. Previous amendments to the Commission proposal are underlined. Deleted text is marked in ~~strikethrough~~.

ANNEX

Proposal for a Regulation of the European Parliament and of the Council amending Regulation (EU) 2019/1242 as regards strengthening the CO_2 emission performance standards for new heavy-duty vehicles and integrating reporting obligations, and repealing Regulation (EU) 2018/956, and amending Regulation (EU) 2018/858

(Text with EEA relevance)

THE EUROPEAN PARLIAMENT AND THE COUNCIL OF THE EUROPEAN UNION,

Having regard to the Treaty on the Functioning of the European Union, and in particular Article 192(1) thereof,

Having regard to the proposal from the European Commission,

After transmission of the draft legislative act to the national parliaments,

Having regard to the opinion of the European Economic and Social Committee[1],

Having regard to the opinion of the Committee of the Regions[2],

Acting in accordance with the ordinary legislative procedure,

Whereas:

[1] OJ C […], […], p. […].
[2] OJ C […], […], p. […].

(1) Tackling climate and environmental-related challenges and reaching the objectives of the Paris Agreement[3], adopted in December 2015 under the United Nations Framework Convention on Climate Change (UNFCCC), are at the core of the Commission Communication on the "European Green Deal~~", adopted by the Commission on 11 December 2019~~[4]. The necessity and value of the European Green Deal have only grown in light of the very severe effects of the COVID-19 pandemic on the health and economic well-being of the Union's citizens.

(2) The European Green Deal combines a comprehensive set of mutually reinforcing measures and initiatives aimed at achieving climate neutrality in the Union by 2050, and sets out a new growth strategy that aims to transform the Union into a fair and prosperous society with a modern, resource-efficient and competitive economy, where economic growth is decoupled from resource use. It also aims to protect, conserve and enhance the Union's natural capital, and protect the health and well-being of citizens from environment-related risks and impacts. At the same time, ~~this~~ that transition affects women and men differently and has a particular impact on some disadvantaged groups, such as older people, persons with disabilities and persons with a minority racial or ethnic background. It must therefore be ensured that the transition is just and inclusive, leaving no one behind.

(3) The Union committed to reducing the Union's economy-wide net greenhouse gas emissions by at least 55 % ~~by 2030~~ below 1990 levels by 2030 in the updated nationally determined contribution submitted to the UNFCCC Secretariat on 17 December 2020.

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[3] OJ L 282, 19.10.2016, p. 4.

[4] ~~Commission Communication of 11 December 2019 on the European Green Deal, COM (2019) 640 final.~~

(4) In Regulation (EU) 2021/1119 of the European Parliament and of the Council[5], the Union has enshrined the target of economy-wide climate neutrality by 2050 in ~~legislation~~ a Union legislative act. Moreover, ~~T~~that Regulation ~~also~~ establishes a binding Union target of a domestic reduction ~~commitment~~ of net greenhouse gas emissions (emissions after deduction of removals) of at least 55 % below 1990 levels by 2030.

(5) All sectors of the economy are expected to contribute to achieving those emission reductions, including the road transport sector.

(6) The "Fit for 55" legislative package, ~~adopted~~ proposed by the ~~European~~ Commission in 2021, aims to implement the 2030 greenhouse gas emissions reduction target. It covers a range of policy areas. The revision of Regulation (EU) 2019/1242 of the European Parliament and of the Council[6] is an integral part of that legislative package.

(7) In its ~~The REPowerEU~~ Communication of 18 May 2022, entitled "REPowerEU Plan"[7] , the Commission outlined a plan to make the Union independent from Russian fossil fuels well before the end of this decade. The Communication highlights the importance, among others, of further increasing the efficiency of and reducing fossil fuel consumption in the transport sector, where electrification can be combined with the use of fossil-free hydrogen to replace fossil fuels.

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5 Regulation (EU) 2021/1119 of the European Parliament and of the Council of 30 June 2021 establishing the framework for achieving climate neutrality and amending Regulations (EC) No 401/2009 and (EU) 2018/1999 ('European Climate Law') (OJ L 243, 9.7.2021, p. 1).

6 Regulation (EU) 2019/1242 of the European Parliament and of the Council of 20 June 2019 setting CO2 emission performance standards for new heavy-duty vehicles and amending Regulations (EC) No 595/2009 and (EU) 2018/956 of the European Parliament and of the Council and Council Directive 96/53/EC (OJ L 198, 25.7.2019, p. 202).

7 ~~Communication from the Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions, REPowerEU Plan, COM(2022)230 final of 18.5.2022.~~

(8) In order to contribute to the reduction in net greenhouse gas emissions of at least 55 % below 1990 levels by 2030 ~~compared to 1990~~ and in conformity with the energy efficiency first principle, it is necessary to strengthen the CO_2 emissions reduction requirements for heavy-duty vehicles set out in Regulation (EU) 2019/1242 ~~for heavy-duty vehicles~~. A clear pathway also needs to be set for further emission reductions beyond 2030 to contribute to achieving the climate neutrality objective by 2050.

(9) The strengthened CO_2 emissions reduction requirements should incentivise an increasing share of zero-emission heavy-duty vehicles being deployed on the Union market whilst providing benefits to users and citizens in terms of air quality and energy savings, as well as ensuring that innovation in the automotive value chain can be maintained. Zero-emission heavy-duty vehicles currently include battery electric vehicles, fuel-cell and other hydrogen-powered vehicles, and technological innovation~~s~~ continues ~~are continuing~~.

(10) ~~Against that background, n~~New strengthened CO_2 emissions reduction targets should be set for new heavy-duty vehicles for the period 2030 onwards. Those targets should be set at a level that will deliver a strong signal to accelerate the uptake of zero-emission heavy-duty vehicles on the Union market and to stimulate innovation in zero-emission technologies in a cost-efficient way.

(11) The Commission Communication of 5 May 2021, entitled "Updating the 2020 New Industrial Strategy: Building a stronger Single Market for Europe's recovery" ~~updated New Industrial Strategy8 foresees~~ aims to achieve the co-creation of green and digital transition pathways in partnership with industry, public authorities, social partners and other stakeholders. In this context, a transition pathway is being developed for the mobility ecosystem to accompany the transition of the automotive value chain. The transition pathway ~~takes particular heed of~~ pays particular attention to small and medium-sized enterpri~~z~~ses in the automotive supply chain, ~~of~~ and to the consultation of social partners including by Member States. ~~, and~~ It also builds on the European Skills Agenda with initiatives ~~like~~ such as the Pact for Skills to mobilise the private sector and other stakeholders to up-skill and re-skill Europe's workforce in view of the green and digital transitions, and builds on the Talent Booster Mechanism in the framework of the Harnessing Talents in EU regions initiative. The appropriate actions and incentives at ~~the~~ European and national level to boost the affordability of zero-emission vehicles are also being addressed in the transition pathway. This could, for example, include the possibility for Member States to use the ~~proposed~~ Social Climate Fund established by Regulation (EU) 2023/955 of the European Parliament and of the Council[9] (the "Social Climate Fund") to assist micro-enterprises in ~~the~~ purchasing ~~of~~ zero-emission trucks and lorries. The Commission Communication of 1 February 2023, entitled "A Green Deal Industrial Plan for the Net-Zero Age" ~~Green Deal Industrial Plan[10] will~~ aims to enhance the competitiveness of Europe's net-zero industry and to support the fast transition to climate neutrality. ~~Such~~ That plan aims to provide a more supportive environment for the scaling up of the ~~EU's~~ Union's manufacturing capacity for the net-zero technologies and products required to meet ~~Europe's~~ the Union's ambitious climate targets.

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8 ~~Commission Communication on Updating the 2020 New Industrial Strategy: Building a stronger Single Market for Europe's recovery, COM(2021) 350 final of 5 May 2021.~~

9 Regulation (EU) 2023/955 of the European Parliament and of the Council of 10 May 2023 establishing a Social Climate Fund and amending Regulation (EU) 2021/1060 (OJ L 130, 16.5.2023, p. 1).

10 ~~COM(2023) 62 final~~

(12) The Union fleet-wide CO_2 emissions reduction targets are to be complemented by the necessary roll-out of recharging and refuelling infrastructure as set out in ~~the Commission Proposal for a r~~Regulation (EU) 2023/…of the European Parliament and of the Council on the deployment of alternative fuel infrastructure[11]. It is appropriate to consider the impact of this Regulation on the possibility for EU registered new heavy-duty vehicles to operate outside the Union in view of possible infrastructural constraints in third countries.

(13) The transition to climate neutrality requires significant investment~~s~~ in the electricity grid~~s~~ including enhanced capacity, resilience and storage, as well as additional connections. ~~Concerning~~ In view of the CO_2 emissions reduction targets for heavy-duty vehicles for the year 2030 established under this Regulation, ~~with the target levels proposed in Article 3a for the year 2030~~ the share of zero-emission heavy-duty vehicles in the total fleet of heavy-duty vehicles circulating on the road ~~as well as the~~ and electricity consumption in the sector will remain limited. Therefore the related impact on the electricity grid will remain limited as well.

(14) Manufacturers should be provided with sufficient flexibility in adapting their heavy-duty vehicle fleets over time in order to manage the transition towards zero-emission heavy-duty vehicles in a cost-efficient manner. ~~, and i~~It is therefore appropriate to maintain the approach of ~~decreasing~~ strengthening target levels in five-year steps.

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11 ~~Proposal for a~~ Regulation (EU) 2023/… of the European Parliament and of the Council on the deployment of alternative fuels infrastructure, and repealing Directive 2014/94/EU ~~of the European Parliament and of the Council, 14.7.2021, COM/2021/559 final.~~ (OJ…)

(15) Due to the heterogeneous structure of the ~~total~~ entire truck fleet, it is not possible to fully predict whether ~~for all niche uses,~~ technological developments will be quick enough to ensure that zero-emission tailpipe technology is a viable choice for all niche uses. This ~~may~~ could include ~~uses such as~~ long-haul heavy-duty vehicles in specific territorial morphology and meteorological circumstances, coaches and lorries for critical security and safety applications that cannot be fulfilled by zero-emission tailpipe technologies. ~~The~~ Such vehicles ~~in question~~ should constitute a limited share of the entire heavy-duty vehicle fleet. In view of such considerations, some margin in the 2040 CO_2 emissions reduction target should be left to accommodate technology developments ~~in technology~~ yet to occur.

(15a) In order to reduce the air pollution in cities as well as providing efficient and more sustainable transport service, it is key to address the emissions of urban buses. As the availability of urban buses is necessary to fulfil such objectives, the security of supply of such buses is important and contracting authorities should use the public procurement provision in Article 3c to determine the contribution of the security of supply when attributing a contract.

(16) When awarding public contracts for the purchase or the use of urban buses as well as public service contracts on the use of such buses, contracting authorities should consider the contribution to the security of supply in relation to certain criteria which should include at least one of the following: the availability of essential spare parts, changes in the supply chain or specific certification or documentation requirements, amongst other. For third countries with which the Union has not concluded, whether multilaterally or bilaterally, an agreement ensuring comparable and effective access for Union undertakings to the markets of those third countries (non-GPA countries), it is possible to consider the proportion of the products of tenders originating in third countries, as determined in accordance with Regulation (EU) No 952/2013 of the European Parliament and of the Council.

(16a) The application of the contribution to the security of supply of Article 3c should be without prejudice to the application of Article 25 of Directive 2014/24/EU of the European Parliament and of the Council , and Articles 43 and 85 of Directive 2014/25/EU of the European Parliament and of the Council, and contracting authorities or contracting entities should consider~~, when basing the award of contracts for the purchase or the use of heavy-duty vehicles referred to in the fourth column of the table in point 4.2 of Annex I to Regulation (EU) 2019/1242 (urban buses), the resilience of supply, including by considering~~ the guidelines in the Commission Communication of 24 July 2019, entitled "Guidance on the participation of third country bidders and goods in the EU procurement market" ~~(C(2019) 5494 final)~~.

(17) With the stricter Union fleet-wide CO_2 emissions reduction targets from 2030 onwards, manufacturers ~~will have~~ are to deploy significantly more zero-emission heavy-duty vehicles on the Union market. In that context, the incentive mechanism for zero- and low-emission heavy-duty vehicles ('ZLEV') would no longer serve its original purpose and would risk undermining the effectiveness of Regulation (EU) 2019/1242. The ZLEV incentive mechanism should therefore be removed as ~~of~~ from 2030.

(18) The possibility ~~of assigning~~ to assign the revenues from the excess CO_2 emissions premiums to a specific fund or a relevant programme has been evaluated as required pursuant to Article 15(4) of Regulation (EU) 2019/1242, with the conclusion that this would significantly increase the administrative burden, ~~while not~~ without directly benefitting the automotive sector in its transition. Revenues from the excess CO_2 emissions premiums should therefore continue to be considered as revenue for the general budget of the European Union in accordance with Article 8(4) of Regulation (EU) 2019/1242.

(19) The subject matter of Regulation (EU) 2019/1242 should be enlarged to also cover the monitoring and reporting obligations which are integrated into Regulation (EU) 2019/1242 by means of this Regulation.

(20) Regulation (EU) 2019/1242 should be amended in order to cover the same scope as Regulation (EU) 2018/956 of the ~~European~~ Parliament and of the Council[12].

[12] Regulation (EU) 2018/956 of the European Parliament and of the Council of 28 June 2018 on the monitoring and reporting of CO_2 emissions from and fuel consumption of new heavy-duty vehicles (OJ L 173, 9.7.2018, p.1).

(21) For heavy-duty vehicles~~, which~~ that are not in the scope of the automotive type-approval legislation of the Union, such as agricultural and forestry tractors, heavy-duty vehicles designed and constructed for the use by armed forces and track-laying vehicles, the CO_2 emissions are not determined and therefore tho~~e~~se heavy-duty vehicles ~~do~~ are not ~~have to~~ required to meet the CO_2 emissions reduction targets set in this Regulation. Heavy-duty ~~V~~vehicles that are designed and constructed or adapted for use by civil protection services, fire services and forces responsible for maintaining public order~~,~~ or urgent medical care services, and that are voluntarily type-approved should also be exempted from ~~having~~ the obligation to meet the CO_2 emissions reduction targets ~~of~~ set in this Regulation in order not to create an incentive to no longer voluntarily type-approve such heavy-duty vehicles ~~voluntarily~~, which would have negative safety and environmental implications, unless the manufacturer asks for ~~including~~ tho~~e~~se heavy-duty vehicles to be included. Member States should also be entitled to ~~indicate~~ exempt from the obligation to meet the CO_2 emissions reduction targets set in this Regulation ~~an exemption from having to meet the targets for~~ heavy-duty vehicles, not specifically designed, but registered, for use by civil protection services, fire services, forces responsible for maintaining the public order, armed services or urgent medical care services, such as normal coaches used for the transport of police or army forces, by confirming that such exemption ~~responds to~~ is in the public interest. As for certain heavy-duty vehicle groups~~,~~ which are type-approved, but for which CO_2 emissions are not determined yet for technical reasons, tho~~e~~se heavy-duty vehicles ~~do not have~~ are not required to meet the CO_2 emissions reduction targets set ~~by~~ in this Regulation. Tho~~e~~se are, for example, special purpose vehicles, such as mobile cranes, carriers of hydraulic multi-equipment or exceptional load transport vehicles, off-road vehicles, such as certain heavy-duty vehicles used for mining, forestry and agricultural purposes, as well as other heavy-duty vehicles with non-standard axle configurations such as heavy-duty vehicles with more than 4 axles or more than 2 driven axles, small buses -with a maximum mass lower than 7,5 tonnes, and small lorries with a maximum mass lower than 5 tonnes. Vocational vehicles, such as garbage trucks, tippers or concrete mixers, should continue to be exempted from the calculation of average specific CO_2 emissions of manufacturers.

(22) Certain definitions should be introduced in order to harmoni~~z~~se the terminology of Regulation (EU) 2019/1242 -with that of the vehicle type-approval legislation of the Union, in particular Regulation (EU) 2018/858 of the European Parliament and of the Council[13] and Commission Regulation (EU) 2017/2400[14].

(23) For the purposes of the newly introduced transfer of heavy-duty vehicles between manufacturers and of establishing an exemption for manufacturers producing only few heavy-duty vehicles, a definition of the term of 'group of connected entities' should be added to Regulation (EU) 2019/1242, in substance following the terminology used in Regulation (EU) 2019/631 of the European Parliament and of the Council[15] for light-duty vehicles.

(24) For defining the obligations of individual manufacturers, Union fleet-wide CO_2 emissions reduction targets for the new heavy-duty vehicle fleet should be translated into specific emissions reduction targets for vehicle subgroups that should be defined by the technical characteristics of the heavy-duty vehicles they comprise.

(25) Since the CO_2 emissions related to trailers have a strong impact on the overall CO_2~~CO_2~~ emissions and energy consumption of heavy-duty motor vehicles, respective CO_2 emissions reduction targets should also be set for ~~the~~ trailers ~~should also be defined.~~

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13 Regulation (EU) 2018/858 of the European Parliament and of the Council of 30 May 2018 on the approval and market surveillance of motor vehicles and their trailers, and of systems, components and separate technical units intended for such vehicles, amending Regulations (EC) No 715/2007 and (EC) No 595/2009 and repealing Directive 200746/EC.

14 Commission Regulation (EU) 2017/2400 of 12 December 2017 implementing Regulation (EC) No 595/2009 of the European Parliament and of the Council as regards the determination of the CO_2 emissions and fuel consumption of heavy-duty vehicles and amending Directive 2007/46/EC of the European Parliament and of the Council and Commission Regulation (EU) No 582/2011 (OJ L 349, 29.12.2017, p. 1).

15 Regulation (EU) 2019/631 of the European Parliament and of the Council of 17 April 2019 setting CO_2 emission performance standards for new passenger cars and for new light commercial vehicles, and repealing Regulations (EC) No 443/2009 and (EU) No 510/2011 (OJ L 111, 25.4.2019, p. 13).

(26) Due to the technical readiness of the sub-sector and the need to improve air quality in cities, a mandatory minimum share of new zero-emission urban buses should be set.

(27) A mandatory minimum share of zero-emission urban buses should reflect the societal need for affordable public transport, including in rural areas. The increased supply of zero-emission urban buses that result from such a mandatory minimum share should have a positive effect on purchasing cost, both in terms of upfront purchase price and the total cost of ownership of zero-emission urban buses, reflecting fossil fuel savings resulting from ~~their~~ the operation of such urban buses. Joint procurement of urban buses building on the Clean Bus Platform can bring down the purchasing cost of such buses further ~~down~~, and the ~~proposed~~ Social Climate Fund could be used by Member States to support vulnerable citizens with reduced or free public transport tickets or subscriptions. Finally, regional and long-distance buses and coaches, including for transport in rural areas, remain subject to the CO_2 emissions reduction targets for heavy-duty vehicles. Support from the Social Climate Fund could address the specific needs of rural areas and prevent transport poverty, as defined in Article 2(2) of Regulation (EU) 2023/955[~~16~~], by securing access to affordable public transport.

(28) The zero- and low-emission factor should last be applied for the reporting period of the year 2029, because it is no longer considered necessary after that time as an incentive to promote the market entrance of zero-emission heavy-duty vehicles.

(29) As commercial rather than legal entities should be considered for compliance, economically connected manufacturers should, within certain limits, be allowed to transfer heavy-duty vehicles between them for the purposes of accounting tho~~e~~se heavy-duty vehicles under Regulation (EU) 2019/1242.

~~[16] In line with the definition in the Social Climate Fund regulation, article 2(2a)~~

(30) Furthermore, in order to strengthen the development of new zero-emission technologies in specializ~~z~~sed small- and medium-sized companies, it should also be possible to transfer zero-emission heavy-duty vehicles between non-connected entities.

(31) In order to avoid disproportionally high compliance costs ~~of compliance~~ and in order to reduce the administrative burden, manufacturers that produce~~ing~~ few heavy-duty vehicles fulfilling certain legal requirements should be exempt~~ed~~ from the obligation to comply ~~compliance~~ with CO_2 emissions reduction targets. As they are required to comply with the reporting obligations of Regulation (EU) 2019/1242, there is an appropriate control mechanism for those manufacturers.

(32) The existing system of multi-annual emission credits and emission debts should be extended to 2039 as CO_2 emissions reduction targets ~~keep~~ continue ~~strengthening~~ to be stengthened beyond 2030 until 2040 and require forward-looking technical developments of manufacturers during that period.

(33) Regulation (EU) 2019/1242 should clearly stipulate for each vehicle category ~~clearly stipulate~~ who is the manufacturer to whom a heavy-duty vehicle should be attributed, thereby specifically taking account of the different constellations for heavy-duty vehicles of category M.

(34) The rules on the verification of the monitoring data should also cover the ~~possible~~ potential ex post correction~~s~~ of errors in such reported data and how the Commission should handle such corrections for implementing the ~~CO_2-emission~~ Union fleet-wide CO_2 emissions reduction ~~fleet~~ targets.

(35) The assessment of the reference CO_2 emissions should be amended to also cover the vehicle subgroups newly included in the scope of Regulation 2019/1242.

(36) Monitoring and reporting by manufacturers and Member States is an essential precondition for the implementation of Regulation (EU) 2019/1242. ~~Merging~~ Incorporating Regulation (EU) 2018/956 into Regulation (EU) 2019/1242 should produce synergies and allow for interpretation of the provisions taking into account the objectives of both Regulations.

(37) ~~On the occasion of~~When ~~merging~~ incorporating monitoring and reporting provisions of Regulation (EU) 2018/956 into Regulation (EU) 2019/1242, the opportunity should be seized to slightly ~~modify~~ amend those provisions in light of the experience~~s~~ gained from the first two reporting cycles under Regulation (EU) 2018/956.

(38) Taking account of the fact that the determination of CO_2 emissions will no longer be carried out by manufacturers alone, the obligation to report~~ing of~~ CO_2 emissions and other technical data of the heavy-duty vehicles should be extended beyond manufacturers to those entities which perform the determination of the heavy-duty vehicles under Regulation (EU) 2017/2400 and Commission Implementing Regulation (EU) 2022/1362[17]. The data to be reported should comprise the manufacturer's record file.

(39) The Commission should be ~~enabled~~ allowed to take into account technical progress, the evolution of freight transport logistics, such as especially heavy vehicle combinations used in some Member States, necessary adjustments based on the application of this Regulation and amendments of the underlying type-approval legislation, ~~and~~ to ensure that the data requirements and the monitoring and reporting procedure remain relevant over time for assessing the heavy-duty vehicle fleet's contribution to CO_2 emissions reduction targets, to ensure the availability of data on new and advanced CO_2 reducing technologies and on the results of on-road verification tests, ~~and~~ to ensure that the air drag value ranges remain relevant for information and comparability purposes, ~~as well as~~ and to supplement the provisions on administrative fines.

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[17] Commission Implementing Regulation (EU) 2022/1362 of 1 August 2022 implementing Regulation (EC) No 595/2009 of the European Parliament and of the Council as regards the performance of heavy-duty trailers with regard to their influence on the CO_2 emissions, fuel consumption, energy consumption and zero emission driving range of motor vehicles and amending Implementing Regulation (EU) 2020/683 (OJ L 205, 5.8.2022, p. 145).

(40) For tho~~e~~se reasons, the power to adopt acts in accordance with Article 290 of the Treaty on the Functioning of the European Union should be delegated to the Commission in respect of amending the criteria defining vehicles sub-groups including adding a sub-group for Extra Heavy Combination (EHC) lorry, defining vocational vehicles, for the operational ranges of different powertrain technologies, the list and weight of mission profiles, the payloads, passenger numbers, passenger masses, technically permissible maximum payloads, technically permissible maximum passenger number and cargo volumes of vehicle sub-groups and annual mileages values, amending the data requirements and the monitoring and reporting procedure laid down in the Annexes to this Regulation, in respect of specifying the data to be reported by the Member States for the monitoring of the results of on-road verification tests, of amending the air drag value ranges, and of defining the criteria, the calculation and the method of collection of administrative fines imposed on manufacturers. It is of particular importance that the Commission carry out appropriate consultations during its preparatory work, including at expert level, and that those consultations be conducted in accordance with the principles laid down in the Interinstitutional Agreement ~~on Better Law-Making~~ of 13 April 2016 on Better Law-Making. In particular, to ensure equal participation in the preparation of delegated acts, the European Parliament and the Council receive all documents at the same time as Member States' experts, and their experts systematically have access to meetings of Commission expert groups dealing with the preparation of delegated acts.

(41) Regulation (EU) 2018/956 should be repealed with ~~a timeline~~ transitional provisions allowing the reporting period that is ongoing at the moment of entry into force of this Regulation be concluded under the rules applicable at the beginning of that reporting period, including all after-processing of the data collected. Accordingly, this Regulation should be applied from the beginning of the following reporting period.

(42) Since the objectives of this Regulation, namely to promote reductions of greenhouse gas emissions in a cost-effective and economically efficient way in a manner commensurate with the economy-wide net greenhouse gas emission reduction target for 2030 through amended Union fleet-wide CO_2 emissions reduction targets for heavy-duty vehicles, cannot be sufficiently achieved by the Member States but can rather, by reason of scale and effects, be better achieved at Union level, the Union may adopt measures, in accordance with the principle of subsidiarity as set out in Article 5 of the Treaty on European Union. In accordance with the principle of proportionality as set out in that Article, this Regulation does not go beyond what is necessary in order to achieve those objectives.

(43) Regulation (EU) 2019/1242 should therefore be amended accordingly,

HAVE ADOPTED THIS REGULATION:

Article 1

Amendments to Regulation (EU) 2019/1242

Regulation (EU) 2019/1242 is amended as follows:

(1) Article 1 is replaced by the following:

‘Article 1

Subject matter and objective

1. This Regulation ~~establishes~~ sets CO_2 emissions performance ~~requirements~~ standards for new heavy-duty vehicles. Those standards ~~that~~ contribute to achieving the Union's target of reducing its greenhouse gas emissions, as laid down in Regulation (EU) ~~2018/842~~ 2023/857[18], ~~and~~ to the objectives of the Paris Agreement[19] and to ensuring~~e~~ the proper functioning of the internal market.

2. This Regulation also lays down ~~the~~ requirements for the reporting of CO_2 emissions from and fuel consumption of new heavy-duty vehicles registered in the Union.’;

[18] ~~Regulation (EU) 2018/842 of the European Parliament and of the Council of 30 May 2018 on binding annual greenhouse gas emission reductions by Member States from 2021 to 2030 contributing to climate action to meet commitments under the Paris Agreement and amending Regulation (EU) No 525/2013 (OJ L 16, 19.6.2018, p. 26).~~ Regulation (EU) 2023/857 of the European Parliament and of the Council of 19 April 2023 amending Regulation (EU) 2018/842 on binding annual greenhouse gas emission reductions by Member States from 2021 to 2030 contributing to climate action to meet commitments under the Paris Agreement, and Regulation (EU) 2018/1999 (OJ L 111, 26.4.2023, p. 1–14)

[19] ~~OJ L 282, 19.10.2016, p. 4.~~

(2) Article 2 is amended as follows:

(a) paragraph 1 is replaced by the following:

'1. This Regulation shall apply to new heavy-duty vehicles, which have either been type-approved or approved individually under Regulation (EU) 2018/858 or which are referred to ~~do not require typo-approval under~~ in Article 2(3) of ~~the same~~ that Regulation, and that belong~~ing~~ to any of the following vehicle categories:

(a) M_2 and M_3;

(b) N_1, N_2 and N_3 ~~which~~ provided that the vehicles do not fall under Regulation (EU) 2019/631~~, N_2 and N_3~~;

(c) O_3 and O_4.

For the purposes of this Regulation, ~~those~~ the vehicles referred to in the first subparagraph shall be referred to as heavy-duty vehicles. Vehicles falling under point~~s~~ (a) ~~and~~ or (b) of the first subparagraph shall be referred to as heavy-duty motor vehicles.

The vehicle categories referred to in this Regulation refer to the vehicle categories as defined in Article 4 of Regulation (EU) 2018/858 and in Annex I thereto.';

(b) paragraph 2 is amended as follows:

(i) the first subparagraph is replaced by the following:

'2~~. The vehicles referred to in paragraph 1~~ For the purposes of this Regulation, heavy-duty vehicles referred to in paragraph 1 shall~~, for the purposes of this Regulation,~~ be considered as new heavy-duty vehicles in a given reporting period, if they are registered in the Union for the first time in that reporting period and have not been previously registered outside the Union.';

(ii) the following subparagraph is added:

'Paragraph 1 shall not apply to heavy-duty vehicles first registered for a period not exceeding one month and registered for the sole purpose of transition to a country outside of the Union.';

~~(c) The following paragraphs 4, 5 and 6 are added:~~

~~'4. Notwithstanding Article 2(3) of Regulation (EU) 2017/2400, approved vehicles falling under Article 2(3), point (b), of Regulation (EU) 2018/858 shall not be subject to the CO_2 emission targets set out in Article 3a of this Regulation, unless the manufacturer chooses to include those vehicles in the calculation of its specific CO_2 emissions and targets when reporting the vehicle in accordance with Part B of Annex IV to this Regulation.~~

~~5. Vehicles other than those referred to in paragraph 4 registered for use by civil protection, fire services, forces responsible for maintaining the public order, armed services or urgent medical care shall not be subject to the CO_2 emission targets under Article 3a, if a Member State so indicates in the registration and reporting process, thereby confirming in the data reported in accordance with Part A of Annex IV that the purpose of the vehicle cannot be equally served by a ZEV and it is thus in the public interest to register a vehicle with a combustion engine to fulfil that purpose.~~

~~6. The reporting obligations laid down in Articles 13a to 13f shall also apply to the vehicles that are not subject to CO_2 emission targets in accordance with paragraphs 4 and 5 of this Article.'~~

(3) Article 3 is amended as follows:

(a) point (1) is replaced by the following:

‘(1) ‘reference CO_2 emissions’ means the average of the specific CO_2 emissions in the reference period of all new heavy-duty vehicles in each of the vehicle sub-groups, determined in accordance with point 3 of Annex I;’;

(b) the following points ~~(3a) and (3b)~~ are inserted:

‘(3a) ’ reporting period’ means the period ~~of a given year~~ from 1 July <u>of a given year</u> to 30 June of the following year;

(3b) ‘reference period’ means the reporting period of a certain year with respect to which the regulatory <u>CO_2 emissions</u> reduction obligations for a certain vehicle sub-group are specified under this Regulation;’;

(c) point (5) is replaced by the following:

‘(5) ‘specific CO_2 emissions target’ means the CO_2 emissions target of an individual manufacturer determined annually for the preceding reporting period in accordance with point 4 of Annex I;’;

(d) point (9) is replaced by the following:

‘(9) ‘vocational vehicle’ means a heavy-duty vehicle intended to be used for specific duties, which according to the information in its certificate of conformity, as reported by Member States, fulfills the criteria laid out in point 1.2. of Annex I;’;

(e) point (10) is deleted;

(f) the following points ~~(10a) and (10b) are~~ is inserted:

’(10a) ’reporter’ means an entity which is responsible for the reporting of data to the Commission;

~~(10b) ‘determination of a heavy-duty vehicle’ means the determination of its CO2 emissions or input parameters according to Article 9 of Regulation (EU) 2017/2400 or the assessment of its performance with regard to its influence on CO2 emissions and fuel consumption according to Article 8 of Commission Implementing Regulation (EU) 2022/1362~~;’

(g) point (11) is replaced by the following:

‘(11) ‘zero-emission heavy-duty vehicle’ means the following vehicles:

(a) a heavy-duty motor vehicle with not more than ~~5~~ 3 g/(t·km) or ~~5~~ 1 g/(p·km) of CO_2 emissions as determined in accordance with Article 9 of Regulation (EU) 2017/2400;

(b) a heavy-duty motor vehicle without a combustion engine or with a combustion engine emitting not more than ~~5~~ 1 g/kWh of CO_2 as determined in accordance with Regulation (EC) No 595/2009 and its implementing measures or emitting not more than ~~5~~ 1 g/km of CO_2 as determined in accordance with Regulation (EC) No 715/2007 of the European Parliament and of the Council and its implementing measures ~~fulfilling the conditions of point 1.1.4 of Annex I to this Regulation~~ ~~if~~ provided that no CO_2 emissions have been determined ~~according~~ pursuant to Regulation (EU) 2017/2400;

(c) a trailer equipped with a device that actively supports its propulsion and has no internal combustion engine or has an internal combustion engine emitting less than ~~5~~ 1 g CO_2/kWh as determined in accordance with Regulation (EC) No 595/2009 ~~of the European Parliament and of the Council~~ and its implementing measures or in accordance with UNECE Regulation (EC) No 49.

(h) point (12) is replaced by the following:

‘(12) ‘low-emission heavy-duty vehicle’ means a heavy-duty vehicle, other than a zero-emission heavy-duty vehicle, with specific CO_2 emissions of less than half of the reference CO_2 emissions of all vehicles in the vehicle sub-group to which the heavy-duty vehicle belongs, as determined in accordance with point 2.3.4 of Annex I;’;

(i) the following points ~~(16~~5~~) to (23)~~ are added:

‘(15) “primary vehicle” means a primary vehicle as defined in Article 3, point (22), of Regulation (EU) 2017/2400;

(16) ‘primary vehicle of a heavy-duty vehicle’ means a primary vehicle ~~as defined in Article 3, point (22), of Regulation (EU) 2017/2400~~, for the simulation of which a generic body is allocated that corresponds to the actual body of the heavy-duty vehicle with regard to its floor (low/high) deck (single/double) configurations and any other parameters as applicable;

(17) ‘completed vehicle’ means a completed vehicle as defined in Article 3, point (26), of Regulation (EU) 2018/858;

(18) ‘complete vehicle’ means a complete vehicle as defined in Article 3, point (27), of Regulation (EU) 2018/858;

(19) ‘off-road vehicle’ means an off-road vehicle as defined in Part A, point 2.1.~~,~~ of Annex I to Regulation (EU) 2018/858;

(20) ‘special purpose vehicle’ means a special purpose vehicle as defined in Article 3, point (31), of Regulation (EU) 2018/858;

(21) ‘off road special purpose vehicle’ means an off road special purpose vehicle as specified in Part A, point 2.3.1.~~,~~ of Annex I to Regulation (EU) 2018/858;

(22) ‘certificate of conformity’ means a certificate of conformity as defined in Article 3, point (5), of Regulation (EU) 2018/858;

(23) ‘public contract’, in the context of public procurement procedures and unless otherwise specified, means a public contract as defined in Article 2(1), point (5) of Directive 2014/24/EU, ‘contracts’ as defined in Article 2, point (1) of Directive 2014/25/EU, ~~as well as~~ and ‘concessions’ as defined in Article 5, point (1) of Directive 2014/23/EU’;

(24) ‘Extra Heavy Combination (EHC) lorry’ means a category N3 vehicle suitable for usage in a vehicle combination, having 3 axles or more, with an engine rated power of at least 400 kW and with a technically permissible maximum mass of the combination of more than 60 tonnes;

(j) the following paragraph is added:

‘For the purposes of this Regulation, ‘a group of connected manufacturers’ means a manufacturer and its connected undertakings.

‘Connected undertaking’ means:

(a) undertakings in which the manufacturer has, directly or indirectly:

(i) the power to exercise more than half the voting rights; ~~or~~

(ii) the power to appoint more than half the members of the supervisory board, board of management or bodies legally representing the undertaking; or

(iii) the right to manage the undertaking’s affairs;

(b) undertakings which ~~directly or indirectly~~ have directly or indirectly, over the manufacturer, the right~~s~~ or powers referred to in point (a);

(c) undertakings in which an undertaking referred to in point (b) has, directly or indirectly, the right~~s~~ or powers referred to in point (a);

(d) undertakings in which the manufacturer together with one or more of the undertakings referred to in point (a), (b) or (c), or in which two or more of the latter undertakings, jointly have the right~~s~~ or powers referred to in point (a);

(e) undertakings in which the right~~s~~ or the powers referred to in point (a) are jointly held by the manufacturer or one or more of its connected undertakings referred to in points (a) to (d) and one or more third parties.’;

(4) the following Articles ~~3a to 3c~~ are inserted:

‘Article 3a

CO_2 emissions reduction targets

1. The average CO_2 emissions of the Union fleet of new heavy-duty motor vehicles, other than special purpose vehicles, off-road vehicles, off-road special purpose vehicles, and vocational vehicles shall be reduced by the following percentages compared to the average CO_2 emissions of the reporting period of the year 2019:

(a) for vehicle sub-groups 4-UD, 4-RD, 4-LH, 5-RD, 5-LH, 9-RD, 9-LH, 10-RD, 10-LH for the reporting periods of the years 2025 to 2029 by 15 %,

(b) for all vehicle sub-groups for the reporting periods of the years 2030 to 2034 by 45 %,

(c) for all vehicle sub-groups for the reporting periods of the years 2035 to 2039 by 65 %,

(d) for all vehicle sub-groups for the reporting periods of the years 2040 onwards by 90 %.

2. The vehicle sub-groups shall contribute ~~T~~to these CO_2 emissions reduction targets referred to in paragraph 1, ~~the vehicle sub-groups have to contribute as laid down~~ in accordance with point 4.3. of Annex I.

3. The CO_2 emissions related to the Union fleet of new trailers shall be ~~improved~~ reduced in accordance with point 4.3 of Annex I.

4. Notwithstanding Article 2(3) of Regulation (EU) 2017/2400, approved heavy-duty vehicles falling under Article 2(3), first subparagraph, point (b), of Regulation (EU) 2018/858 shall not be subject to the CO_2 emissions reduction targets set out in ~~Article 3a of this Regulation~~ paragraphs 1 to 3 of this Article, unless the manufacturer chooses to include those heavy-duty vehicles in the calculation of its specific CO_2 emissions and targets when reporting the heavy-duty vehicle in accordance with Part B of Annex IV to this Regulation.

5. Heavy-duty ~~V~~vehicles other than those referred to in paragraph 4 of this Article registered for use by civil protection services, fire services, forces responsible for maintaining the public order, armed services or urgent medical care services shall not be subject to the CO_2 emissions reduction targets ~~under~~ set out in ~~Article 3a~~ paragraphs 1 to 3 of this Article, if a Member State so indicates in the registration and reporting process, thereby confirming in the data reported in accordance with Part A of Annex IV that the purpose of the heavy-duty vehicle cannot be equally served by a ~~ZEV~~ zero-emission heavy-duty vehicle and it is thus in the public interest to register a heavy-duty vehicle with a combustion engine to fulfil that purpose."

Article 3b

Zero-emission heavy-duty vehicle target for urban buses

1. For heavy-duty vehicles referred to in the fourth column ~~in~~ of the table in point 4.2 of Annex I (urban buses), manufacturers shall comply with the **85% and** 100 % minimum shares of zero-emission heavy-duty vehicles in their fleet of new heavy-duty vehicles ~~as laid down~~ in accordance with point 4.3.2 of Annex I. ~~For new urban buses the share of zero-emissions vehicles shall be 100% as from the reporting period of the year 2030~~.;

~~2. By way of derogation from paragraph 1, Member States may decide to exclude exempt from the obligation under this Article referred to in paragraph 1 a limited share of the urban buses registered in each reporting period, provided that is confirmed confirming that the purpose of the heavy-duty vehicle cannot be equally served by a zero-emission heavy-duty vehicle and it is thus in the public interest to register a non-zero heavy-duty emission vehicle to fulfil that purpose, due to socio-economic cost-benefit in view of specific territorial morphology or meteorological circumstances.~~

~~The Commission is empowered to adopt delegated acts in accordance with Article 17 to define the maximum share of heavy-duty vehicles that a Member State can exclude exempt, and the socio-economic cost-benefit in view of territorial morphology and meteorological circumstance justifying the exclusion exemption referred to in the previous first subparagraph of this paragraph.~~

3. ~~Regarding the use of vehicles referred to in this Article, t~~The Commission shall specify, by means of implementing acts, the ~~be empowered to adopt delegated acts in accordance with Article 17 to provide with~~ common technical specifications, including standards, for the use of heavy-duty vehicles referred to in this Article ~~regarding~~:

(a) the technical and open interoperability between the recharging and refuelling infrastructure and the heavy-duty vehicles, in terms of physical connections and communication exchange.

(b) the safe and secure sharing and use of the data generated.

Those implementing acts shall be adopted in accordance with the examination procedure referred to in Article 16(2).

Article 3c

Public procurement procedures

1. Contracting authorities or contracting entities shall base the award of public supply contracts for the purchase ~~or the use~~ of urban buses referred to in Article 3b as well as public services contracts having as their main subject matter the use of such vehicles ~~referred to in Article 3b~~ on the most economically advantageous tender which shall include the best price-quality ratio. Contracting authorities or contracting entities shall take the tender's contribution to the security of supply into account by using technical specification or award criteria depending on the market situation **and** ~~the security of supply contribution of the tender~~ in compliance with ~~relevant international law~~ Directives 2014/23/EU, 2014/24/EU or 2014/25/EU and applicable sectoral legislation, as well as with the Union's international commitments, including the GPA and other international agreements by which the Union is bound.

2. The technical specification or the award criteria of ~~T~~the tender's contribution to the security of supply shall ~~be assessed, inter alia, based on:~~ include at least one of the following ~~non-cumulative~~ criteria, applied in an objective, transparent and non-discriminatory manner:

(a) the proportion of the products ~~or~~ of tenders originating in third countries, as determined in accordance with Regulation (EU) No 952/2013 of the European Parliament and of the Council. This criteria shall apply to products of tenders originating in non-GPA countries only;

~~(b) the introduction by third countries of a restrictive or distortive measure on such vehicles or on the technical and open interoperability between the recharging and refuelling infrastructure and the vehicles;~~

(b~~e~~) the availability of essential spare parts for the functioning of the equipment subject to the tender;

(c~~d~~) a commitment by the tenderer that possible changes in its supply chain during the execution of the contract will not adversely affect ~~adversely~~ the execution of the contract;

(d~~e~~) ~~a~~ certification or documentation demonstrating that the organisation of the tenderer's supply chain ~~will~~ allows it to comply with the security of supply requirement.

This shall not preclude contracting authorities and contracting entities from using additional ~~non-price~~ criteria.

3. ~~In accordance with Article 3b,~~ If the tender's contribution to security of supply is used as an award criteria, it shall be given a weighting of between 15 to 40 % of the award criteria.
';

(5) in Article 4, first paragraph, point (a) is replaced by the following:

'(a) the data reported for the manufacturer's new heavy-duty vehicles registered in the preceding reporting period; and';

(6) Article 5 is amended as follows:

(a) paragraph 1 is replaced by the following:

‘1. Starting from 1 July 2020 and for each subsequent reporting period until the reporting period of the year 2029, the Commission shall determine for each manufacturer the zero- and low-emission factor for the preceding reporting period.

The zero-~~emission~~ and low-emission factor shall take into account the number and the CO_2 emissions of all zero- and low-emission heavy-duty vehicles in the manufacturer’s fleet.’;

(b) paragraph 3 is replaced by the following:

‘3. For the reporting periods from 2025 to 2029 the zero- and low-emission factor shall be determined on the basis of a 2 % benchmark in accordance with point 2.3.2 of Annex I.’;

(c) paragraph 4 is replaced by the following:

‘4. The zero-~~emission~~ and low-emission factor shall reduce the average specific CO_2 emissions of a manufacturer by a maximum of 3 %. The contribution to that factor of the zero-emission heavy-duty vehicles of category N, other than those in vehicle~~s~~ sub-groups 4-UD, 4-RD, 4-LH, 5-RD, 5-LH, 9-RD, 9-LH, 10-RD, 10-LH, shall reduce the average specific CO_2 emissions of a manufacturer by a maximum of 1,5 %.’;

(7) Article 6 is replaced by the following:

‘Article 6

Specific CO_2 emissions targets of a manufacturer

For the reporting period of the year 2025 and for each subsequent reporting period, the Commission shall determine for each manufacturer a specific CO_2 emissions target for the preceding reporting period. That target shall be determined in accordance with point 4.1 of Annex I.’;

(8) the following Articles ~~6a and 6b~~ are inserted:

‘Article 6a

Transfer of heavy-duty vehicles between manufacturers

1. For the purpose of calculating the average specific CO_2 emissions of manufacturers in accordance with Article 4 and point 2.2 of Annex I, individual heavy-duty vehicles may be transferred between manufacturers, subject to the following conditions:

(a) for all transfers~~:~~, the request must be jointly submitted by the transferring and the receiving manufacturer;

(b) for the transfer of heavy-duty vehicles other than zero-emission heavy-duty vehicles, the transferring and the receiving manufacturer ~~must~~ shall belong to a group of connected manufacturers;

(c) for the transfer~~s~~ of zero-emission heavy-duty vehicles between manufacturers not belonging to a group of connected manufacturers~~:~~, the number of zero-emission~~s~~ heavy-duty vehicles transferred to a manufacturer ~~must~~ shall not exceed 5 % of all its new heavy-duty vehicles registered in a given reporting period.

The manufacturers shall communicate the transfer requests to the Commission using the electronic tools provided by the Commission.

2. Where the Commission considers that the conditions ~~of~~ for a transfer are fulfilled, it shall not take the transferred heavy-duty vehicle into account for the calculation of relevant values for the transferring manufacturer, but will take ~~them~~ it into account for the calculation of relevant values for the receiving manufacturer.

Article 6b

Exemption for manufacturers producing few heavy-duty vehicles

1. If less than 100 new heavy-duty vehicles of a manufacturer were registered in a given reporting period, the average specific CO_2 emissions as provided for in Article 4 and in point 2.7 of Annex I and the specific CO_2 emissions targets as provided for in Article 6 and in point 4.1 of Annex I shall be set ~~to~~ at "0" in ~~the respective~~ that reporting period.

2. The values of the average specific CO_2 emissions and of the specific CO_2 emissions targets shall not be included in the publication of data under Article 11 for the manufacturers and reporting periods concerned.

3. The exemption laid down in paragraph 1 shall not ~~be applied~~ apply in a given reporting period in any of the following cases:

(a) upon request of the manufacturer;

(b) if the manufacturer requests a transfer of heavy-duty vehicles in accordance with Article 6a;

(c) if the manufacturer is part of a group of connected manufacturers that collectively registered more than 100 heavy-duty vehicles in that reporting period or is part of a group of connected manufacturers ~~with another~~ including a manufacturer to which ~~the exemption of paragraph 1 does not~~ points (a) or (b) apply.

4. Manufacturers, ~~who~~ which are not part of a group within the meaning of paragraph 3, point (c), shall inform the Commission if they registered less than 100 heavy-duty vehicles in a given reporting period.

5. Manufacturers~~,~~ to which the exemption laid down in paragraph 1 does not apply~~,~~ shall inform the Commission in each reporting period about all their connected undertakings that fulfil the conditions of ~~the~~ that exemption laid down in paragraph 1.

6. ~~The m~~Manufacturers shall ~~communicate the necessary~~ inform~~ation~~ ~~to~~ the Commission under paragraphs 4 and 5 using the electronic tools provided by the Commission.';

(9) Article 7 is amended as follows:

(a) in paragraph 1, first subparagraph, the introductory wording is replaced by the following:

'For the purpose of determining a manufacturer's compliance with its specific CO_2 emissions targets in the reporting periods of the years 2025 to 2039, account shall be taken of its emission credits or emission debts determined in accordance with point 5 of Annex I, which correspond to the number of new heavy-duty vehicles of the manufacturer in a reporting period, multiplied by:';

(b) in paragraph 1, second subparagraph, '2029' is replaced by '2039';

(c) in paragraph 1, the third subparagraph is replaced by the following:

‘Emission debts shall be acquired in the reporting periods of the years 2025 to 2039. However, the total emission debt of a manufacturer shall not exceed 5 % of the manufacturer’s specific CO_2 emissions target multiplied by the number of heavy-duty vehicles of the manufacturer in that period (‘emission debt limit’).’;

(d) in paragraph 1, the fourth subparagraph is replaced by the following:

‘Emission credits and emission debts acquired in the reporting periods of the years 2025 to 2039 shall, where applicable, be carried over from one reporting period to the next reporting period. However, any remaining emission debts shall be cleared in the reporting periods of the years 2029, 2034 and 2039.’;

(e) paragraph 2 is replaced by the following:

‘2. The CO_2 emissions reduction trajectories shall be set for each manufacturer in accordance with point 5.1. of Annex I, based on the following linear trajectories:

(a) between the reference CO_2 emissions and the CO_2 emissions target for the reporting period of the year~~s~~ 2025 or 2030 as specified in Article 3a(1), points (a) and (b),

(b) between the CO_2 emissions target for the reporting period of the year 2025 and the CO_2 emissions target for the reporting period of the year 2030 as specified in Article 3a(1), point (b),

(c) between the CO_2 emissions target for the reporting period of the year 2030 and the CO_2 emissions target for the reporting period of the year 2035 as specified in Article 3a(1), point (c), and

(d) between the CO_2 emissions target for the reporting period of the year 2035 and the CO_2 emissions target for the reporting period of the year 2040 as specified in Article 3a(1), point (d).';

(10) the following Articles ~~7a and 7b~~ are inserted:

'Article 7a

Attribution of heavy-duty vehicles to a manufacturer

When calculating the average specific CO_2 emissions referred to in Article 4 and the specific CO_2 emissions targets referred to in Article 6, the heavy-duty vehicles registered in a given reporting period shall be attributed to the following manufacturers:

(a) for heavy-duty vehicles of category N, to the vehicle manufacturer as defined in Article 3, point (4a), of Regulation (EU) 2017/2400;

(b) for heavy-duty vehicles of category M, to the primary vehicle manufacturer as defined in Article 3, point (29), of Regulation (EU) 2017/2400;

(c) for heavy-duty vehicles of category O, to the vehicle manufacturer as defined in Article 2, point (5), of Commission Implementing Regulation (EU) 2022/1362.

Article 7b

Calculation of average specific CO_2 emissions of heavy duty vehicles of category M

For vehicles of category M, the following shall apply:

(a) for the calculation of the average specific CO_2 emissions in a vehicle sub-group of a manufacturer, a new heavy-duty vehicle of category M shall be considered with its specific CO_2 emissions as a complete or completed vehicle in point 2.2.2 of Annex I and shall not be taken into account in point 2.2.3 of that Annex ~~I~~.

(b) ~~however~~ by way of derogation from point (a) of this Article, upon request of the manufacturer as referred to in Article 7a, point (b), to the Commission and subject to the condition set out in ~~paragraph 3~~ point (c), a new heavy-duty vehicle of category M shall be considered with the specific CO_2 emissions of its primary vehicle in point 2.2.3 of Annex I and shall not be considered in point 2.2.2 of that Annex ~~I~~.

(c) a request referred to in point (b) for a new heavy-duty vehicle of category M shall not be admissible if ~~its~~ that manufacturer ~~as defined in Article 7a, point (b),~~ and the vehicle manufacturer ~~of its complete or completed vehicle~~ as defined in Article 3(4a) of Regulation (EU) 2017/2400, of its complete or completed vehicle are connected undertakings or parts of the same legal entity. By making such a request, a manufacturer declares that this condition ~~holds~~ is met. ~~and~~ It shall provide supporting information to the Commission upon demand.

(d) the Commission, with support of the European Environment Agency, shall make available without delay ~~in due time~~ in electronic format the tools and procedural guidance necessary for manufacturers to ~~communicate~~ submit ~~the~~ such requests referred to in point (b) to the Commission.';

(11) Article 8 is amended as follows:

(a) in point (a) of paragraph 1, "from 2025 to 2029" is replaced by "from 2025 onwards";

(b) point (b) of paragraph 1 is deleted;

(c) paragraph 2 is replaced by the following:

‘2. A manufacturer shall be deemed to have excess CO_2 emissions in any of the following cases:

(a) where, in any of the reporting periods of the years 2025 to 2028, 2030 to 2033~~,~~ or 2035 to 2038, the sum of the emission debts reduced by the sum of the emission credits exceeds the emission debt limit referred to in Article 7(1), third subparagraph;

(b) where, in the reporting periods of the years 2029, 2034, 2039 and 2040, the sum of the emission debts reduced by the sum of the emission credits is positive;

(c) where, from the reporting periods of the year 2041 onwards, the manufacturer’s average specific CO_2 emissions exceed its specific CO_2 emissions target.’;

(12) Article 9 is amended as follows:

(a) paragraph 1 is replaced by the following:

‘1.Type-approval authorities and manufacturers shall, without delay, report to the Commission any of the following deviations from the data reported:

(a) where the CO_2 emission values of heavy-duty vehicles in service as a result of verifications performed in accordance with the procedure referred to in Article 13 of this Regulation deviate from the values that are indicated in certificates of conformity or in the customer information file referred to in Article 9(4) of Regulation (EU) 2017/2400;

(b) where errors due to ~~wrong~~ incorrect input data or other causes in the execution of the CO_2 emissions determination were identified;

(c) where errors in the execution of the CO_2 emissions monitoring and reporting were identified;

(d) any other deviations than those mentioned in points (a), (b) and (c).’;

(b) paragraph 2 is replaced by the following:

'2. The Commission shall take the deviations referred to in paragraph 1 into account for the purpose of calculating the average specific CO_2 emissions of a manufacturer and the reference CO_2 emissions. It shall ~~and~~ consider modifying the ~~decisions taken~~ list ~~in accordance with~~ referred to in Article 11(1). ~~accordingly.~~ The Commission ~~is~~ shall not be obliged to take deviations into account if the recalculation of the average specific CO_2 emissions of a manufacturer or the reference CO_2 emissions results in a deviation of less than 0,1 %.';

(13) Article 10 is replaced by the following:

'Article 10

Assessment of reference CO_2 emissions

1. In order to ensure the robustness and representativeness of the reference CO_2 emissions of vehicle sub-groups, to which a reporting period of the year 2024 or later applies as reference period according to point 3.2 of Annex I, the Commission shall assess the application of the conditions under which the reference CO_2 emissions have been determined and determine whether those emissions have been unduly increased and, if so, how they are to be corrected.

2. If the Commission concludes that all or some of the CO_2 reference emissions ~~shall~~ are to be corrected, it shall adopt an implementing act in accordance with the examination procedure referred to in Article 16(2) performing tho~~e~~se corrections.';

(14) Article 11 is amended as follows:

(a) in paragraph 1, the second subparagraph is replaced by the following:

'The list to be published by 30 April of the year following a year in which a reference period has ended, shall include the reference CO_2 emissions determined in that reference period.

Those implementing acts shall be adopted in accordance with the examination procedure set out in Article 16(2) of this Regulation'

(b) paragraph 2 is replaced by the following:

'2. The Commission shall ~~amend~~ adopt implementing acts to amend the list ~~adopted under~~ set out in paragraph 1:

(a) where the type-approval procedures referred to in Regulation (EC) No 595/2009 are amended, other than the amendments related to the payload and passenger number values used for the determination of CO_2 emissions, in such a way that the level of the CO_2 emissions of the representative heavy-duty vehicles specified pursuant to ~~this~~ paragraph 3 of this Article increase or decrease by more than 5 g CO_2 /km:

(i) adjusted reference emissions shall be calculated in accordance with point 1 of Annex II;

(ii) ~~the~~ new values shall be published as a complement to previous values, indicating the reporting period when they apply the first time;

(b) where the Annexes have been amended in accordance with Article 14 (1), points (a) to (f):

(i) previously published reference CO_2 emissions shall be recalculated in accordance with Annex I, taking into account the parameters amended ~~according to~~ in accordance with ~~one of the points of~~ Article 14 (1), point (a) to (f);

(ii) the recalculated set of reference CO_2 emissions shall be published and shall replace the previous ~~set of~~ reference ~~CO_2~~ emissions as from the reporting period in which the ~~amended~~ parameters amended in accordance with ~~according to one of the points of~~ Article 14 (1), point (a) to (f), apply for the first time.

Those implementing acts shall be adopted in accordance with the examination procedure set out in Article 16(2) of this Regulation';

(c) the following paragraph is added:

'3. In case of amendments of the type-approval procedures referred to in paragraph 2, first subparagraph, point (a), of this Article, the ~~amending~~ implementing acts referred to in paragraph 2 of this Article shall either specify or establish a methodology for defining one or more representative vehicles of a vehicle sub-group, including their statistical weightings and the payload and passenger number values to be used for the determination of CO_2 emissions, on the basis of which the adjustment referred to in paragraph 2, first subparagraph, point (a)(i), of this Article shall be determined, taking into account the monitoring data reported pursuant to this Regulation and the technical characteristics ~~of the vehicles listed~~ referred to in Article 12(1) of Regulation (EU) 2017/2400. Those implementing acts shall be adopted in accordance with the examination procedure set out in Article 16(2) of this Regulation.';

(15) in Article 13, paragraph 3, the following sentence is added:

'Where the data in the customer information files, the certificates of conformity and the individual approval certificates may not be corrected under Regulation (EU) 2018/858, the responsible type-approval authority shall issue a statement of correction with the corrected data. It shall ~~and~~ transmit that statement to the Commission and the parties concerned.';

(16) the following Articles ~~13a to 13f~~ are inserted:

'Article 13a

Monitoring and reporting by Member States

1. Starting from the reporting period of the year [~~*P*~~*OJ: please insert year: if this amending Regulation* ~~*entry*~~ *enters into force* ~~*is*~~ *before 1st July, insert the year of its entry into force* ~~*of the Regulation*~~ *minus 1; if this amending Regulation* ~~*entry*~~ *enters into force* ~~*is*~~ *after 30th* ~~*of*~~ *June, insert the following year*], Member States shall monitor the data specified in Annex IV, Part A relating to new heavy-duty vehicles registered for the first time in the Union.

By 30 September of each year, starting in 2020, the competent authorities of the Member States shall report those data ~~of~~ for the previous reporting period of 1 July to 30 June to the Commission in accordance with the reporting procedure set out in Annex V.

2. The competent authorities responsible for the monitoring and reporting of data in accordance with this Regulation shall be those designated by the Member States in accordance with Article 7(6) of Regulation (EU) 2019/631.

3. Heavy-duty ~~V~~vehicles designed and constructed or adapted for the use by civil protection services, fire services and forces responsible for maintaining public order shall be subject to ~~the obligation under~~ this Article~~, unless they are exempted on the basis of other provisions~~.

4. Heavy-duty ~~V~~vehicles registered for ~~the~~ use by civil protection services, fire services, medical urgency care services and forces responsible for maintaining public order, and heavy-duty vehicles registered for ~~the~~ use by the armed services shall be subject to ~~the obligation under~~ this Article, regardless of ~~being~~ whether they are exempted from Article 3a~~, unless they are exempted on the basis of other provisions~~.

Article 13b

Reporting by manufacturers or other entities responsible for the determination of CO_2 emissions of a heavy-duty vehicle ~~CO_2 emissions~~

1. Manufacturers or other entities responsible for the determination of the CO_2 emissions of a heavy-duty vehicle ~~to~~ which ~~the obligations of~~are subject to Article 9 of Regulation (EU) 2017/2400 or Article 8 of Implementing Regulation (EU) 2022/1362 ~~are addressed~~ shall report the data of the new heavy-duty vehicle ~~according~~ in accordance with ~~to the provisions set out in~~ part B of Annex IV to this Regulation.

By 30 September of each year, they shall report those data to the Commission for each new heavy-duty vehicle with a date of determination or of assessment falling within the reporting period ending on 30 June ~~to the Commission~~ in accordance with the reporting procedure set out in Annex V.

This paragraph shall not apply to ~~manufacturers or other entities~~ vehicles exempted in accordance with Article 6b.

2. Each manufacturer or other entity within the meaning of paragraph 1 shall appoint a contact point for the purpose of reporting data in accordance with this Regulation.

3. The reporting obligations under Article 13a(3) and (4)~~, paragraphs 3 and 4~~ shall apply to manufacturers and other entities within the meaning of paragraph 1 of this Article.

Article 13c

Central register for data on heavy-duty vehicles

1. The Commission shall keep a central register for the data on heavy-duty vehicles (‘the central register’) reported in accordance with Articles 13a and 13b.

The central register shall be publicly available with the exception of data entries listed in point 3.2.~~2.~~ of Annex V.

~~With regard to data entry 23 specified in Part B, point 2 of Annex IV, t~~ The air drag value shall be made publicly available in a range format as set out in Part C of Annex IV.

2. The central register shall be managed by the European Environment Agency on behalf of the Commission.

Article 13d

Monitoring of the results of on-road verification tests

1. The Commission shall monitor, where available, the results of on-road tests performed within the framework of Regulation (EC) No 595/2009 to verify the CO_2 emissions and fuel consumption of new heavy-duty vehicles.

2. The Commission is empowered to adopt delegated acts in accordance with Article 17 in order to supplement this Regulation by specifying the data to be reported by the competent authorities of the Member States for the purposes of paragraph 1 of this Article.

Article 13e

Data quality

1. The competent authorities and manufacturers shall be responsible for the correctness and quality of the data they report pursuant to Articles 13a and 13b. They shall inform the Commission without delay of any errors detected in the data reported.

2. The Commission shall carry out its own verification of the quality of the data reported pursuant to Articles 13a and 13b.

3. Where the Commission is informed of errors in the data reported pursuant to paragraph 1, or finds, ~~pursuant to~~ after its own verification pursuant to paragraph 2, discrepancies in the dataset, it shall, where appropriate, take the necessary measures to correct the data published in the central register ~~referred to in Article 13c~~.

4. The Commission may, by means of implementing acts, determine the verification and correction measures referred to in paragraphs 2 and 3 of this Article. Those implementing acts shall be adopted in accordance with the examination procedure referred to in Article 16.

Article 13f

Administrative fines

1. The Commission may impose an administrative fine in each of the following cases:

(a) where it finds that the data reported by the manufacturer pursuant to Article ~~5~~13b of this Regulation deviate from the data resulting from the manufacturer's records file or the engine type-approval certificate issued within the framework of Regulation (EC) No 595/2009, and the deviation is intentional or due to serious negligence;

(b) where the data are not submitted within the deadline applicable pursuant to Article ~~5(1)~~ 13b and the delay cannot be duly justified.

The Commission shall, for the purposes of verifying the data referred to in point (a), consult with the relevant type-approval authorities.

The administrative fines shall be effective, proportional and dissuasive and shall not exceed EUR 30 000 per heavy-duty vehicle concerned by deviating or delayed data as referred to in points (a) and (b).

2. The Commission shall on the basis of the principles set out in paragraph 3 of this Article, adopt delegated acts in accordance with Article 17 to supplement this Regulation by laying down the procedure, and methods for the calculation and collection of the administrative fines referred to in paragraph 1 of this Article.

3. The delegated acts referred to in paragraph 2 shall respect the following principles:

(a) the procedure established by the Commission shall respect the right to good administration, and in particular the right to be heard and the right to have access to the file, while respecting the legitimate interests of confidentiality and of commercial secrets;

(b) in calculating the appropriate administrative fines, the Commission shall be guided by the principles of effectiveness, proportionality and dissuasiveness, taking into consideration, where relevant, the seriousness and effects of the deviation or delay, the number of heavy-duty vehicles concerned by the deviating or delayed data, the good faith of the manufacturer, the degree of diligence and cooperation of the manufacturer, the repetition, frequency ~~or~~ and duration of the deviation or ~~the~~ delay, as well as prior sanctions imposed on the same manufacturer;

(c) administrative fines shall be collected without undue delay by fixing deadlines for the payment and by including, as appropriate, ~~including~~ the possibility of splitting payments into several instalments and phases.

4. The amounts of the administrative fines shall be considered as revenue for the general budget of the European Union.'

(17) Article 14 is replaced by the following:

‘Article 14

Amendments to the Annexes

1. The Commission is empowered to adopt delegated acts in accordance with Article 17 of this Regulation with a view to amending the following elements in Annex I to this Regulation to take into account technical progress, the evolution of freight transport logistics, necessary adjustments based on the application of this Regulation and amendments of the underlying type-approval legislation, in particular Regulations (EU) 2018/858 and ~~(EU)~~ (EC) No 595/2009:

(a) the criteria defining vehicle sub-groups set out in point 1.1, including adding separate subgroups for EHC lorries;

(b) the criteria defining vocational vehicles set out in point 1.2;

(c) the criteria for the operational ranges of different powertrain technologies set out in point 1.3;

(d) the list of mission profiles set out in point 1.4;

(e) the weight of mission profiles set out in point 2.1.1 to 2.1.3;

(f) the payloads, passenger numbers, passenger masses, technically permissible maximum payloads, technically permissible maximum passenger number and cargo volumes of vehicle sub-groups ~~sg~~ set out in point 2.5;

(g) the annual mileage values set out in points 2.6.1 to 2.6.3.

2. The Commission is empowered to adopt delegated acts in accordance with Article 17 with a view to amending the following elements in Annex IV:

(a) the data requirements specified in Parts A and ~~Part~~ B to take into account technical progress, necessary adjustments based on the application of this Regulation and amendments of the underlying type-approval legislation, in particular Regulations (EU) 2018/858 and ~~(EU)~~ (EC) No 595/2009;

(b) updating or adjusting the air drag value ranges set out in Part C to take into account changes in the design of heavy-duty vehicle ~~design~~ and to ensure that ~~the~~ those ranges remain relevant for information and comparability purposes;

3. The Commission is empowered to adopt delegated acts in accordance with Article 17 with a view to amending the following elements in Annex V:

(a) adjusting the ~~monitoring and~~ reporting procedure set out in Annex V in order to take into account the experience gained from the application of this Regulation and in order to adapt it to technical progress;

(b) amending point 3.2 by adding data entries which have been newly added to the central register.'

(18) Article 15 is replaced by the following:

'Article 15

Review

In ~~2028~~ 2027, ~~T~~the Commission shall~~, in 2028,~~ review the effectiveness and impact of this Regulation and submit a report to the European Parliament and to the Council with the results of ~~the~~ that review.

The Commission shall in particular report on the progress in the deployment of public and private alternative fuels recharging and refuelling infrastructure for vehicles covered by this Regulation.

In the report, the Commission shall also consider the following:

• Any potential changes to the scope of Commission Regulation (EU) 2017/2400 of 12 December 2017 implementing Regulation (EC) No 595/2009 of the European Parliament and of the Council as regards the determination of the CO_2 emissions and fuel consumption of heavy-duty vehicles and amending Directive 2007/46/EC of the European Parliament and of the Council and Commission Regulation (EU) No 582/2011.

• The inclusion of vocational vehicles in the CO_2 emission reduction targets.

• Any specific constraints to comply with Article 3b, paragraph 1, due to socio-economic cost benefits in view of specific territorial morphology or meteorological circumstances as well as recent investments in biomethane already made by public authorities.

• The existence of infrastructural constraints in third countries for newly EU registered heavy-duty vehicles operating outside the Union.

• An assessment of the role of a carbon correction factor in the transition towards zero-emission mobility in the heavy-duty vehicles sector.

~~The~~ That report shall, where appropriate, be accompanied by a legislative proposal for amending this Regulation.'

(19) Article 17 is amended as follows:

(a) in paragraph 2, the first sentence is replaced by the following:

'The power to adopt delegated acts referred to in ~~Article 3b,~~ ~~Article 11(2),~~ Article 13(4) second subparagraph, ~~Article 13c(3),~~ Article 13d(2), ~~Article 13e(4)~~, Article 13f(2) and Article 14(1) shall be conferred on the Commission for a period of five years from [*OP, please insert the date of entry into force of this Regulation*].';

(b) in paragraph 3, the first sentence is replaced by the following:

'The delegation of power referred to in ~~Article 11(2),~~ Article 13(4) second subparagraph, ~~Article 13c(3),~~ Article 13d(2), ~~Article 13e(4)~~, Article 13f(2) and Article 14(1) may be revoked at any time by the European Parliament or by the Council.';

(c) in paragraph (6), "Article 11(2), the second subparagraph of Article 13(4) and Article 14(1)" is replaced by the following: "Article 13(4) second subparagraph, , Article 13d(2), Article 13f(2) and Article 14(1)";

(20) Annexes I and II ~~and III~~ to Regulation (EU) 2019/1242 are replaced by the text in Annex I to this Regulation;

(21) the text in Annex II to this Regulation is added as Annexes III, IV, V and VI to Regulation (EU) 2019/1242;

Article 2

Repeal of Regulation (EU) 2018/956

Regulation (EU) 2018/956 is repealed with effect from [*O~~P~~J, please insert the date of application of this amending Regulation*].

References to Regulation (EU) 2018/956 shall be construed as references to this Regulation and be read in accordance with the correlation table set out in Annex VI included in Annex II to this Regulation.

Article 2a

Amendments to Regulation (EU) 2018/858

Regulation (EU) 2018/858 is amended as follows:

(1) Article 3 is amended as follows:

(a) In point (33) the term ‘towed vehicle’ is replaced by ‘trailer’;

(b) The following point (59) is added:

‘(59) ’e-trailer’ means any kind of trailer that is able to contribute to the propulsion of the vehicle combination by using its own electric powertrain and which is not able to be used on public roads without being actively towed by a motor vehicle;’

(2) In Annex I, part B, point 6.1.1(d) the following sub-point (iii) is added:

‘(iii) the design and construction of the essential constituent elements forming the propulsion and energy storage system in the case of e-trailers;’

Article 3

Transitional provisions

~~However,~~ Notwithstanding Article 2, in respect of reporting periods prior to… [*OPJ: please insert the ~~date~~ = date of application of this amending Regulation*], Regulation (EU) 2019/1242 as applicable on 30 June… [*OPJ: please insert the ~~calendar year~~ = year of ~~the 1st of~~ July ~~following~~ after the date of entry into force of this amending Regulation ~~Act~~*] and Regulation (EU) 2018/956 as applicable on 30 June… [*OPJ: please insert the ~~calendar year~~ = year of ~~the 1st of~~ July ~~following~~ after the date of entry into force of this amending Regulation ~~Act~~*] shall continue to apply.

Article 4

Entry into force

This Regulation shall enter into force on the twentieth day following that of its publication in the *Official Journal of the European Union*.

It shall apply from 1 July… [*OPJ: please insert the ~~calendar year =~~ year of ~~the 1st of~~ July ~~following~~ after the date of entry into force of this amending Regulation ~~Act~~*].

~~However, in respect of reporting periods prior to [*OP please insert the date = date of application*], Regulation (EU) 2019/1242 as applicable on 30 June [*OP please insert the calendar year = year of the 1st of July following the entry into force of this Act*] and Regulation (EU) 2018/956 as applicable on 30 June [*OP please insert the calendar year = year of the 1st of July following the entry into force of this Act*] shall continue to apply.~~

This Regulation shall be binding in its entirety and directly applicable in all Member States.

Done at Strasbourg,

For the European Parliament	*For the Council*
The President	*The President*

ANNEX I[20]

'ANNEX I

Average specific emissions, average specific emission targets and excess emissions

1. **VEHICLE SUB-GROUPS,** MISSION PROFILES AND RELATED PARAMETERS

1.1. For the purposes of this Regulation a sub-group *sg* is defined for each new heavy-duty vehicle.

1.1.1. For vehicles of category N the sub-group sg is defined as follows:

Vehicle group according to Annex I to Regulation (EU) 2017/2400	**Vocational vehicle according to Article 3(9) of this Regulation**	**Cab type**	**Engine power**	**Operational range (OR)**	**Vehicle sub-group (sg) attributed for the purposes of this Regulation**
53 and zero-emission vehicles in 51	**No**	**All**			**53**
54 and zero-emission vehicles in 52	**No**	**All**			**54**
1s	**No**	**All**			**1s**
1	**No**	**All**			**1**
2	**No**	**All**			**2**
3	**No**	**All**			**3**

[20] Existing annexes are replaced in Annex I, new annexes are added in Annex II.

4	**No**	**All**	**<170 kW**	**All**	**4-UD**
	No	**Day cab**	**≥170 kW**	**All**	**4-RD**
	No	**Sleeper cab**	**≥170 kW and <265 kW**		
	No	**Sleeper cab**	**≥265 kW**	**< 350 km**	
	No	**Sleeper cab**	**≥265 kW**	**≥ 350 km**	**4-LH**
9	**No**	**Day cab**	**All**	**All**	**9-RD**
	No	**Sleeper cab**	**All**	**< 350 km**	
	No	**Sleeper cab**	**All**	**≥ 350 km**	**9-LH**
5	**No**	**Day cab**	**All**	**All**	**5-RD**
	No	**Sleeper cab**	**< 265 kW**		
	No	**Sleeper cab**	**≥ 265 kW**	**< 350 km**	
	No	**Sleeper cab**	**≥ 265 kW**	**≥ 350 km**	**5-LH**
10	**No**	**Day cab**	**All**	**All**	**10-RD**
	No	**Sleeper cab**	**All**	**< 350 km**	
	No	**Sleeper cab**	**All**	**≥ 350 km**	**10-LH**

11	**No**	**All**	**11**
12	**No**	**All**	**12**
16	**No**	**All**	**16**

‘Sleeper cab’ means a type of cab that has a compartment behind the driver's seat intended to be used for sleeping as reported in accordance with Articles 13a and 13b.

’Day cab’ means a type of cab that is not a sleeper cab.

Where a new heavy-duty vehicle is attributed to sub-group 4-UD, but data on the CO_2 emissions in g/km are not available for the UDL or UDR mission profiles as defined in point ~~2.1. Table 2~~ 1.4. the new heavy-duty vehicle shall be attributed to the sub-group 4-RD

’Operational range’ means the distance a vehicle can travel under long haul transport conditions without being re-charged or re-filled, as provided for in point 1.3.

1.1.2. For vehicles of category M the sub-group *sg* is defined as follows:

Vehicle group pursuant to Annex I to Regulation (EU) 2017/2400	**Vehicle sub-group (sg) attributed for the purposes of this Regulation**
31a, 31d	**31-LF**
31b1	**31-L1**
31b2	**31-L2**
31c, 31e	**31-DD**
32a, 32b	**32-C2**
32c, 32d	**32-C3**

32e, 32f	**32-DD**
33a, 33d, 37a, 37d	**33-LF**
33b1, 37b1	**33-L1**
33b2, 37b2	**33-L2**
33c, 33e, 37c, 37e	**33-DD**
34a, 34b, 36a, 36b, 38a, 38b, 40a, 40b	**34-C2**
34c, 34d, 36c, 36d, 38c, 38d, 40c, 40d	**34-C3**
34e, 34f, 36e, 36f, 38e, 38f, 40e, 40f	**34-DD**
35a, 35b1, 35b2, 35c	**35-FE**
39a, 39b1, 39b2, ~~35c,~~ 39c	**39-FE**

1.1.3. For vehicles of category O the sub-group *sg* is defined as follows:

Vehicle groups defined in Annex I of Regulation (EU) 2022/1362	**Vehicle sub-group (sg) attributed for the purposes of this Regulation**
All groups provided in Table 1 with 1, 2, 3 axles	**Same as provided in column "vehicle group" of the tables in Annex I to Regulation (EU) 2022/1362.**
All groups provided in Table 4 with ~~1,~~ 2 or **3 axles**	
All groups provided in Table 6	

1.2. Vocational vehicles are defined by the following criteria:

Vehicle category	**Chassis configuration**	**Criteria for vocational vehicles**
N	**Rigid**	**One of the following digits, as listed in Appendix 2 of Annex I to Regulation (EU) 2018/858, is used to supplement the code for bodywork indicated in entry 38 of the certificate of conformity:** **09, 10, 15, 16, 18, 19, 20, 23, 24, 25, 26, 27, 28, 31;**
	Tractor	**Maximum speed not exceeding 79 km/h**

1.3. Operational ranges for the purposes of this Regulation are set as follows:

Powertrain technology	**Operational range (OR)**
Vehicles drawing energy for the purpose of mechanical propulsion only from an electrical energy or power storage device	**OR = actual charge depleting range as provided for by point 2.4.1 of part I of Annex IV to Regulation (EU) 2017/2400 for the LHR mission profile**
Other technologies	**OR > 350 km**

1.4. Definitions of mission profiles

RDL	**Regional delivery payload low**
RDR	**Regional delivery payload representative**
LHL	**Long haul payload low**
LHR	**Long haul payload representative**
UDL	**Urban delivery payload low**
UDR	**Urban delivery payload representative**

REL	**Regional delivery (EMS) payload low**
RER	**Regional delivery (EMS) payload representative**
LEL	**Long haul (EMS) payload low**
LER	**Long haul (EMS) payload representative**
MUL	**Municipal utility payload low**
MUR	**Municipal utility payload representative**
COL	**Construction payload low**
COR	**Construction payload representative**
HPL	**Heavy urban, ~~person~~** passenger **transport, low load**
HPR	**Heavy urban, ~~person~~** passenger **transport, representative load**
UPL	**Urban, ~~person~~** passenger **transport, low load**
UPR	**Urban, ~~person~~** passenger **transport, representative load**
SPL	**Sub-urban, ~~person~~** passenger **transport, low load**
SPR	**Sub-urban, ~~person~~** passenger **transport, representative load**
IPL	**Inter-urban, ~~person~~** passenger **transport, low load**
IPR	**Inter-uban, ~~person~~** passenger **transport, representative load**
CPL	**Coach, ~~person~~** passenger **transport, low load**
CPR	**Coach, ~~person~~** passenger **transport, representative load**

2. CALCULATION OF THE AVERAGE SPECIFIC EMISSIONS OF A MANUFACTURER

2.1. Calculation of the specific CO_2 emissions of a new heavy-duty vehicle

The specific emissions in g/km of a new heavy-duty vehicle *v* attributed to a sub-group *sg* or of its primary vehicle shall be calculated in accordance with the following formula:

$$CO2_v = \sum_{mp} W_{sg,mp} \times CO2_{v,mp}$$

$$CO2\mathrm{p}_v = \sum_{mp} W_{sg,mp} \times CO2\mathrm{p}_{v,mp}$$

Where,

$\sum_{mp}$ is the sum over all mission profiles *mp* listed in ~~Table 2~~ point 1.4.;

sg is the sub-group to which the new heavy-duty vehicle *v* has been attributed according to Section 1 of this Annex;

$W_{sg,mp,}$ is the mission profile weight specified in points 2.1.1 to 2.1.3;

$CO2_{v,mp}$ is the CO_2 emissions in g/km of the new heavy-duty vehicle *v* determined for a mission profile *mp*, reported in accordance with Articles 13a and 13b and normalised pursuant to Annex III;

$CO2p_{v,mp}$ is the CO_2 emissions in g/km of the primary vehicle of the new heavy-duty vehicle *v*, determined for a mission profile *mp*, and for the chassis configuration (low/high floor, number of decks) applicable to its sub-group sg, reported in accordance with Articles 13a and 13b and normalised pursuant to Annex III;

For zero-emissions motor vehicles the values of $CO2_{v,mp}$ and $CO2p_{v,mp}$ shall be set to 0.

2.1.1. Mission profile weights ($W_{sg,mp}$) for vehicles of category N

Vehicle sub-group (sg)*	**Mission profile (*mp*)****										
	RDL	**RDR**	**LHL**	**LHR**	**UDL**	**UDR**	**REL, RER, LEL, LER**	**MUL**	**MUR**	**COL**	**COR**
53	**0,25**	**0,25**	**0**	**0**	**0,25**	**0,25**	**0**	**0**	**0**	**0**	**0**
54	**0,25**	**0,25**	**0**	**0**	**0,25**	**0,25**	**0**	**0**	**0**	**0**	**0**
1s	**0,1**	**0,3**	**0**	**0**	**0,18**	**0,42**	**0**	**0**	**0**	**0**	**0**
1	**0,1**	**0,3**	**0**	**0**	**0,18**	**0,42**	**0**	**0**	**0**	**0**	**0**
2	**0,125**	**0,375**	**0**	**0**	**0,15**	**0,35**	**0**	**0**	**0**	**0**	**0**
3	**0,125**	**0,375**	**0**	**0**	**0,15**	**0,35**	**0**	**0**	**0**	**0**	**0**
4-UD	**0**	**0**	**0**	**0**	**0,5**	**0,5**	**0**	**0**	**0**	**0**	**0**
4-RD	**0,45**	**0,45**	**0,05**	**0,05**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
4-LH	**0,05**	**0,05**	**0,45**	**0,45**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
4v	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0,25**	**0,25**	**0,25**	**0,25**

5-RD	**0,27**	**0,63**	**0,03**	**0,07**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
5-LH	**0,03**	**0,07**	**0,27**	**0,63**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
5v	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0,5**	**0,5**
9-RD	**0,27**	**0,63**	**0,03**	**0,07**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
9-LH	**0,03**	**0,07**	**0,27**	**0,63**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
9v	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0,25**	**0,25**	**0,25**	**0,25**
10-RD	**0,27**	**0,63**	**0,03**	**0,07**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
10-LH	**0,03**	**0,07**	**0,27**	**0,63**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
10v	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0,5**	**0,5**
11	**0,15**	**0,35**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0,15**	**0,35**
12	**0,21**	**0,49**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0,09**	**0,21**
16	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0,3**	**0,7**

* See definitions in point 1.1

** See definitions in point 1.4

2.1.2. Mission profile weights (Wsg,mp) for vehicles of category M

Vehicle sub-group	**Mission profile (*mp*)****									
(sg)*	**HPL**	**HPR**	**UPL**	**UPR**	**SPL**	**SPR**	**IPL**	**IPR**	**CPL**	**CPR**
31-LF	**0,27**	**0,23**	**0,15**	**0,13**	**0,11**	**0,11**	**0**	**0**	**0**	**0**
31-L1	**0,05**	**0,05**	**0,16**	**0,14**	**0,32**	**0,28**	**0**	**0**	**0**	**0**
31-L2	**0,05**	**0,05**	**0,09**	**0,08**	**0,15**	**0,13**	**0,24**	**0,21**	**0**	**0**
31-DD	**0,20**	**0,31**	**0,12**	**0,18**	**0,07**	**0,12**	**0**	**0**	**0**	**0**
32-C2	**0**	**0**	**0**	**0**	**0**	**0**	**0,47**	**0,43**	**0,04**	**0,06**

32-C3	**0**	**0**	**0**	**0**	**0**	**0**	**0,05**	**0,05**	**0,30**	**0,60**
32-DD	**0**	**0**	**0**	**0**	**0**	**0**	**0,05**	**0,05**	**0,35**	**0,55**
33-LF	**0,27**	**0,23**	**0,15**	**0,13**	**0,11**	**0,11**	**0**	**0**	**0**	**0**
33-L1	**0,05**	**0,05**	**0,16**	**0,14**	**0,32**	**0,28**	**0**	**0**	**0**	**0**
33-L2	**0,05**	**0,05**	**0,09**	**0,08**	**0,15**	**0,13**	**0,24**	**0,21**	**0**	**0**
33-DD	**0,20**	**0,31**	**0,12**	**0,18**	**0,07**	**0,12**	**0**	**0**	**0**	**0**
34-C2	**0**	**0**	**0**	**0**	**0**	**0**	**0,47**	**0,43**	**0,04**	**0,06**
34-C3	**0**	**0**	**0**	**0**	**0**	**0**	**0,05**	**0,05**	**0,30**	**0,60**
34-DD	**0**	**0**	**0**	**0**	**0**	**0**	**0,05**	**0,05**	**0,35**	**0,55**
35-FE	**0,27**	**0,23**	**0,15**	**0,13**	**0,11**	**0,11**	**0**	**0**	**0**	**0**
39-FE	**0,27**	**0,23**	**0,15**	**0,13**	**0,11**	**0,11**	**0**	**0**	**0**	**0**

* See definitions in point 1.1

** See definitions in poit 1.4

2.1.3. Mission profile weights (Wsg,mp) for vehicles of category O

Vehicle sub-group *(sg)**	**Mission profile (*mp*)****						
	RDL	**RDR**	**LHL**	**LHR**	**UDL**	**UDR**	**REL, RER, LEL, LER**
111, 111V,112, 112V, 113	**0,27**	**0,63**	**0,03**	**0,07**	**0**	**0**	**0**
121, 121V, 122, 122V, 123, 123V, 124, 124V, 125, 126	**0,03**	**0,07**	**0,27**	**0,63**	**0**	**0**	**0**

131, 131v, 132, 132v, 133	**0,03**	**0,07**	**0,27**	**0,63**	**0**	**0**	**0**
421, 421v, 422, 422v, 423	**0,03**	**0,07**	**0,27**	**0,63**	**0**	**0**	**0**
431, 431v, 432, 432v, 433	**0,03**	**0,07**	**0,27**	**0,63**	**0**	**0**	**0**
611, 612	**0,27**	**0,63**	**0,03**	**0,07**	**0**	**0**	**0**
611v, 612v	**0,03**	**0,07**	**0,27**	**0,63**	**0**	**0**	**0**
621, 623	**0,27**	**0,63**	**0,03**	**0,07**	**0**	**0**	**0**
621V, 622, 622V, 623V, 624, 624V, 625	**0,03**	**0,07**	**0,27**	**0,63**	**0**	**0**	**0**
631, 631v, 632, 632v, 633	**0,03**	**0,07**	**0,27**	**0,63**	**0**	**0**	**0**

* See definitions in point 1.1

** See definitions in point 1.4

2.2. Average specific CO_2 emissions of all new heavy-duty vehicles in a sub-group for a manufacturer

For each manufacturer and each ***reporting period***, the average specific CO_2 emissions $avgCO2_{sg}$ of all new heavy-duty vehicles in a sub-group *sg* or their primary vehicles, if applicable, shall be calculated as follows:

2.2.1. For category N and O vehicles:

$$avgCO2_{sg} = \frac{\sum_v CO2_v}{V_{sg} \times PL_{sg}} \quad \text{(in g/tkm)}$$

2.2.2. For category M complete or completed vehicles:

$$avgCO2_{sg} = \frac{\sum_v CO2_v}{(V_{sg} - Vpv_{sg}) \times PN_{sg}} \quad \text{(in g/pkm)}$$

2.2.3. For category M primary vehicles of heavy-duty vehicles:

$$avgCO2p_{sg} = \frac{\sum_v CO2p_v}{Vpv_{sg} \times PN_{sg}} \quad \text{(in g/pkm)}$$

Where,

$\sum_v$ is the sum over all new heavy-duty vehicles of the manufacturer in the sub-group *sg,* subject to the provisions of Article 7b*;*

$CO2_v$ is the specific CO_2 emissions of the new heavy-duty vehicle *v* determined in accordance with point 2.1;

$CO2p_v$ is the specific CO_2 emissions of the primary vehicle of the new heavy-duty vehicle *v* determined in accordance with point 2.1;

V_{sg} is the number of new heavy-duty vehicles of the manufacturer in subgroup *sg*;

Vpv_{sg} the number of new heavy-duty vehicles within the sub-group *sg*, which pursuant to Article 7b shall be accounted for with the CO2 emissions of their primary vehicles in the calculation of the average specific CO2 emissions of point 2.2.3.;

PL_{sg} is the average payload of vehicles in the sub-group *sg* as determined in point 2.5.

PN_{sg} is the average passenger number of vehicles in the sub-group *sg* as determined in point 2.5.

2.3. Calculation of the zero- and low-emission factor as referred to in Article 5

2.3.1 Reporting periods 2019 to 2024

For each manufacturer and reporting period from 2019 to 2024, the zero- and low-emission factor (ZLEV) referred to in Article 5 shall be calculated as follows:

$$ZLEV = V_{all} / (V_{conv} + V_{zlev}) \quad \text{with a minimum of } 0{,}97$$

where:

V_{all} *is the number of new heavy-duty vehicles of the manufacturer in the sub-groups sg = 4-UD, 4-RD, 4-LH, 5-RD, 5-LH, 9-RD, 9-LH, 10-RD, 10-LH;*

V_{conv} *is the number of new heavy-duty vehicles of the manufacturer in the sub-groups sg = 4-UD, 4-RD, 4-LH, 5-RD, 5-LH, 9-RD, 9-LH, 10-RD, 10-LH excluding zero- and low-emission heavy-duty vehicles;*

V_{zlev} *is the sum of Vin and Vout,*

where,

V_{in} *is* $\sum_v (1 + (1 - CO2_v/LET_{sg}))$

with $\sum_v$ *being the sum over all new zero- and low-emission heavy-duty vehicles in the sub-groups sg = 4-UD, 4-RD, 4-LH, 5-RD, 5-LH, 9-RD, 9-LH, 10-RD, 10-LH;*

$CO2_v$ *is the specific* CO_2 *emissions in g/km of a zero- and low-emission heavy-duty vehicle v determined in accordance with point 2.1.;*

LET_{sg} *is the low-emission threshold of the sub-group sg to which the vehicle v belongs as defined in point 2.3.4;*

V_{out} *is the total number of zero-emission heavy-duty vehicles, which are not in the sub-groups referred to by the definition of V_{in}, and with a maximum of 1,5% of V_{conv}.*

2.3.2 Reporting periods from 2025 to 2029

For each manufacturer and ***reporting period***, the zero- and low-emission factor (ZLEV) referred to in Article 5 shall be calculated as follows:

ZLEV = 1 - (y - x) unless this sum is larger than 1 or lower than 0.97 in which case the ZLEV factor shall be set to 1 or 0.97 respectively

Where:

x is 0,02

y is the sum of V_{in} and V_{out}, divided by V_{total}, where:

V_{in} is the total number of newly registered low- and zero-emission heavy-duty vehicles in the sub-groups sg = 4-UD, 4-RD, 4-LH, 5-RD, 5-LH, 9-RD, 9-LH, 10-RD, 10-LH, where each of them is counted as $ZLEV_{specifi}$ in accordance with the formula below:

$$ZLEV_{specific} = 1 - (CO2_v / LET_{sg})$$

Where:

$CO2_v$ is the specific CO_2 emissions in g/km of a zero- and low-emission heavy-duty vehicle v determined in accordance with point 2.1,

LET_{sg} is the low-emission threshold of the sub-group sg to which the vehicle v belongs as defined in point 2.3.4;

V_{out} is the total number of newly registered zero-emission heavy-duty vehicles, which are not in the sub-groups referred to by the definition of V_{in}, and with a maximum of 0,035 of V_{total};

V_{total} is the total number of newly registered heavy-duty vehicles of the manufacturer in that reporting period.

Where V_{in}/V_{total} is lower than 0,0075, the ZLEV factor shall be set to 1.

2.3.3 Reporting periods as from 2030

ZLEV = 1

2.3.4 Calculation of the low-emission threshold

The low-emission threshold LET_{sg} of the sub-group sg is defined as follows:

$$LET_{sg} = (rCO2_{sg} \times PL_{sg}) / 2$$

Where:

$rCO2_{sg}$ is the reference CO_2 emissions of the sub-group sg, as determined in point 3;

PL_{sg} is the average payload of vehicles in the sub-group sg as determined in point 2.5.

2.4. Calculation of vehicle shares

For each manufacturer and each ***reporting period***, the share of new heavy-duty vehicles in a sub-group $share_{sg}$ shall be calculated as follows:

$$share_{sg} = \frac{V_{sg}}{V}$$

For each manufacturer and each ***reporting period***, the share of new zero-emissions heavy-duty vehicles in a sub-group zev_{sg} shall be calculated as follows:

$$zev_{sg} = \frac{Vzev_{sg}}{V_{sg}}$$

For each manufacturer and each ***reporting period***, the share of new heavy-duty vehicles within the sub-group sg, which pursuant to Article 7b shall be accounted for with the CO_2 emissions of their primary vehicles in the calculation of the average specific CO_2 emissions of point 2.2., shall be calculated as follows:

$$pv_{sg} = \frac{Vpv_{sg}}{V_{sg}}$$

Where,

$Vzev_{sg}$ is the number of new zero-emissions heavy-duty vehicles of the manufacturer in a subgroup *sg*;

Vpv_{sg} the number of new heavy-duty vehicles within the sub-group *sg*, which pursuant to Article 7b shall be accounted for with the CO_2 emissions of their primary vehicles in the calculation of the average specific CO_2 emissions of point 2.2.;

V_{sg} is the number of new heavy-duty vehicles of the manufacturer in a subgroup *sg*;

V is the number of new heavy-duty vehicles of the manufacturer.

2.5. **Payload values, passenger numbers and cargo volumes**

The average payload value PL_{sg} of a vehicle of category N or O in a sub-group sg shall be calculated as follows:

$$PL_{sg} = \sum_{mp} W_{sg,mp} \times PL_{sg,mp}$$

The average passenger number PN_{sg} of a vehicle of category M in a sub-group sg shall be calculated as follows:

$$PN_{sg} = \sum_{mp} W_{sg,mp} \times PN_{sg,mp}$$

Where,

$\sum_{mp}$ is the sum over all mission profiles *mp*

$W_{sg,mp,}$ is the mission profile weight specified in points 2.1.1 to 2.1.3

$PL_{sg,mp}$ is the payload value attributed to the vehicles of category N and O in the sub-group *sg* for the mission profile *mp*, as defined in points 2.5.1 and 2.5.3.

$PN_{sg,mp}$ is the passenger number attributed to the vehicles of category M in the sub-group *sg* for the mission profile *mp*, as defined in point 2.5.2.

2.5.1. Vehicles of category N.

Payload values $PL_{sg, mp}$ (in tons) are determined as follows:

<table>
<tr><th rowspan="2">Vehicle sub-group sg*</th><th colspan="14">Mission profile mp**</th></tr>
<tr><th>RDL</th><th>RDR</th><th>LHL</th><th>LHR</th><th>UDL</th><th>UDR</th><th>REL</th><th>RER</th><th>LEL</th><th>LER</th><th>MUL</th><th>MUR</th><th>COL</th><th>COR</th></tr>
<tr><td>53</td><td colspan="2" rowspan="5">As determined in point 3.1.1</td><td colspan="2" rowspan="2">Not applicable</td><td colspan="2" rowspan="5">As determined in point 3.1.1</td><td colspan="12" rowspan="5">Not applicable</td></tr>
<tr><td>54</td></tr>
<tr><td>1s</td></tr>
<tr><td>1</td></tr>
<tr><td>2</td><td colspan="2">As determined in point 3.1.1</td></tr>
<tr><td>3</td><td colspan="2">Not applicable</td></tr>
<tr><td>4-UD</td><td rowspan="4">0,9</td><td rowspan="4">4,4</td><td rowspan="4">1,9</td><td rowspan="4">14</td><td rowspan="4">0,9</td><td rowspan="4">4,4</td><td rowspan="4">3,5</td><td rowspan="4">17,5</td><td rowspan="4">3,5</td><td rowspan="4">26,5</td><td rowspan="4">0,6</td><td rowspan="4">3,0</td><td rowspan="4">0,9</td><td rowspan="4">4,4</td></tr>
<tr><td>4-RD</td></tr>
<tr><td>4-LH</td></tr>
<tr><td>4v</td></tr>
<tr><td>5-RD</td><td rowspan="3">2,6</td><td rowspan="3">12,9</td><td rowspan="3">2,6</td><td rowspan="3">19,3</td><td rowspan="3">2,6</td><td rowspan="3">12,9</td><td rowspan="3">3,5</td><td rowspan="3">17,5</td><td rowspan="3">3,5</td><td rowspan="3">26,5</td><td rowspan="3">n.a.</td><td rowspan="3">n.a.</td><td rowspan="3">2,6</td><td rowspan="3">12,9</td></tr>
<tr><td>5-LH</td></tr>
<tr><td>5v</td></tr>
<tr><td>9-RD</td><td rowspan="3">1,4</td><td rowspan="3">7,1</td><td rowspan="3">2,6</td><td rowspan="3">19,3</td><td rowspan="3">1,4</td><td rowspan="3">7,1</td><td rowspan="3">3,5</td><td rowspan="3">17,5</td><td rowspan="3">3,5</td><td rowspan="3">26,5</td><td rowspan="3">1,2</td><td rowspan="3">6,0</td><td rowspan="3">1,4</td><td rowspan="3">7,1</td></tr>
<tr><td>9-LH</td></tr>
<tr><td>9v</td></tr>
<tr><td>10-RD</td><td rowspan="3">2,6</td><td rowspan="3">12,9</td><td rowspan="3">2,6</td><td rowspan="3">19,3</td><td rowspan="3">2,6</td><td rowspan="3">12,9</td><td rowspan="3">3,5</td><td rowspan="3">17,5</td><td rowspan="3">3,5</td><td rowspan="3">26,5</td><td rowspan="3">n.a.</td><td rowspan="3">n.a.</td><td rowspan="3">2,6</td><td rowspan="3">12,9</td></tr>
<tr><td>10-LH</td></tr>
<tr><td>10v</td></tr>
<tr><td>11</td><td>1,4</td><td>7,1</td><td>2,6</td><td>19,3</td><td>1,4</td><td>7,1</td><td>3,5</td><td>17,5</td><td>3,5</td><td>26,5</td><td>1,2</td><td>6,0</td><td>1,4</td><td>7,1</td></tr>
<tr><td>12</td><td>2,6</td><td>12,9</td><td>2,6</td><td>19,3</td><td>2,6</td><td>12,9</td><td>3,5</td><td>17,5</td><td>3,5</td><td>26,5</td><td>n.a.</td><td>n.a.</td><td>2,6</td><td>12,9</td></tr>
<tr><td>16</td><td colspan="12">Not applicable</td><td>2,6</td><td>12,9</td></tr>
</table>

* See definitions in point 1.1

** See definitions in point 1.4

Technically permissible maximum payload values $maxPL_{sg}$ and cargo volumes CV_{sg} are determined according to point 3.1.1.

2.5.2. Vehicles of category M.

Passenger numbers $PN_{sg,mp}$, passenger masses $PM_{sg,mp}$ and technically permissible maximum passenger numbers $maxPN_{sg}$ for sub-group sg and mission profile mp are determined according to point 3.1.1.

2.5.3. Vehicles of category O.

Payload values $PL_{sg,\,mp}$ (in tons) are determined as follows:

Vehicle sub-group ***(sg)****	**Mission profile (*mp*)****						
	RDL	**RDR**	**LHL**	**LHR**	**UDL**	**UDR**	**REL, RER, LEL, LER**
111, 111V,112, 112V, 113	**1,5**	**7,5**	**1,5**	**11,2**	**n.a.**	**n.a.**	**n.a.**
121, 121V, 123, 123V, , 125	**2,2**	**11,2**	**2,2**	**16,8**	**n.a.**	**n.a.**	**n.a.**
122, 122V, 124, 124V, 126	**2,4**	**12,2**	**2,4**	**18,3**	**n.a.**	**n.a.**	**n.a.**
131, 131v, 132, 132v, 133	**2,6**	**12,9**	**2,6**	**19,3**	**n.a.**	**n.a.**	**n.a.**
421, 421v, 422, 422v, 423	**2,6**	**12,9**	**2,6**	**19,3**	**n.a.**	**n.a.**	**n.a.**
431, 431v, 432, 432v, 433	**2,6**	**12,9**	**2,6**	**19,3**	**n.a.**	**n.a.**	**n.a.**

611, 612	**1,2**	**6,1**	**1,2**	**9,2**	**n.a.**	**n.a.**	**n.a.**
611v, 612v	**1,2**	**6,1**	**1,2**	**9,2**	**n.a.**	**n.a.**	**n.a.**
621, 621v, 623, 623v	**1,3**	**6,3**	**1,3**	**9,5**	**n.a.**	**n.a.**	**n.a.**
622, 622V, 624, 624V, 625	**2,6**	**12,9**	**2,6**	**19,3**	**n.a.**	**n.a.**	**n.a.**
631, 631v, 632, 632v, 633	**2,6**	**12,9**	**2,6**	**19,3**	**n.a.**	**n.a.**	**n.a.**

* See definitions in point 1.1

** See definitions in point 1.4

Technically permissible maximum payload values $maxPL_{sg}$ and cargo volumes CV_{sg} are determined according to point 3.1.1.

2.6. Calculation of the mileage and payload or passenger-number weighting factor

The mileage and payload (passenger) weighting factor (MPW_{sg}) of a sub-group *sg* is defined as the product of the annual mileage specified in point 2.6.1 and the payload and passenger-number values for the sub-group specified in points 2.5.1, 2.5.2 and 2.5.3 for vehicle categories N, M and O, respectively, normalised to the respective value for sub-group 5-LH, and shall be calculated as follows:

$$MPW_{sg} = \frac{(AM_{sg} \times PL_{sg})}{(AM_{5-LH} \times PL_{5-LH})} \qquad \text{(for category N and O vehicles)}$$

$$MPW_{sg} = \frac{(AM_{sg} \times PN_{sg})}{(AM_{5-LH} \times PL_{5-LH})} \qquad \text{(for category M vehicles)}$$

Where,

AM_{sg} is the annual mileage specified in point 2.6.1, 2.6.2 and 2.6.3 for the vehicles in the respective sub-group;

$AM_{5\text{-}LH}$ is the annual mileage specified for the sub-group 5-LH in 2.6.1;

PL_{sg} is as determined in points 2.5.1 and 2.5.3;

PN_{sg} is as determined in point 2.5.2;

$PL_{5\text{-}LH}$ is the average payload value for the sub-group 5-LH as determined in point 2.5.1.

2.6.1. Annual mileages for vehicles of category N

Vehicle sub-group *(sg)**	Annual mileage AM_{sg} (in km)
53	58 000
54	58 000
1s	58 000
1	58 000
2	60 000
3	60 000
4-UD	60 000
4-RD	78 000
4-LH	98 000
4v	60 000
5-RD	78 000
5-LH	116 000
5v	60 000
9-RD	73 000
9-LH	108 000
9v	60 000
10-RD	68 000
10-LH	107 000
10v	60 000
11	65 000
12	67 000
16	60 000

* See definitions in point 1.1

2.6.2. Annual mileages for vehicles of category M

Vehicle sub-group *(sg)**	Annual mileage AM_{sg} (in km)
31-LF	60 000
31-L1	60 000
31-L2	60 000
31-DD	60 000
32-C2	96 000
32-C3	96 000
32-DD	96 000
33-LF	60 000
33-L1	60 000
33-L2	60 000
33-DD	60 000
34-C2	96 000
34-C3	96 000
34-DD	96 000
35-FE	60 000
39-FE	60 000

* See definitions in point 1.1

2.6.3. Annual mileages for vehicles of category O

Vehicle sub-group *(sg)**	Annual mileage AM_{sg} (in km)
111, 111V,112, 112V, 113	52 000
121, 121V, 122, 122V, 123, 123V, 124, 124V, 125, 126, 131, 131v, 132, 132v, 133	77 000
421, 421v, 422, 422v, 423, 431, 431v, 432, 432v, 433	68 000
611, 612, 611v, 612v, 621, 623, 621v, 623v	40 000
622, 622V, 624, 624V, 625, 631, 631v, 632, 632v, 633	68 000

* See definitions in point 1.1

2.7. Average specific CO_2 emissions of manufacturers, as referred to in Article 4

For each manufacturer the following average specific CO_2 emissions shall be calculated:

2.7.1. For the reporting peridods 2019 to 2029:

$$CO2(2025) = ZLEV \times \sum_{sg} share_{sg} \times MPW_{sg} \times avgCO2_{sg}$$

2.7.2. For the reporting periods as from 2025:

$$CO2(NO) = \sum_{sg} share_{sg} \times MPW_{sg} \times avgCO2_{sg}$$

$$CO2(MCO2) = \sum_{sg} share_{sg} \times MPW_{sg} \times [avgCO2_{sg} \times (1 - pv_{sg}) + avgCO2p_{sg} \times pv_{sg}]$$

$$CO2(MZE) = \sum_{sg} share_{sg} \times MPW_{sg} \times (1 - zev_{sg}) \times rCO2_{sg}$$

$$CO2(M) = CO2(MCO2) + CO2(MZE)$$

Where,

$\sum_{sg}$	is the sum is over those sub-groups that are included in the calculation of the particular average specific CO_2 emissions according to point 4.2;
$ZLEV$	is as determined in point 2.3;
$share_{sg}$	is as determined in point 2.4;
zev_{sg}	is as determined in point 2.4;
pv_{sg}	is as determined in point 2.4;
MPW_{sg}	is as determined in point 2.6;
$avgCO2_{sg}$	is as determined in point 2.2;
$avgCO2p_{sg}$	is as determined in point 2.2;
$rCO2_{sg}$	is as determined in point 3.1.2.

3. CALCULATION OF THE REFERENCE VALUES

3.1. Reference values

The following reference values shall be calculated on the basis of all new heavy-duty vehicles of all manufacturers for the reference period applicable to the sub-group *sg* according to point 3.2.

3.1.1. For each vehicle sub-group *sg,* payload $PL_{sg,mp}$, passenger number $PN_{sg,mp}$, passenger mass $PM_{sg,mp}$, technically permissible maximum payload $maxPL_{sg}$, technically permissible maximum passenger number $maxPN_{sg}$ and cargo volume CV_{sg} values shall be cacluclated as follows:

$$PL_{sg,mp} = \frac{\sum_v PL_{v,mp}}{rV_{sg}} \quad \text{(for vehicles of category N)*}$$

$$PN_{sg,mp} = \frac{\sum_v PN_{v,mp}}{rV_{sg}} \quad \text{(for vehicles of category M)*}$$

$$PM_{sg,mp} = \frac{\sum_v PM_{v,mp}}{rV_{sg}} \quad \text{(for vehicles of category M)*}$$

$$maxPL_{sg} = \frac{\sum_v maxPL_v}{rV_{sg}} \quad \text{(for vehicles of category N)}$$

$$maxPN_{sg} = \frac{\sum_v maxPN_v}{rV_{sg}} \quad \text{(for vehicles of category M)}$$

$$CV_{sg} = \frac{\sum_v CV_v}{rV_{sg}} \quad \text{(for vehicles of category O)}$$

(*only for vehicle sub-groups, for which no explicit values for $PL_{sg,mp}$ or $PN_{sg,mp}$ are provided in point 2.5**)**

3.1.2. Reference CO_2 emissions $rCO2_{sg}$ referred to in Article 3 shall be caclulated as follows:

$$rCO2_{sg} = \frac{\sum_v (CO2_v / PL_{sg})}{rV_{sg}} \quad \text{(for vehicles of category N and O)}$$

$$rCO2_{sg} = \frac{\sum_v (CO2_v / PN_{sg})}{rV_{sg}} \quad \text{(for vehicles of category M)}$$

$$rCO2p_{sg} = \frac{\sum_v (CO2p_v / PN_{sg})}{rV_{sg}} \quad \text{(for vehicles of category M)}$$

Where,

Σ_v	is the sum over all new heavy-duty vehicles in the sub-group *sg* registered in the reference period applicable to *sg* acording to point 3.2;
$CO2_v$	are the specific CO_2 emissions of the new heavy-duty vehicle *v* as determined in accordance with point 2.1, if applicable adjusted pursuant to Annex II;
$CO2p_v$	are the specific CO_2 emissions of the primary vehicle of the new-heavy duty vehicle *v* as determined in accordance with point 2.1, if applicable adjusted pursuant to Annex II;;
rV_{sg}	is the number of all new heavy-duty vehicles in the sub-group *sg* registered in the reference period applicable to *sg* acording to point 3.2;
PL_{sg}	is the average payload of vehicles in the sub-group *sg* as determined in point 2.5;
PN_{sg}	is the average passenger number of vehicles in the sub-group *sg* as determined in point 2.5;
$PL_{v,mp}$	is the payload of vehicle *v* in the mission profile *mp*, as determined from the data reported according to Articles 13a and 13b ;
$PN_{v,mp}$	is the passenger number of vehicle *v* in the mission profile *mp* as determined from the data reported according to Articles 13a and 13b;
$PM_{v,mp}$	is the passenger mass of vehicle *v* in the mission profile *mp* as determined from the data reported according to Articles 13a and 13b;
$maxPL_v$	is the technically permissible maximum payload of vehicle *v* as determined from the data reported according to Articles 13a and 13b;

$maxPN_v$ is the technically permissible maximum passenger number of vehicle *v* as determined from the data reported according to Articles 13a and 13b;

CV_v is the cargo volume of vehicle *v* as determined from the data reported according to Articles 13a and 13b.

3.2. Reference periods applicable to sub-groups

The following reporting periods shall be applied as reference periods to vehicle sub-groups:

Vehicle sub-group *sg*	**Reporting period of the year applicable as reference period**
4-UD, 4-RD, 4-LH, 5-RD, 5-LH, 9-RD, 9-LH, 10-RD, 10-LH	2019
1, 2, 3, 11, 12, 16	2021
All others	2025

3.2.1. If in the reference period as specified in point 3.2 in a sub-group *sg* the number of new heavy-duty vehicles of all manufacturers is less than 50 the following rules shall apply:

The average specific CO_2 emissions $avgCO2_{sg}$ and $avgCO2p_{sg}$ as provided for in point 2.2 and the reference CO_2 emissions $rCO2_{sg}$ and $rCO2p_{sg}$ as provided for in point 3.1.2 shall be set to "0" for all manufacturers in the sub-group *sg* for the purpose of calculating the average specific CO_2 emissions according to point 2.7 and the specific CO_2 emissions targets according to point 4.1 for the reporting periods of the years < Y + 5. Here Y is the year of the first reporting period in which the number of new heavy-duty vehicles of all manufacturers in the sub-group *sg* is at least 50.

To obtain the reference CO_2 emissions $rCO2_{sg}$ and $rCO2p_{sg}$ for the purpose of calculating the specific emissions target according to point 4, first the corresponding ~~entities~~ values provided for in point 3.1.2 shall be calculated for the reporting period of the year *Y* instead of for the reference period applicable to the sub-group *sg* according to point 3.2.

The resulting values shall then be divided by

- the target factor $RET_{sg,Y}$, as defined in point 5.1.1, for obtaining reference CO_2 emissions $rCO2_{sg}$,
- the target factor $RETp_{sg,Y}$, as defined in point 5.1.1, for obtaining reference CO_2 emissions $rCO2p_{sg}$.

4. CALCULATION OF THE SPECIFIC EMISSION TARGET OF A MANUFACTURER REFERRED TO IN ARTICLE 6

4.1. Specific emission targets

For each manufacturer the following specific emission targets *T* shall be calculated as follows:

4.1.1. For the reporting periods of the years from 2025 to 2029:

$$T(2025) = \sum_{sg} share_{sg} \times MPW_{sg} \times (1 - rf_{sg}) \times rCO2_{sg}$$

4.1.2. For the reporting periods of the years as from 2030:

$$T(NO) = \sum_{sg} share_{sg} \times MPW_{sg} \times (1 - rf_{sg}) \times rCO2_{sg}$$

$$T(MCO2) = \sum_{sg} share_{sg} \times MPW_{sg} \times [(1 - pv_{sg}) \times (1 - rf_{sg}) \times rCO2_{sg} + pv_{sg} \times (1 - rfp_{sg}) \times rCO2p_{sg}]$$

$$T(MZE) = \sum_{sg} share_{sg} \times MPW_{sg} \times (1 - zevM_{sg}) \times rCO2_{sg}$$

$$T(M) = T(MCO2) + T(MZE)$$

Where,

$\sum_{sg}$ is the sum over those sub-groups that are inclued in the calculation of the particular specific emissions target according to point 4.2;

$share_{sg}$ is as determined in point 2.4;

MPW_{sg} is as determined point 2.6;

rf_{sg} is the CO_2 reduction target ***applicable in*** the specific ***reporting period*** to new heavy dutyvehicles in sub-group *sg* as provided for in point 4.3;

rfp_{sg} is the CO_2 reduction target ***applicable in*** the specific ***reporting period*** to primary vehicles of new heavy-duty vehicles in sub-group *sg* as provided for in point 4.3;

$zevM_{sg}$ is the zero-emission vehicles mandate ***applicable in*** the specific ***reporting period*** to vehicles in sub-group *sg* as provided for in point 4.3;

$rCO2_{sg}$ is as determined in point 3.1.2;

$rCO2p_{sg}$ is as determined in point 3.1.2;

pv_{sg} is as determined in point 2.4.

4.2. Vehicle sub-groups included in the calculation of average specific CO_2 emissions and specific emissions targets of manufacturers

The following sub-groups *sg* shall be included in the calculation of the specific CO_2 emissions *CO2(X),'* specific emissions targets *T(X)* and CO2 emissions trajectory *ET(X)Y*:

X = 2025	**X= NO**	**X = MCO2**	**X= MZE**
vehicle sub-groups, subject to CO_2 emissions targets according to Article 3a paragraph 1 (a)	**sub-groups of transport of goods vehicles, subject to CO_2 emissions targets according to Article 3a paragraphs 1(b), 1(c) and 1(d) and paragraph 3**	**sub-groups of transport of ~~persons~~** passengers **vehicles, subject to CO_2 emissions targets according to Article 3a paragraphs 1(b), 1(c) and 1(d)** (Coaches and Class II Low Entry Buses)	**sub-groups of transport of ~~persons~~** passengers **vehicles, subject to zero-emissions vehicle targets according to Article 3b** (Urban buses)
4-UD, 4-RD, 4-LH, 5-RD, 5-LH, 9-RD, 9-LH, 10-RD, 10-LH	All vehicle sub-groups referred to in points 1.1.1 and 1.1.3.	32-C2, 32-C3, 32-DD, 34-C2, 34-C3, 34-DD, 31-L2, 33-L2	31-LF, 31-L1, ~~31-L2~~, 31-DD, 33-LF, 33-L1, ~~33-L2~~, 33-DD, 35-FE, 39-FE

4.3. CO_2 reduction targets and zero-emissions vehicle mandates

4.3.1. The following CO_2 emissions reduction targets rf_{sg} and rfp_{sg} pursuant to Article 3a shall apply to vehicles in the sub-group *sg* for different reporting periods:

CO_2 reduction targets rf_{sg} and rfp_{sg}					
Sub-groups *sg*		Reporting period of the years			
		2025 – 2029	2030 – 2034	2035 – 2039	As from 2040
Medium lorries	**53, 54**	**0**	**43%**	**64%**	**90%**
Heavy lorries > 7,4t	**1s, 1, 2, 3**	**0**	**43%**	**64%**	**90%**
Heavy lorries > 16 t with 4x2 and ~~6x4~~ 6x2 **axle configurations**	**4-UD, 4-RD, 4-LH, 5-RD, 5-LH, 9-RD, 9-LH, 10-RD, 10-LH**	**15%**	**43%**	**64%**	**90%**
Heavy lorries > 16 t with special axle configurations	**11, 12, 16**	**0**	**43%**	**64%**	**90%**
Coaches and interurban buses (*rf_{sg}*)	**32-C2, 32-C3, 32-DD, 34-C2, 34-C3, 34-DD,** 31-L2, 33-L2	**0**	**43%**	**64%**	**90%**
Primary vehicles of coaches and interurban buses (*rfp_{sg}*)	**32-C2, 32-C3, 32-DD, 34-C2, 34-C3, 34-DD,** 31-L2, 33-L2	**0**	**43%**	**64%**	**90%**
Trailers		**0**	**7,5%**	**7,5%**	**7,5%**
Semi-trailers		**0**	7,5**~~15~~%**	7,5**~~15~~%**	7,5**~~15~~%**

For reporting periods of the years before 2025, all CO_2 reduction targets rf_{sg} and rfp_{sg} shall be 0.

4.3.2. The following zero-emission vehicle targets $zevM_{sg}$ pursuant to Article 3b are applicable to vehicles in the sub-group *sg* for different reporting periods:

Zero-emission vehicle mandates $zevM_{sg}$					
Sub-groups *sg*		Reporting period of the years			
		before 2030	2030 – 2034	2035 – 2039	As from 2040
Urban ~~heavy~~ buses	**31-LF, 31-L1, 31-DD, 33-LF, 33-L1, 33-DD, 35-FE, 39-FE, ~~31-L2, 33-L2~~**	**0**	**~~100%~~ <u>85%</u>**	**100%**	**100%**

5. EMISSION CREDITS AND DEBTS REFERRED TO IN ARTICLE 7

5.1. CO_2 emissions reduction trajectories

5.1.1. Target factors

For each vehicle sub-group *sg* and reporting period of a year *Y* target factors shall be defined as follows:

$$RET_{sg,Y} = (1-rf_{sg,uY})+(rf_{sg,uY} - rf_{sg,lY}) \times (uY - Y)/(uY - lY)$$

$$RETp_{sg,Y} = (1-rfp_{sg,uY})+(rfp_{sg,uY} - rfp_{sg,lY}) \times (uY - Y)/(uY - lY)$$

$$ZET_{sg,Y} = (1-zevM_{sg,uY})+(zevM_{sg,uY} - zevM_{sg,lY}) \times (uY - Y)/(uY - lY)$$

Where,

lY, *uY* are the values for the lower year and upper year

- in the set {rY, 2025, 2030, <u>2035,</u> 2040} <u>for the sub-groups indicated in the column X = 2025 in the table of point 4.2,</u>
- <u>in the set {rY, 2030, 2035, 2040} for all other sub-groups *sg*,</u>

defining the smallest intervall for which the condition $lY \leq Y < uY$ holds;

rY	is the year of the reference period applicable to the vehicle sub-group *sg* according to point 3.2;
$rf_{sg,lY}$, $rf_{sg,uY}$	are the CO_2 reduction targets of the sub-group *sg* for new heavy duty vehiches of the years *lY* and *uY* according to point 4.3;
$rfp_{sg,lY}$, $rfp_{sg,uY}$	are the CO_2 reduction targets of the sub-group *sg* for primary vehicles of new heavy duty vehiches of the years *lY* and *uY* according to point 4.3;
$zevM_{sg,lY}$, $zevM_{sg,uY}$	are the zero emissions vehicle mandates for new heavy duty vehiches of the years *lY* and *uY* according to point 4.3;

For reporting years Y < rY, the values of $RET_{sg,Y}$, $RETp_{sg,Y}$ and $ZET_{sg,Y}$ shall be set to 1 such that there is no contribution of the vehicle sub-group *sg* to the CO2 emissions trajectory.

5.1.2. CO_2 emissions reduction trajectories

5.1.2.1. Then for each vehicle sub-group *sg* and reporting period of a year *Y* the following CO_2 emissions reduction trajectories shall be defined:

$$ET_{sg,Y} = RET_{sg,Y} \times rCO2_{sg}$$

$$ETp_{sg,Y} = RETp_{sg,Y} \times rCO2p_{sg}$$

$$ETz_{sg,Y} = ZET_{sg,Y} \times rCO2_{sg}$$

5.1.2.2. For each manufacturer and reporting periods of a year *Y* between 2019 and 2024 the following CO_2 emissions reduction trajectories shall be defined:

$$ET(2025)_Y = \sum_{sg} share_{sg} \times MPW_{sg} \times ET_{sg,Y}$$

5.1.2.3. For each manufacturer and reporting periods of a year *Y* between 2025 and 2040 the following CO_2 emissions reduction trajectories shall be defined:

$$ET(NO)_Y = \sum_{sg} share_{sg} \times MPW_{sg} \times ET_{sg,Y}$$

$$ET(MCO2)_Y = \sum_{sg} share_{sg} \times MPW_{sg} \times [(1- pv_{sg}) \times ET_{sg,Y} + pv_{sg} \times ETp_{sg,Y}]$$

$$ET(MZE)_Y = \sum_{sg} share_{sg} \times MPW_{sg} \times ETz_{sg,Y}$$

$$ET(M)_Y = ET(MCO2)_Y + ET(MZE)_Y$$

Where,

$\sum_{sg}$ is the sum over those sub-groups that are inclued in the calculation of the particular CO_2 emissions trajectory according to point 4.2;

$share_{sg}$ is the share of new heavy-duty vehicles of the manufacturer in the sub-group sg, as determined in point 2.4;

MPW_{sg} is as determined point 2.6;

$rCO2_{sg}$ is as determined in point 3.1.2;

$rCO2p_{sg}$ is as determined in point 3.1.2;

pv_{sg} is the share of new heavy-duty vehicles of the manufacturer within the sub-group *sg*, which pursuant to Article 7b shall be accounted for with the CO_2 emissions of their primary vehicles in the calculation of the average specific CO2 emissions of point 2.2

5.2. Calculation of the emission credits and debts in each reporting period

For each manufacturer and each reporting period of the years Y from 2019 to 2040 the emission credits $cCO2(X)_Y$ and emission debts $dCO2(X)_Y$, $(X = NO, M)$, shall be the maximum of the following values and 0 (i.e. emission credits and debts cannot be negative):

	2019 ≤ Y< 2025	**2025 ≤ Y< 2030**	**2030 ≤ Y< 2040**
$cCO2(NO)_Y$	$[ET(2025)_Y - CO2(2025)_Y] \times V_y$	$[ET(NO)_Y - CO2(NO)_Y] \times V_y$	$[ET(NO)_Y - CO2(NO)_Y] \times V_y$
$dCO2(NO)_Y$	0	$[CO2(2025)_Y - T(2025)_Y] \times V_y$	$[CO2(NO)_Y - T(NO)_Y] \times V_y$
$cCO2(M)_Y$	**0**	$[ET(M)_Y - CO2(M)_Y] \times V_y$	$[ET(M)_Y - CO2(M)_Y] \times V_y$
$dCO2(M)_Y$	**0**	**0**	$[CO2(M)_Y - T(M)_Y] \times V_y$

Where,

$ET(X)_Y$ is the manufacturer's emission trajectory in the ***reporting period of the*** year Y determined in accordance with point 5.1 *(X = 2025, NO, M);*

$CO2(X)_Y$ is the manufacturer's average specific emissions in the ***reporting period of the*** year Y determined in accordance with point 2.7 *(X = 2025, NO, M)*;

$T(X)_Y$ is the manufacturer's specific emission target in the ***reporting period of the*** year Y determined in accordance with point 4 *(X = 2025, NO, M)*;

V_Y is the number of new heavy-duty vehicles of the manufacturer in the ***reporting period of the*** year Y.

5.3. Emission debt limit

For each manufacturer the emission debt limits $limCO2(X)_Y$ in a reporting period of the year *Y* are defined as follows:

$limCO2(NO)_Y = T(2025)_Y \times 0{,}05 \times V(2025)_Y$ for the reporting periods of the year Y < 2030;

$limCO2(NO)_Y = T(NO)_Y \times 0{,}05 \times V(NO)_Y$ for the reporting periods of the year Y ≥ 2030;

$limCO2(M)_Y = T(M)_Y \times 0{,}05 \times V(M)_Y$ for the reporting periods of the year Y ≥ 2030.

Where

$T(X)_Y$ is the manufacturer's specific emission target in the ***reporting period of the*** year Y determined in accordance with point 4 *(X = 2025, NO, M)*;

$V(X)_Y$ is the number of new heavy-duty vehicles of the manufacturer in the ***reporting period of the*** year Y in the vehicle sub-groups, which are included int the caclulation of the specific CO_2 emissions *CO2(X)* according to point 4.2 *(X = 2025, NO, M)*.

5.4. Early emission credits

Emission debts acquired ***for the reporting periods of the*** year 2025 shall be reduced by an amount corresponding to the emission credits acquired prior to ***this reporting period***, which is determined for each manufacturer as follows:

$$redCO2 = min(dCO2(NO)_{2025} ; \sum_{Y=2019}^{2024} cCO2(NO)_Y)$$

Where,

min	is the minimum of the two values mentioned between the brackets;
$\sum_{Y=2019}^{2024}$	is the sum over the ***reporting periods of the years Y from*** 2019 to 2024;
$dCO2(NO)_Y$	is the emission debts for ***reporting period of the year*** Y as determined in accordance with point 5.2;
$cCO2(NO)_Y$	is the emission credits for the ***reporting period of the*** year Y as determined in accordance with point 5.2;.

6. DETERMINATION OF A MANUFACTURER'S EXCESS CO_2 EMISSIONS REFERRED TO IN ARTICLE 8(2)

For each manufacturer and each ***reporting period*** of the year Y from ***the year*** 2025 onwards the value of the vehicle category specific excess CO_2 emissions $exeCO2(X)_Y$ shall be determined as follows. if the value is positive (X = NO, M). If the following calculations result in a negative value for $exeCO2(X)_Y$, the latter shall be set to 0.

For the *reporting period of* the year 2025:

$$exeCO2(NO)_{2025} = dCO2(NO)_{2025} - \sum_{Y=2019}^{2024} cCO2(NO)_Y - limCO2(NO)_{2025}$$

For the reporting periods of the years Y from 2026 to 2028, from 2030 to 2033 and from 2035 to 2038:

$$exeCO2(NO)_y = \sum_{I=2025}^{Y} (dCO2(NO)_I - cCO2(NO)_I) - \sum_{J=2025}^{Y-1} exeCO2(NO)_J - redCO2 - limCO2(NO)_Y$$

For the reporting periods of the years Y from from 2030 to 2033 and from 2035 to 2038:

$$exeCO2(M)_y = \sum_{I=2025}^{Y} (dCO2(M)_I - cCO2(M)_I) - \sum_{J=2030}^{Y-1} exeCO2(M)_J - limCO2(M)_Y$$

For the reporting period of the years Y = 2029, 2034 and 2039:

$$exeCO2(NO)_Y = \sum_{I=2025}^{Y} (dCO2(NO)_I - cCO2(NO)_I) - \sum_{J=2025}^{Y-1} exeCO2(NO)_J - redCO2$$

For the reporting period of the years Y = 2034 and 2039:

$$exeCO2(M)_Y = \sum_{I=2025}^{Y} (dCO2(M)_I - cCO2(M)_I) - \sum_{J=2030}^{Y-1} exeCO2(M)_J$$

For the reporting periods of the year 2040:

$$exeCO2(NO)_{2040} = (CO2(NO)_{2040} - T(NO)_{2040}) \times V_{2040} + \sum_{I=2025}^{2039} (dCO2(NO)_I - cCO2(NO)_I) - \sum_{J=2025}^{2039} exeCO2(NO)_J - redCO$$

$$exeCO2(M)_{2040} = (CO2(M)_{2040} - T(M)_{2040}) \times V_{2040} + \sum_{I=2025}^{2039} (dCO2(M)_I - cCO2(M)_I) - \sum_{J=2030}^{2039} exeCO2(M)_J$$

For the reporting periods of the years Y > 2040:

$exeCO2(NO)_Y = (CO2(NO)_Y - T(NO)_Y) \times V_Y$

$exeCO2(M)_Y = (CO2(M)_Y - T(M)_Y) \times V_Y$

Where,

$\sum_{Y=2019}^{2024}$	is the sum over the ***reporting periods of the years Y from*** 2019 to 2024;
$\sum_{I=2025}^{Y}$	is the sum over the ***reporting periods of the years I from*** 2025 to the year Y;
$\sum_{J=2025}^{Y-1}$	is the sum over the *reporting periods of the years J from* 2025 *to the year (Y-1);*
$\sum_{I=2025}^{2039}$	is the sum over the *reporting periods of the years I from 2025 to 2039*;
$\sum_{J=2030}^{Y-1}$	is the sum over the reporting periods of the years J from 2030 to the year (Y-1);
$dCO2(X)_Y$	is the emission debts for the *reporting period of the* year Y as determined in accordance with point 5.2 (X = NO, M);
$cCO2(X)_Y$	is the emission credits for the *reporting period of the* year Y as determined in accordance with point 5.2 (X = NO, M);

$limCO2(X)_Y$	is the emission debt limit as determined in accordance with point 5.3 (X = NO, M);
$redCO2(X)$	is the reduction of emission debts of the *reporting period of the* year 2025 as determined in accordance with 5.4 (X = NO, M).

In all other cases the value of the excess emissions $exeCO2(X)_Y$ shall be set to 0 (X = NO, M).

The excess CO_2 emissions of the reporting period of the year Y as referred to in Article 8(2) shall be:

$$exeCO2_Y = exeCO2(NO)_Y + exeCO2(M)_Y$$

ANNEX II

Adjustment procedures referred to in Article 11

1. ADJUSTMENT OF REFERENCE CO_2 EMISSIONS FOLLOWING AN AMENDMENT OF THE TYPE APPROVAL PROCEDURES REFERRED TO IN ARTICLE 11(2)

Following an amendment of the type approval procedures referred to in Article 11(2), the reference CO_2 emissions referred to in Point 3.1.2 of Annex I shall be recalculated.

For this purpose the CO_2 emissions in g/km of new heavy-duty vehicles *v* of the reference period and of their primary vehicles determined for a mission profile *mp,* as referred to in point 2.1 of Annex I, shall be adjusted as follows:

$$CO2_{v,mp} = CO2(RP)_{v,mp} \cdot (\sum_r s_{r,sg} \cdot CO2_{r,mp}) / (\sum_r s_{r,sg} \cdot CO2(RP)_{r,mp})$$

$$CO2p_{v,mp} = CO2p(RP)_{v,mp} \cdot (\sum_r s_{r,sg} \cdot CO2p_{r,mp}) / (\sum_r s_{r,sg} \cdot CO2p(RP)_{r,mp})$$

Where

$\sum_r$ is the sum over all representative vehicles *r* for the sub-group *sg*;

sg is the sub-group to which the vehicle *v* belongs;

$s_{r,sg}$ is the statistical weight of the representative vehicle *r* in the sub-group *sg;*

$CO2(RP)_{v,mp}$ is the specific CO_2 emissions of vehicle *v* in g/km, as determined on mission profile *mp* and based on the monitoring data of the reference period;

$CO2(RP)_{r,mp}$	is the specific CO_2 emissions of the representative vehicle *r* in g/km, as determined on mission profile *mp* in accordance with Regulation (EC) No 595/2009 and its implementing measures as it was applied in the reference period;
$CO2_{r,mp}$	is the specific CO_2 emissions of the representative vehicle *r*, as determined on mission profile *mp* in accordance with Regulation (EC) No 595/2009 and its implementing measures according to the amendments referred to in Article 11(3)(a);
$CO2p(RP)_{v,mp}$	is the specific CO_2 emissions of the primary vehicle of the heavy-duty vehicle *v* in g/km, as determined on mission profile *mp* and based on the monitoring data of the reference period;
$CO2p(RP)_{r,mp}$	is the specific CO_2 emissions of the primary vehicle of the representative vehicle *r* in g/km, as determined in accordance with Regulation (EC) No 595/2009 and its implementing measures as it was applied in the reference period;
$CO2p_{r,mp}$	is the specific CO_2 emissions of the primary vehicle of the representative vehicle *r*, as determined on mission profile *mp* in accordance with Regulation (EC) No 595/2009 and its implementing measures according to the amendments referred to in Article 11(3)(a).

The specific CO_2 emissions shall be normalised pursuant to Annex III using those values for the parameters referred to in Article 14(1), point (f), that are applicable in the reporting period referred to in Article 11(2), point (a).

The representative vehicles shall be defined in accordance with the methodology referred to in Article 11(3).

2. APPLICATION OF THE ADJUSTED REFERENCE CO_2 EMISSIONS ACCORDING TO ARTICLE 11(2)

If in the reporting period of the year Y the specific CO_2 emissions of some new heavy-duty vehicles of a manufacturer have been determined with amendments referred to in Article 11(2), the reference CO_2 emissions $\underline{rCO2_{sg}}$ of the vehicle sub-group *sg* used in points 4 and 5.1 of Annex I shall be calculated as follows:

$$rCO2_{sg} = \sum_{,i} V_{sg,i}/V_{sg} \text{ x } rCO2_{sg,,i}$$

where:

$\sum_{,i}$ is the sum over

- for i = ~~1~~0: the non-amended procedure for determining the CO_2 emissions, for which the initial reference CO_2 emissions without adjustments are applicable and
- for i ≥ 1: all subsequent amendments referred to in Article 11(2).

V_{sg} is the number of new heavy-duty vehicles of the manufacturer in the reporting period of the year *Y* and the vehicle sub-group *sg*;

$V_{sg,i}$ is the number of new heavy-duty vehicles of the manufacturer in the reporting period of the year *Y* and in the vehicle sub-group sg, the specific CO_2 emissions of which have been determined with the amendment *i*;

$rCO2_{sg,i}$ are:

- for i = 0: the non-adjusted reference CO_2 emissions
- for i ≥ 1: the reference CO_2 emissions that have been determined for the vehicle sub-group *sg* with the amendment *i*.

ANNEX II[21]

'ANNEX III

Normalisation of specific CO_2 emissions of new heavy-duty vehicles referred to in Article 4

1. NORMALISATION OF SPECIFIC CO_2 EMISSIONS

For the purposes of the caclulation in point 2.1 of Annex I, , the values of CO_2 emissions $CO2_{v,mp}$of vehicles are normalised as follow:

$$CO2_{v,mp} = reportCO2_{v,mp} + \Delta CO2_{v,mp}(m) + \Delta CO2\mathrm{cv}_{v,mp}$$

$m = PL_{sg,mp} - PL_{v,mp} + cCW_v$ (for vehicles of categories N and O)

$m = PM_{sg,mp} - PM_{v,mp} + cCW_v$ (for vehicles of category M)

The values of CO2 emissions 〖CO2p〗_(v,mp)of primary vehicles are normalised according to the same methodology, using the parameters for primary vehicles.

Where

$CO2_{v,mp}$ are the normalised CO_2 emissions of the vehicle *v* determined for a mission profile *mp* that are to be considered in the calculation of Annex I point 2.1;

$reportCO2_{v,mp}$ are the CO_2 emissions in g/km ~~of the primary vehicle~~ of a new heavy-duty vehicle *v* determined for a mission profile *mp* and reported in accordance with Articles 13a and 13b;

$\Delta CO2_{v,mp}(m)$ is to be determined in accordance with point 3;

[21] See footnote 20.

$\Delta CO2\mathrm{cv}_{v,mp}$	is to be determined in accordance with point 4;
$PL_{v,mp}$	is the payload of vehicle *v* in the mission profile *mp*, as determined from the data reported according to Articles 13a and 13b ;
$PL_{sg,mp}$	is the payload for sub-group *sg* and mission profile *mp* as provided for in point 2.5 of Annex I;
$PM_{v,mp}$	is the passenger mass of vehicle *v* in the mission profile *mp*, as determined from the data reported according to Articles 13a and 13b;
$PM_{sg,mp}$	is the passenger mass for sub-group *sg* and mission profile *mp* as provided for in point 2.5 of Annex I;
cCW_v	is the correction of the curb weight of the vehicle *v* according to point 2.

2. CURB WEIGHT NORMALISATION

Since the transport utility of a vehicle increases with its technically permissible maximum payload or passenger number, but for technical reasons higher values for these parameters are correlated with higher curb weights and therefore higher CO_2 emissions, the following correction of the curb weight of a vehicle *v* in sub-group *sg* for the purpose of the normalisation of its specific CO_2 emissions according to point 1 shall be applied:

$cCW_v = a_{sg} \cdot (maxPL_{sg} - maxPL_v)$	for vehicles of category N ~~and O~~;
<u>cCWv = 0</u>	<u>for vehicles of category O;</u>
$cCW_v = a_{sg} \cdot (maxPN_{sg} - maxPN_v)$	for vehicles of category M;

Where

a_{sg} is a linear coefficient determined according to point 2.1 for the reporting period of the vehicle v;

$maxPL_v$ is the technically permissible maximum payload of vehicle v as determined from the data reported according to Articles 13a and 13b;

$maxPN_v$ is the technically permissible maximum passenger number of vehicle v as determined from the data reported according to Articles 13a and 13b;

$maxPL_{sg}$ is the technically permissible maximum payload of vehicle sub-group sg determined according to point 2.5 of Annex I;

$maxPN_{sg}$ is the technically permissible maximum passenger number of vehicle sub-group sg determined according to point 2.5 of Annex I.

2.1. Determination of normalisation parameters

For each reporting period the parameters a_{sg} and b_{sg} shall be determined with a linear regression analysis of the correlation of the values of CW_v with the values of $maxPL_v$ (category N and O vehicles) and $maxPN_v$ (category M vehicles), considering all newly registered vehicles v in the sub-group sg:

$CW_v \approx a_{sg} \cdot maxPL_v + b_{sg}$ for vehicles of category N ~~and O~~;

$CW_v \approx a_{sg} \cdot maxPN_v + b_{sg}$ for vehicles of category M.

Where

CW_v is the curb weight of vehicle *v*, as determined from the data reported according to Articles 13a and 13b; if no precise value is available it may be approximated by the corrected actual mass of the vehicle *v*

$maxPL_v$ is the technically permissible maximum payload of vehicle *v* as determined from the data reported according to Articles 13a and 13b;

$maxPN_v$ is the technically permissible maximum passenger number of vehicle *v* as determined from the data reported according to Articles 13a and 13b;.

3. CHANGE OF CO_2 EMISSIONS FOR CHANGE IN TOTAL VEHICLE MASS

The ex-post change of CO_2 emissions of a vehicle *v* to be determined for a mission profile *mp* due to an ex-post change in the total mass to be attributed to the vehicle for the determination of CO_2 emissions is defined by the following linear approximation:

$$\Delta CO2_{v,mp}(m) = \mathrm{m} \cdot (CO2_{v,r} - CO2_{v,l}) / (\mathrm{Mr} - \mathrm{Ml})$$

Where:

m is the change of total mass attributed to the vehicle *v* for the determination of its CO_2 emissions;

$CO2_{v,r}$ are the CO_2 emissions of the vehicle *v* in g/km, without the change of mass, determined for the same mission profile *mp*, representative loading conditions;

$CO2_{v,l}$ are the CO_2 emissions of the vehicle *v* in g/km, without the change of mass, determined for the same mission profile *mp*, low loading conditions;

Mr is the total vehicle mass in simulation, without the change of mass, for the same mission profile *mp*, representative loading conditions;

Ml is the total vehicle mass in simulation, without the change of mass, for the same mission profile *mp*, low loading conditions.

4. NORMALISATION FOR DIFFERENT CARGO VOLUMES

Category O vehicles within the same sub-group have different cargo volumes. Since the transport utility of a vehicle increases with the cargo volume, but for technical reasons such increase is also correlated with higher CO_2 emissions, the following correction of the CO_2 emissions of a vehicle *v* in sub-group *sg* shall be applied:

$$\Delta CO2\mathrm{cv}_{v,mp} = a_{sg,mp} \cdot (CV_{sg} - CV_v)$$

Where

$a_{sg,mp}$ is a linear coefficient determined according to point 4.1 for the reporting period of the vehicle *v*;

CV_v is the cargo volume of vehicle *v* as determined from the data reported according to Articles 13a and 13b;

CV_{sg} is the cargo volume of vehicle sub-group *sg* determined according to point 2.5 of Annex I.

For vehicle of categories N and M the correction of CO_2 emissions $\Delta CO2\mathrm{cv}_{v,mp}$ shall be 0.

4.1. Determination of normalisation parameters

For each reporting period and mission profile the parameters $a_{sg,mp}$ and $b_{sg,mp}$ shall be determined with a linear regression analysis of the correlation of the values of $[reportCO2_{v,mp} + \Delta CO2_{v,mp}(m)]$ with the values of CV_v, considering all newly registered vehicles v in the sub-group sg:

$$reportCO2_{v,mp} + \Delta CO2_{v,mp}(m) \approx a_{sg,mp} \cdot CV_v + b_{sg,mp}$$

Where

CV_v is the cargo volume of vehicle v as determined from the data reported according to Articles 13a and 13b;

$reportCO2_{v,mp}$, $\Delta CO2_{v,mp}(m)$ are as defined in point 1.'

~~*ANNEX II*~~[22]

ANNEX IV

Rules on data to be monitored and reported as referred to in Articles 13a and 13b

PART A: DATA TO BE MONITORED AND REPORTED BY MEMBER STATES

(a) vehicle identification numbers of all new heavy-duty vehicles as referred to in Article 2 that are registered in the Member State territory;

(b) manufacturer name;

(c) make (trade name of manufacturer);

(d) the code for the bodywork as specified in entry 38 of the certificate of conformity, including, where applicable, the supplementing digits referred to in Annex I Appendix 2 to Regulation (EU) 2018/858;

(e) in the case of the heavy-duty vehicles referred to in Article 2, first paragraph, point (a) or (b), the information on the powerplant specified in entries 23, 23.1 and 26 of the certificate of conformity;

(f) the maximum speed of the vehicle as specified in entry 29 of the certificate of conformity;

(g) the stage of completion, as indicated in the chosen model of the certificate of conformity in accordance with Annex VIII, point 2 to Commission Implementing Regulation (EU) 2020/683;

(h) the vehicle category as specified in entry 0.4 of the certificate of conformity;

(i) the number of axles, as specified in entry 1 of the certificate of conformity;

(j) the technically permissible maximum laden mass, as specified in entry 16.1 of the certificate of conformity;

(k) the imprint of the cryptographic hash of the manufacturer's records file as specified in entry 49.1 of the certificate of conformity; for vehicles registered until 30 June 2025 Member States may report only the first 8 characters of the cryptographic hash;

(l) the specific CO_2 emissions as specified in entry 49.5 of the certificate of conformity;

(m) the average payload value as specified in entry 49.6 of the certificate of conformity;

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22 See footnotes 20 and 21.

(n) the date of registration;

(o) the technically permissible maximum mass of the combination for a category N3 truck in an extra heavy combination (EHC) referred to in Article 3 point (24) as specified in entry 16.4 of the certificate of conformity or individual vehicle approval certificate;

(~~o~~p) for special purpose vehicles their designation as specified in entry 51 of the certificate of conformity;

(q) the number of powered axles, as specified in entry 3 of the certificate of conformity

(~~q~~**r**) for vehicles approved under Article 2(3)(b) of Regulation 2018/858, the information that the vehicle was designed and constructed or adapted for use by civil protection fire services and forces responsible for maintaining public order;

(~~r~~ s) for vehicles registered for use by civil protection, fire services or forces responsible for maintaining public order or for use by the armed services, the confirmation that the vehicle is registered for use by civil protection, fire services or forces responsible for maintaining public order or for use by the armed services and that it fulfils the conditions set out in Article 2 paragraph 5 of this Regulation. For all vehicles including individually approved vehicles, the corresponding information shall be the information as to be provided in the EU certificate of conformity or EU individual vehicle approval certificate or the national individual approval certificate in accordance with the templates laid down in Commission Implementing Regulation (EU) 2020/683[23] regardless of any national exemptions applicable under Article 45(1) of Regulation (EU) 2018/858.

[23] Commission Implementing Regulation (EU) 2020/683 of 15 April 2020 implementing Regulation (EU) 2018/858 of the European Parliament and of the Council with regards to the administrative requirements for the approval and market surveillance of motor vehicles and their trailers, and of systems, components and separate technical units intended for such vehicles, OJ L 163 of 26.5.2020, p.1.

PART B: DATA TO BE REPORTED BY MANUFACTURERS AND OTHER ENTITIES

In accordance with Article 13b, each reporter shall report the following data for those vehicles, for which it is obliged to produce a Manufacturer's Records File (MRF) or Vehicle Information File (VIF) according to the provisions of Regulations 2017/2400 (EU) and Commission Implementing Regulation (EU) 2022/1362[24].

For vehicles referred to in Part A, points (p) and (q) of Annex IV the manufacturer referred to in Article 7a shall also inform the Commission in accordance with Article 2(4) and (5), if the vehicle which would otherwise be exempted from the obligations laid down in Article 3a, shall not be exempted from those obligations.

Vehicle categories / sub-groups	Reporters			
	Primary vehicle manufacturer(1)	Interim vehicle manufacturer(2)	Vehicle manufacturer(3)	Designated technical service(8)
N / all	Not applicable	Not applicable	– MRF(4) – Additional information*	Not applicable
M / all	– VIF(4) (5) – MRF(4) (6) – Additional information* of the primary vehicle.	Not applicable	– VIF(4) (7) – MRF(4) (7) – Additional information* of the complete or completed vehicle.	Not applicable
O / all	Not applicable	Not applicable	– MRF(9) – Additional information*	– MRF(9) – Additional information*

[24] Commission Implementing Regulation (EU) 2022/1362 of 1 August 2022 implementing Regulation (EC) No 595/2009 of the European Parliament and of the Council as regards the performance of heavy-duty trailers with regard to their influence on the CO_2 emissions, fuel consumption, energy consumption and zero emission driving range of motor vehicles and amending Implementing Regulation (EU) 2020/683 (OJ L 205, 5.8.2022, p. 145.

(1) Article 3(29) of Commission Regulation (EU) 2017/2400.

(2) Article 3(31) of Commission Regulation (EU) 2017/2400

(3) Article 3(4a) of Commission Regulation (EU) 2017/2400

(4) Article 9(2) of Commission Regulation (EU) 2017/2400

(5) Point 2.3 of Annex I to Commission Regulation (EU) 2017/2400

(6) Point 2.4 of Annex I to Commission Regulation (EU) 2017/2400

(7) Point 2.7.5 of Annex I to Commission Regulation (EU) 2017/2400

(8) Article 8(6) of Commission Implementing Regulation (EU) 2022/1362

(9) Article 8(7) of Commission Implementing Regulation (EU) 2022/1362

***Additional Information:**

No	Monitoring parameter	Source	Applicable to vehicles
15	Make (trade name of manufacturer)		All
24	Name and address of transmission manufacturer	Point 0.4 of the model of a certificate of a component, separate technical unit or system of Appendix 1 to Annex VI to Regulation (EU) 2017/2400	Category N; Category M: primary vehicle only;
25	Make (trade name of transmission manufacturer	Point 0.1 of the model of a certificate of a component, separate technical unit or system of Appendix 1 to Annex VI to Regulation (EU) 2017/2400	Category N; Category M: primary vehicle only;
32	Name and address of axle manufacturer	Point 0.4 of the model of a certificate of a component, separate technical unit or system of Appendix 1 to Annex VII to Regulation (EU) 2017/2400	Category N; Category M: primary vehicle only; Category O;

33	Make (trade name of axle manufacturer)	Point 0.1 of the model of a certificate of a component, separate technical unit or system of Appendix 1 to Annex VII to Regulation (EU) 2017/2400	Category N; Category M: primary vehicle only; Category O;
39	Name and address of tyre manufacturer	Point 1 of the model of a certificate of a component, separate technical unit or system of Appendix 1 to Annex X to Regulation (EU) 2017/2400	Category N; Category M: primary vehicle only; Category O;
40	Make (trade name of tyre manufacturer)	Point 3 of the model of a certificate of a component, separate technical unit or system of Appendix 1 to Annex X to Regulation (EU) 2017/2400	Category N; Category M: primary vehicle only; Category O;
72	Number of license to operate the simulation tool		All
75	CO2 mass emission of the engine over WHTC (8) (g/kWh)	Point 1.4.2 of the addendum to Appendix 5, or point 1.4.2 of the addendum to Appendix 7, to Annex I to Regulation (EU) No 582/2011, whichever is applicable	Category N; Category M: primary vehicle only;
76	Fuel consumption of the engine over WHTC (g/kWh)	Point 1.4.2 of the addendum to Appendix 5, or point 1.4.2 of the addendum to Appendix 7, to Annex I to Regulation (EU) No 582/2011, whichever is applicable	Category N; Category M: primary vehicle only;
77	CO2 mass emission of the engine over WHSC (9) (g/kWh)	Point 1.4.1 of the addendum to Appendix 5, or point 1.4.1 of the addendum to Appendix 7, to Annex I to Regulation (EU) No 582/2011, whichever is applicable	Category N; Category M: primary vehicle only;
78	Fuel consumption of the engine over WHSC (g/kWh)	Point 1.4.1 of the addendum to Appendix 5, or point 1.4.1 of the addendum to Appendix 7, to Annex I to Regulation (EU) No 582/2011, whichever is applicable	Category N; Category M: primary vehicle only;

101	For vehicles with a date of simulation as of 1 July 2020, the type-approval number of the engine	Point 1.2.1. of addendum to Appendix 5, 6 or 7 to Annex I to Regulation (EU) No 582/ 2011, whichever is applicable	Category N; Category M: primary vehicle only;
102	For vehicles with a date of simulation as of 1 July 2021, the comma separated values file of the same name as the job file and with an extension.vsum comprising aggregated results per simulated mission profile and payload condition	File generated by the simulation tool referred to in Article 5(1)(a) of Regulation (EU) 2017/2400 in its graphical user interface (GUI) version	‘~~sum exec data file~~ all

PART C: AIR DRAG VALUE (CDXA) RANGES FOR THE PURPOSE OF PUBLICATION IN ACCORDANCE WITH ARTICLE 13c

For the purpose of making publicly available the CdxA value specified in data entry 23 in accordance with Article 13c, the Commission shall use the ranges defined in the following table containing the corresponding range for each CdxA value:

Range	**CdxA value [m2]**	
	Min CdxA (CdxA ≥ min CdxA)	**Max CdxA (CdxA < MaxCdxA)**
A1	0,00	3,00
A2	3,00	3,15
A3	3,15	3,31
A4	3,31	3,48
A5	3,48	3,65
A6	3,65	3,83
A7	3,83	4,02
A8	4,02	4,22
A9	4,22	4,43
A10	4,43	4,65
A11	4,65	4,88
A12	4,88	5,12
A13	5,12	5,38

A14	5,38	5,65
A15	5,65	5,93
A16	5,93	6,23
A17	6,23	6,54
A18	6,54	6,87
A19	6,87	7,21
A20	7,21	7,57
A21	7,57	7,95
A22	7,95	8,35
A23	8,35	8,77
A24	8,77	9,21

ANNEX V

Data reporting and management referred to in Articles 13a to 13c

1. REPORTING BY MEMBER STATES

1.1. The data specified in Part A of Annex IV shall be transmitted in accordance with Article 13a by the contact point of the competent authority via electronic data transfer to the Agency.

The contact point shall notify the Commission and the Agency when the data are transmitted by email to the following addresses:

EC-CO2-HDV-IMPLEMENTATION@ec.europa.eu

and

HDV-monitoring@eea.europa.eu

2. REPORTING BY MANUFACTURERS

2.1. Manufacturers shall notify the Commission without delay the following information:

(a) the manufacturer name indicated in the certificate of conformity or individual approval certificate;

(b) the World Manufacturer Identifier code (WMI code) as defined in Commission Regulation (EU) No 19/2011[25] to be used in the vehicle identification numbers of new heavy-duty vehicles to be placed on the market;

(c) the contact point responsible for uploading the data to the Agency.

They shall notify the Commission without delay of any changes to that information.

The notifications shall be sent to the addresses referred to in point 1.1.

[25] Commission Regulation (EU) No 19/2011 of 11 January 2011 concerning type-approval requirements for the manufacturer's statutory plate and for the vehicle identification number of motor vehicles and their trailers and implementing Regulation (EC) No 661/2009 of the European Parliament and of the Council concerning type-approval requirements for the general safety of motor vehicles, their trailers and systems, components and separate technical units intended therefor (OJ L 8, 12.1.2011, p. 1).

2.2. The data specified in Part B, point 2 of Annex I shall be transmitted in accordance with Article 13b by the contact point of the manufacturer via electronic data transfer to the Agency.

The contact point shall notify the Commission and the Agency when the data are transmitted by email to the addresses referred to in point 1.1.

3. DATA PROCESSING

3.1. The Agency shall process the data transmitted in accordance with points 1.1 and 2.2 and shall record the processed data in the register.

3.2. The data relating to heavy-duty vehicles registered in the preceding reporting period and recorded in the register shall be made public by 30 April each year, with the exception of the following data entries:

3.2.1. vehicle identification number;
3.2.2. name and address of the transmission manufacturer;
3.2.3. make (trade name of transmission manufacturer;
3.2.4. name and address of axle manufacturer;
3.2.5. make (trade name of axle manufacturer;
3.2.6. name and address of tyre manufacturer;
3.2.7. make (trade name of tyre manufacturer;
3.2.8. engine model;
3.2.9. transmission model;
3.2.10. retarder model;
3.2.11. torque converter model;
3.2.12. angle drive model;
3.2.13. axel model;
3.2.14. air drag model;
3.2.15 comma separated values file of the same name as the job file and with an extension.vsum comprising aggregated results per simulated mission profile and payload condition.

3.3. Where a competent authority or manufacturers identify errors in the data submitted, they shall without delay notify those to the Commission and the Agency by submitting an error notification report to the Agency and by email sent to the addresses referred to in point 1.1.

3.4. The Commission shall with the support of the Agency verify the notified errors and, where appropriate, correct the data in the register.

3.5. The Commission, with the support of the Agency, shall make available electronic formats for the data transmissions referred to in points 1.1 and 2.2 in due time before the transmission deadlines.

ANNEX VI

CORRELATION TABLE

Regulation (EU) 2018/956

Regulation (EU) 2018/956	This Regulation
Article 1	Article 1(2)
Article 2	Article 2
Article 3	Article 3
Article 4	Article 13a
Article 5	Article 13b
Article 6	Article 13c
Article 7	Article 13d
Article 8	Article 13e
Article 9	Article 13f
Article 10	-
Article 11	Article 14
Article 12	Article 16
Article 13	Article 17
Article 14	-
Annex I	Annex IV
Annex II	Annex V’