Council of the European Union
General Secretariat

Brussels, 14 January 2026

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WK 492/2026 INIT

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REQUEST FOR CONTRIBUTION

From: To:	General Secretariat of the Council Working Party on the Environment
N° Cion doc.:	ST 17010/25 INIT + ADD 1-6
Subject:	CO2 in cars: Follow-up o the WPE meeting on 13 January 2026: Call for comments and Commission presentations

As announced by the Presidency at the abovementioned WPE meeting, delegations are invited to send their written comments and questions to the proposal and the Impact Assessment **by Monday 19 January 2025, cob** to the Presidency [redacted] and [redacted]) and the Commission [redacted] and [redacted]) with copy to the General Secretariat [redacted], environment@consilium.europa.eu).

Delegations will also find attached the Commission presentations given at the abovementioned WPE meeting.

Delegations are reminded that Regulation (EC) No 1049/2001 of 30 May 2001 regarding public access to European Parliament, Council and Commission documents applies to all written comments, in whatever form provided.

Proposal for a Regulation amending Regulation (EU) 2019/631 CO_2 emission standards for cars and vans and vehicle labelling

Council WPE 13/1/2026

European Commission

Context

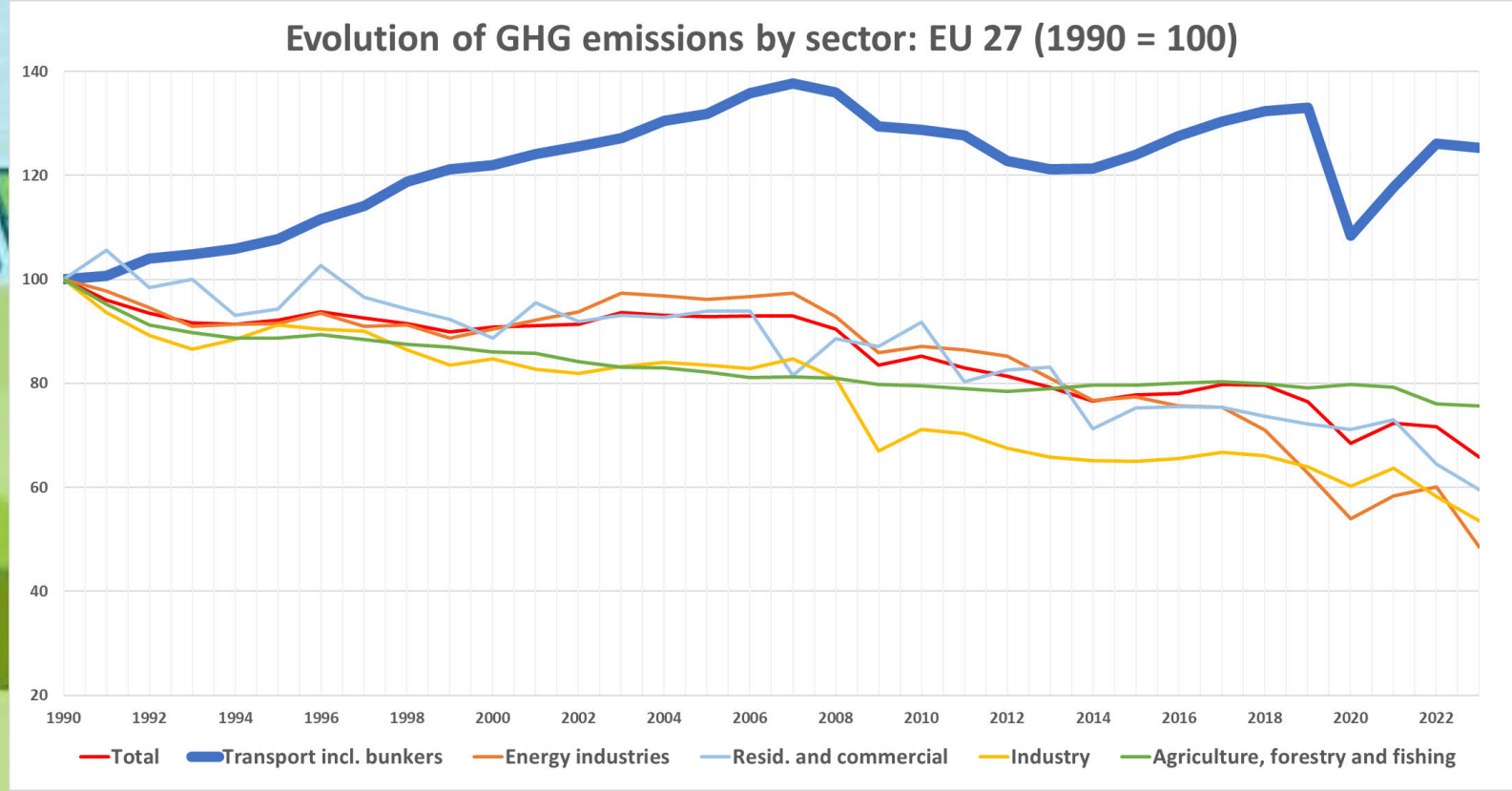
Climate policy context

- The EU is committed to transitioning to a decarbonised and competitive economy.
- The Commission stands by the EU's climate goals set out in the **European Climate Law**:
  - 55% GHG emission reduction by 2030
  - 90% GHG emission reduction by 2040 (provisional compromise text agreed by the co-legislators)
  - **Climate neutrality at the latest by 2050**
- All policies should remain consistent with those goals.

EUROPEAN CLIMATE LAW

GHG emission trends

- Cutting CO_2 emissions from road transport is indispensable as they represent about 30% of the EU's overall net CO_2 emissions and are still higher than in 1990.



EU automotive industry

- EU automotive industry accounts for EUR 1 trillion of GDP, and for a third of all EU R&D investments.
- The industry employs more than three million people in direct and indirect manufacturing.
- It generates a trade surplus of about EUR 94 bn (2024).
- The EU automotive sector is facing **fierce competition and a deep structural transformation**, with significant changes in the global landscape creating challenges for manufacturers and the entire supply chain.

Global vehicle markets

- **Electrification is booming globally (IEA forecast)**
  - 2024: one in five new cars sold (BEV + PHEV)
  - 2025: one in four cars sold
  - 2035: half of all new cars sold
- Besides China (30% BEV) and Europe (16%), **electrification is booming in many emerging markets**, particularly in Southeast Asia and Latin America (H1 2025 figures, ICCT)
  - Vietnam 35%, Thailand 18%, Indonesia 11.5%, Türkiye 14%, Colombia 7,6%

Industrial competitiveness and energy security

- Ensuring the **competitiveness** of the industry needs to go hand in hand with supporting it in the **transition to clean mobility and the decarbonisation of road transport**.
- **Competitiveness Compass:** key pillars include decarbonisation, innovation, reduction of dependencies.
- **Clean Industrial Deal:** decarbonisation as a key driver of growth for European industries - basket of measures to boost production of clean technologies
- Europe's **too large dependence on imported fossil fuels** is one of the main causes of high and volatile energy prices
  - The EU imported on average EUR 290 bn of oil products per year in the period 2022-2024, most of which were used for road transport (86% of oil consumption in 2023).

Strategic Dialogue Automotive Action Plan

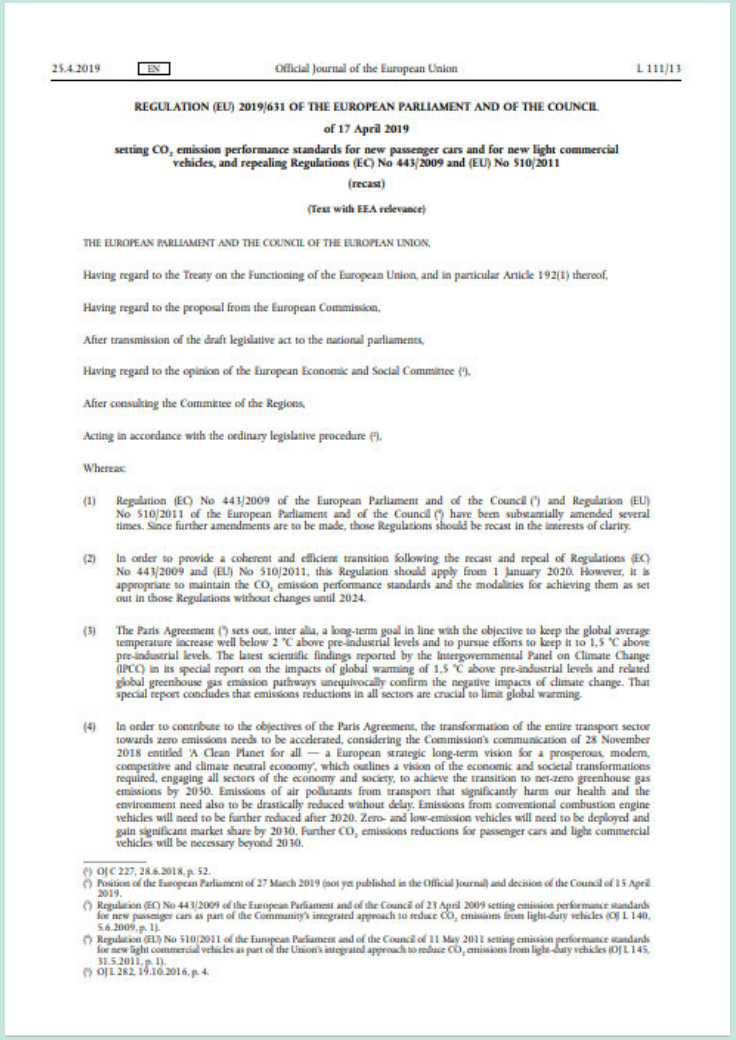
- President von der Leyen set up a **Strategic Dialogue** with the automotive industry
- The Commission's **Industrial Action Plan for the European automotive sector** (March 2025): set of measures to support the green and digital transitions: innovation and digitalisation; clean mobility; competitiveness and supply chain resilience; skills and social dimensions; boosting market access, ensuring level playing field and guaranteeing economic security
- This has led to a new Automotive Package as a response to these challenges.

Automotive Package 16/12/25

- **Revision of the CO2 standards for cars and vans, and a targeted amendment for those of heavy-duty vehicles** provide flexibilities for manufacturers to meet their CO2 targets in the most cost-efficient way.
- **Corporate vehicles proposal** supports the uptake of zero- and low-emission vehicles in corporate fleets across the EU.
- **Battery Booster invests €1.8 billion** for developing a fully EU-made battery value chain, strengthening local production and ensuring supply security.
- **Automotive Omnibus** eases administrative burden, provides cost savings of approximately €706 million per year for the industry, and creates a new vehicle category for small affordable electric cars made in the EU.
- **Revised Car Labelling Directive** empowers consumers to make more informed choices with clear information on fuel efficiency and CO2 emissions of new and second-hand cars and vans.

- The package provides an industrial strategy for the automotive industry ensuring **climate, industrial, and economic coherence**.
- It includes regulatory elements and enabling conditions to **future-proof a clean and competitive automotive sector.**
- It encourages manufacturers to continue investing in zero-emission vehicles, while offering more flexibility and breathing space.
- The package includes a **revision of the CO_2 standards** for cars and vans and the **Car Labelling Directive**. The review was brought forward as a result of the Strategic Dialogue

CO_2 emission standards for cars and vans: objectives



25.4.2019 EN Official Journal of the European Union L 111/13

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

(recast)

(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),

After consulting the Committee of the Regions,

Acting in accordance with the ordinary legislative procedure (2),

Whereas:

(1) Regulation (EC) No 443/2009 of the European Parliament and of the Council (3) and Regulation (EU) No 510/2011 of the European Parliament and of the Council (4) have been substantially amended several times. Since further amendments are to be made, those Regulations should be recast in the interests of clarity.

(2) In order to provide a coherent and efficient transition following the recast and repeal of Regulations (EC) No 443/2009 and (EU) No 510/2011, this Regulation should apply from 1 January 2020. However, it is appropriate to maintain the CO_2 emission performance standards and the modalities for achieving them as set out in those Regulations without changes until 2024.

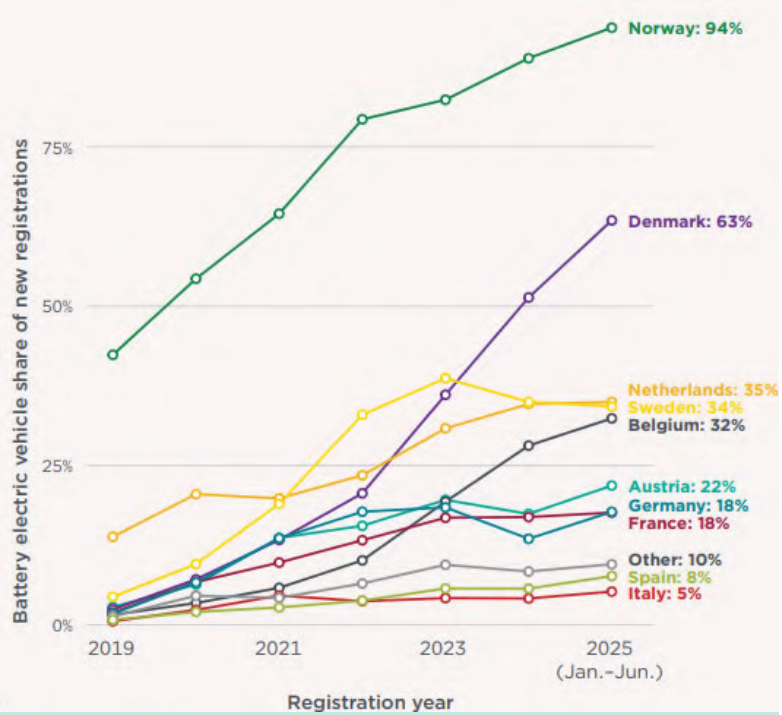
(3) The Paris Agreement (5) sets out, inter alia, a long-term goal in line with the objective to keep the global average temperature increase well below 2 °C above pre-industrial levels and to pursue efforts to keep it to 1,5 °C above pre-industrial levels. The latest scientific findings reported by the Intergovernmental Panel on Climate Change (IPCC) in its special report on the impacts of global warming of 1,5 °C above pre-industrial levels and related global greenhouse gas emission pathways unequivocally confirm the negative impacts of climate change. That special report concludes that emissions reductions in all sectors are crucial to limit global warming.

(4) In order to contribute to the objectives of the Paris Agreement, the transformation of the entire transport sector towards zero emissions needs to be accelerated, considering the Commission's communication of 28 November 2018 entitled 'A Clean Planet for all — a European strategic long-term vision for a prosperous, modern, competitive and climate neutral economy', which outlines a vision of the economic and societal transformations required, engaging all sectors of the economy and society, to achieve the transition to net-zero greenhouse gas emissions by 2050. Emissions of air pollutants from transport that significantly harm our health and the environment need also to be drastically reduced without delay. Emissions from conventional combustion engine vehicles will need to be further reduced after 2020. Zero- and low-emission vehicles will need to be deployed and gain significant market share by 2030. Further CO_2 emissions reductions for passenger cars and light commercial vehicles will be necessary beyond 2030.

(1) OJ C 227, 28.6.2018, p. 52.
(2) Position of the European Parliament of 27 March 2019 (not yet published in the Official Journal) and decision of the Council of 15 April 2019.
(3) Regulation (EC) No 443/2009 of the European Parliament and of the Council of 23 April 2009 setting emission performance standards for new passenger cars as part of the Community's integrated approach to reduce CO_2 emissions from light-duty vehicles (OJ L 140, 5.6.2009, p. 1).
(4) Regulation (EU) No 510/2011 of the European Parliament and of the Council of 11 May 2011 setting emission performance standards for new light commercial vehicles as part of the Union's integrated approach to reduce CO_2 emissions from light-duty vehicles (OJ L 145, 31.5.2011, p. 1).
(5) OJ L 282, 19.10.2016, p. 4.

- Key to decarbonise road transport: driving a **gradual transition towards zero-emission mobility** and provide long-term predictability for investors along the value chain.
- Support the **modernisation** of the automotive sector by setting a clear **long-term signal on the scale of the technological transformation needed**
- Help the European automotive industry not only navigate the transition but also shape it, so that it remains a key global actor.
- Contribute to reducing the EU's dependence on imported **fossil fuels**

Progress towards zero-emission mobility



- The **transition towards zero-emission mobility for cars and vans has taken off** and picked up pace since 2020
- Cars:
  - ZEV share increased almost ten-fold over 2019-2025
  - **16.9% BEV** over the first 11 months of 2025.
- Vans:
  - ZEV share has grown steadily over 2020-2025
  - **10.2% EV** in Q1-Q3 2025

(ICCT graph, ACEA figures)

Revision of CO_2 emission standards: objectives

- Introducing **additional flexibilities** for manufacturers to meet their CO_2 targets
- Enhancing **technology neutrality** of the CO_2 emission standards
- Maintaining the contribution of the CO_2 standards towards the **climate targets** set in the EU Climate Law
- Reaffirming that **the future is electric** and maintaining **certainty and predictability** for manufacturers and investors in the zero-emission mobility value chain

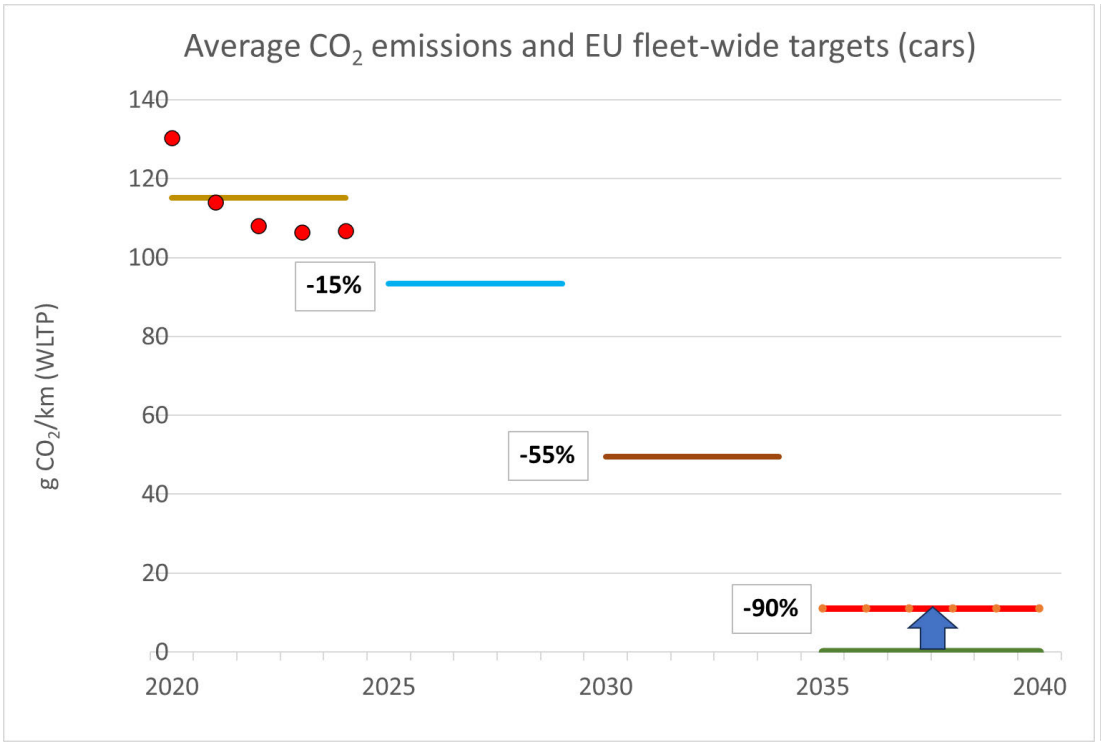
(Revision of Car Labelling Directive)

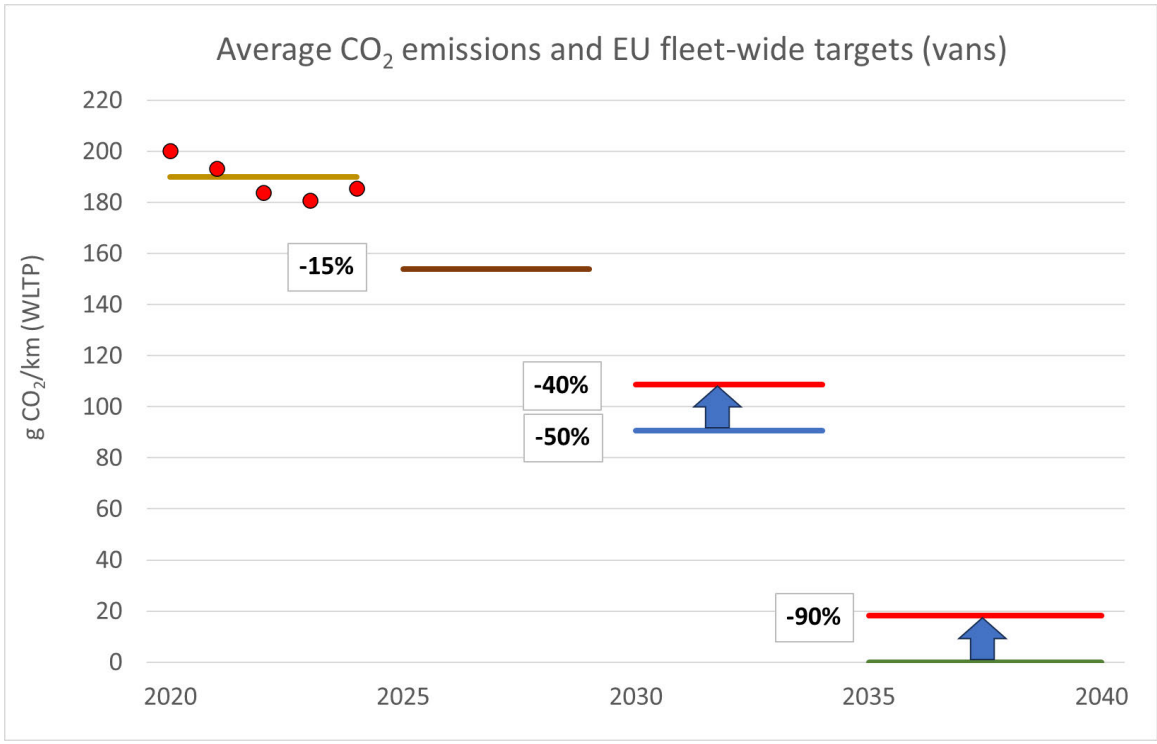
- Harmonising **labelling** rules and providing customers with relevant information especially for zero-emission vehicles

Proposal COM(2025)995: amendments to Regulation (EU) 2019/631

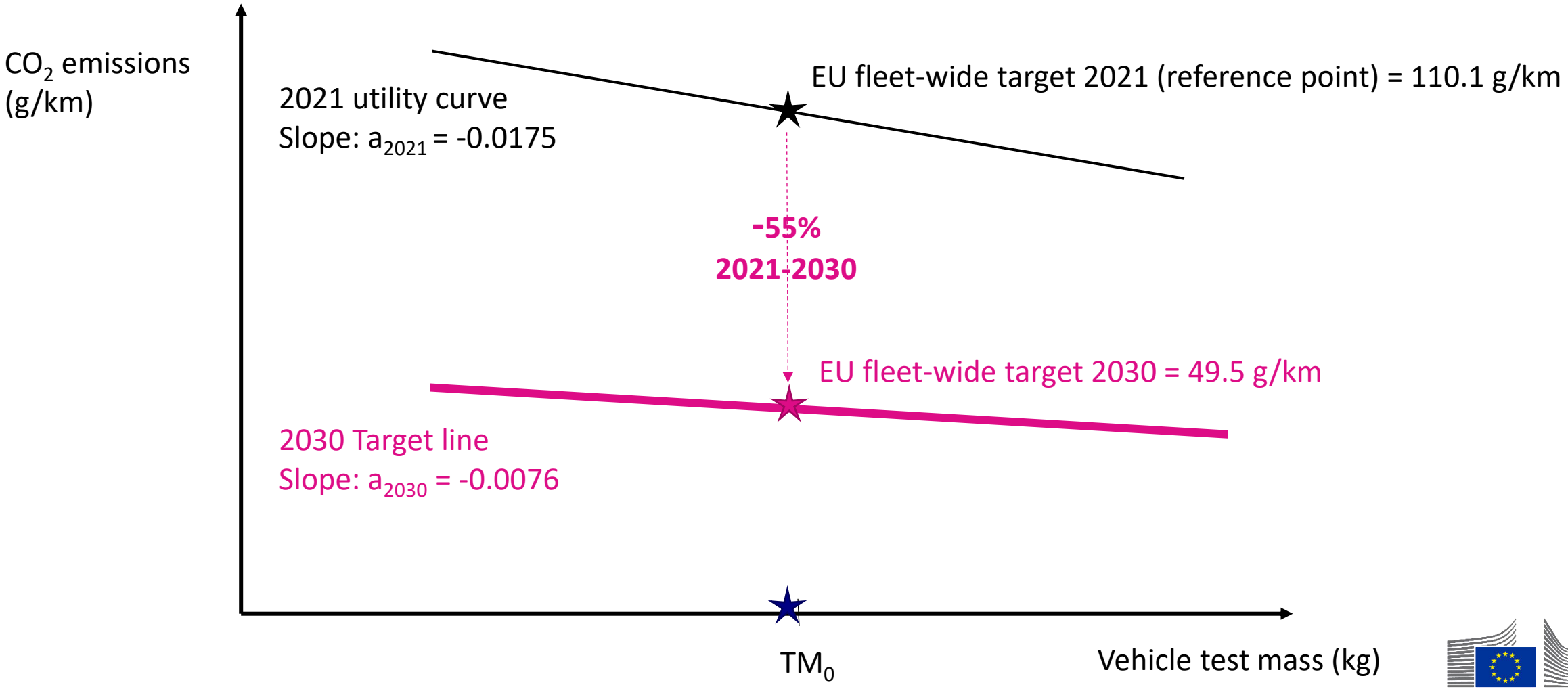
EU fleet-wide targets (Art. 1)

- **2030** fleet-wide CO_2 emission reduction **target for vans: 40%** (instead of 50%)
- **2035** fleet-wide CO_2 emission reduction **targets for cars and vans**: **90%** (instead of 100%)





Specific emissions targets (cars, 2030)



Additional flexibilities to reach 2030 targets (1)

- **Super credits for small zero-emission cars (until 2034)**
  - Each ‘small electric vehicle’ made in the EU shall be counted as 1.3 vehicles
    - ‘small electric vehicle’: pure electric vehicle that belongs to category M1, having a length not exceeding 4.2 m (M1E) (point 2.4 of Part A of Annex I to Regulation (EU) 2018/858) (Omnibus proposal COM(2025)993)
  - Delegated acts to set up the methodology for determining the criteria for a car to be considered ‘made in the EU’.

Additional flexibilities to reach 2030 targets (2)

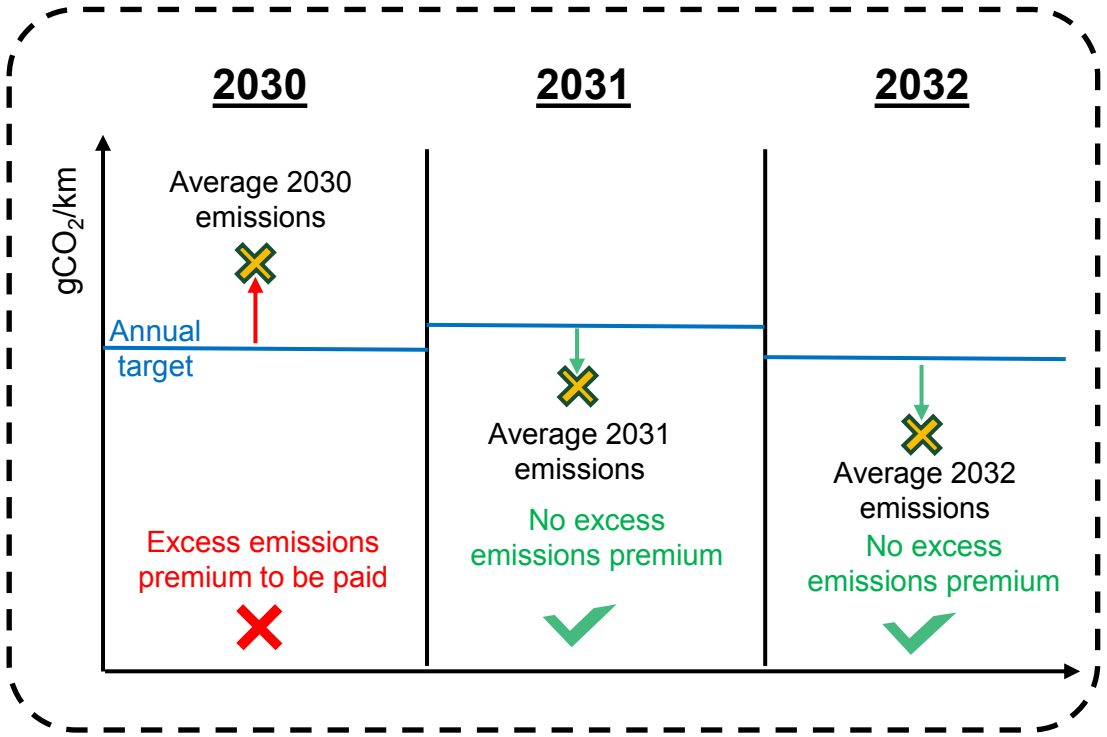
- **Multi-annual compliance** for calendar years **2030-2032** (cars and vans)
  - Target compliance is assessed over the three-year period rather than on an annual basis: this allows manufacturers to balance any excessive emissions in one or two of these years by outperforming the target in the remaining year(s) (same approach as for 2025-2027)

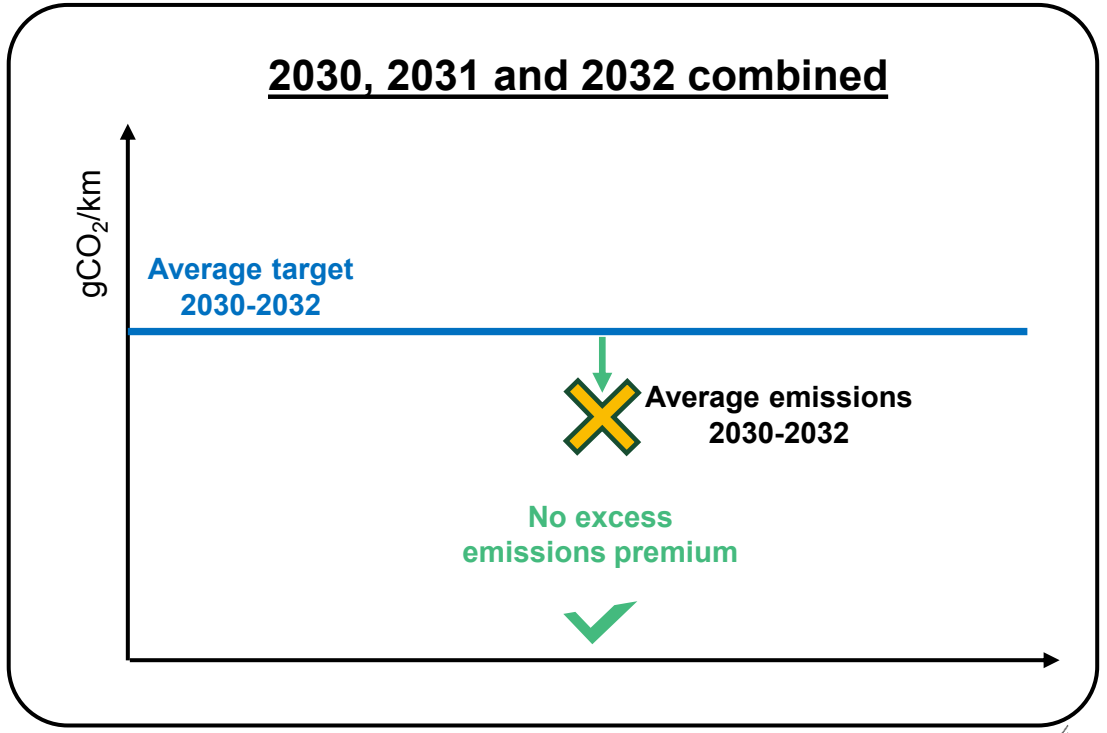
- **Consequential changes**
  - **Pooling:** for any of the years 2030, 2031 or 2032, manufacturers can enter into pooling agreements until the end of 2032
  - **Excess emissions premium:** is calculated over the whole 2030-2032 period for all manufacturers

Multi-annual compliance 2030-2032

CURRENT
Annual compliance

PROPOSED
Multi-annual compliance





2035 targets and credits

- As from 2035, a manufacturer shall:
  - meet its **specific emissions target** (based on 90% fleet target)

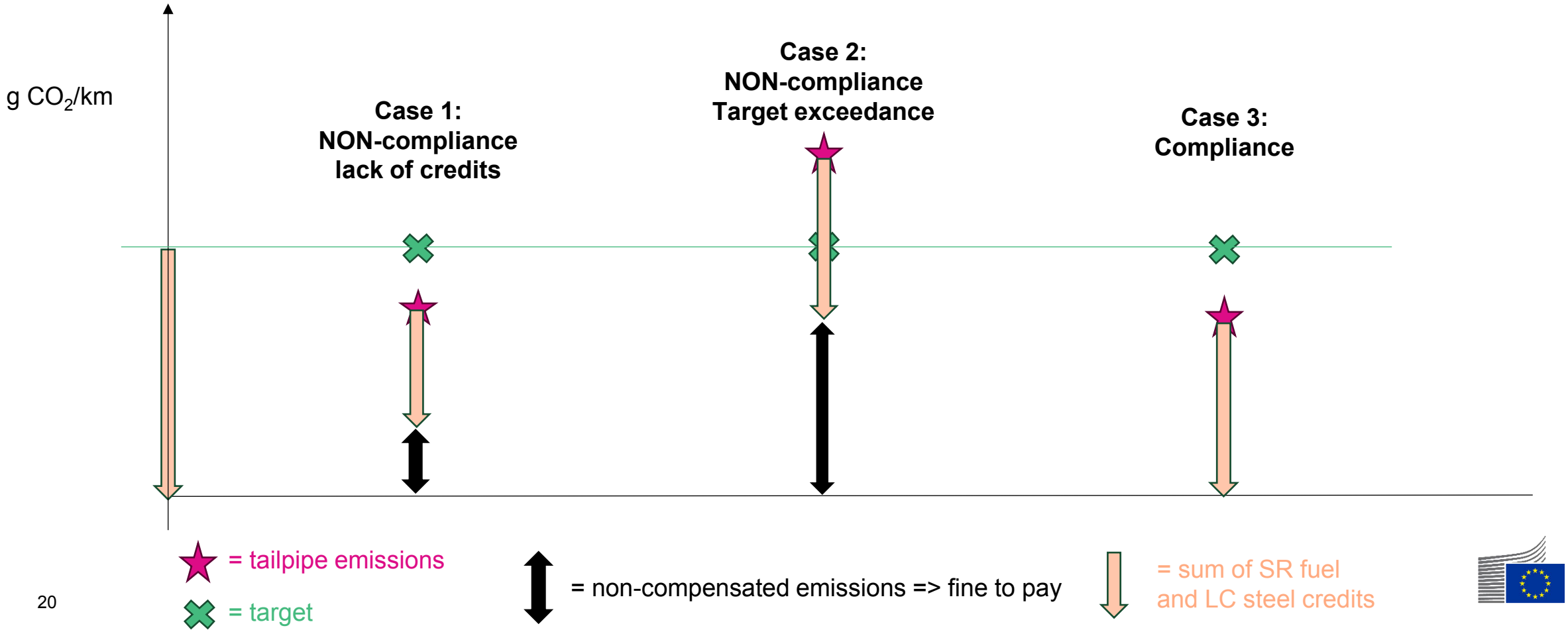
  and

  - ensure that its average specific emissions of CO_2 do not exceed the **sum of its fuel credits and the low-carbon steel credits**.
- Calculation formula of excess emissions premium adapted accordingly:
  - **excess emissions = manufacturer's average CO_2 emissions minus the sum of its fuel credits and low-carbon steel credits**.

  Excess emissions premium (95 EUR per g/km excess emission, unchanged) to be paid if a manufacturer's average CO_2 emissions are not fully compensated by the sum of its fuel credits and low-carbon credits (max. 10% of 2021 fleet-wide CO_2 emission targets)

Examples

Fuel credits and low-carbon steel credits need to compensate tailpipe emissions, up to 10% of EU_{2021} target



Fuel credits (Art. 5a)

- Starting from 2035, each manufacturer will obtain **credits (g CO_2/km) based on the GHG savings achieved by the use of eligible sustainable renewable fuels**
  - Credits will be calculated by the Commission using data reported in the **Union Database** established under RED – see Annex
  - Same amount of fuel credits (g CO_2/km) for all car/van manufacturers
- **Eligible fuels**: renewable fuels of non-biological origin (**RFNBOs**), **biofuels/biogas** produced from feedstock listed in RED **Annex IX**; need to meet RED GHG savings and sustainability criteria.
- Fuel credits are **capped**:
  - Overall: not more than **3% of 2021 fleet-wide CO_2 emission targets***
  - Sub-cap on **credits from RED Annex IX Part B biofuels/biogas** (e.g. used cooking oil): not more than **1% of 2021 fleet-wide CO_2 emission targets***

* 110.1 g CO_2 /km for cars; 181.1 g CO_2/km for vans

Calculation of fuel credits (cars)

$$fuel\ credits = Q_{fuel} \times GHGsavings \times \frac{fuelsharecars}{newcars \times mileage}$$

- **Q_{fuel}** [MJ]: for each fuel, the energy quantity put on the Union market for the road transport sector (from Union Database)
- **GHGsavings** [gCO_2e/MJ]: for each fuel, the difference between the fossil fuel comparator (from RED) and the GHG emission intensity of the fuel (from Union Database)
- **fuelsharecars**: total quantity of fuels used by cars, as a proportion of the total quantity of fuels used in road transport in the EU (from EU GHG inventory under Governance Regulation)
- **newcars:** number of new passenger cars that were registered in the year concerned
- **mileage** [km]: 240 000

Low-carbon steel credits (Art. 5b)

- A vehicle manufacturer using **low-carbon steel made in the EU** in its vehicles shall obtain **credits to compensate emissions from its cars/vans.**
- The credits (in gCO_2/km) shall be calculated for **each manufacturer separately**, based on the **CO_2 emission savings** from the low-carbon steel used in its new vehicles registered in the EU – compared to “baseline steel” (reference point) – see Annex
- All manufacturers will have to **monitor and report data on the low-carbon steel used** in their vehicles. Rules and procedures are to be set out in **implementing acts**.
- **Delegated acts** to specify the **methodology** to determine the characteristics of the low-carbon steel and the CO_2 emissions intensity of the low-carbon and baseline steel.
- Low-carbon steel credits are **capped to not more than 7% of the 2021 fleet-wide CO_2 emission targets**.

Calculation of low-carbon steel credits (vans)

$$\textbf{\textit{Low carbon steel credits}} = \textbf{\textit{GHGsavings}} \times \frac{\textbf{\textit{low carbon steel quantity}}}{\textbf{\textit{newvans}} \times \textbf{\textit{mileage}}}$$

- **GHGsavings** [gCO_2/t steel]: CO_2 emission intensity of the baseline steel minus average CO_2 emission intensity of the low-carbon steel made in the EU used by a manufacturer in light commercial vehicles in the calendar year
- **low carbon steel quantity** [t]: quantity of low carbon steel made in the EU used in light commercial vehicles by the manufacturer in the calendar year,
- **newvans**: number of new light commercial vehicles of the manufacturer that were registered in the year concerned
- **mileage** [km]: 300 000

Pooling

- Super credits, fuel credits, low-carbon steel credits shall not apply to manufacturers that have formed an “open” pool.

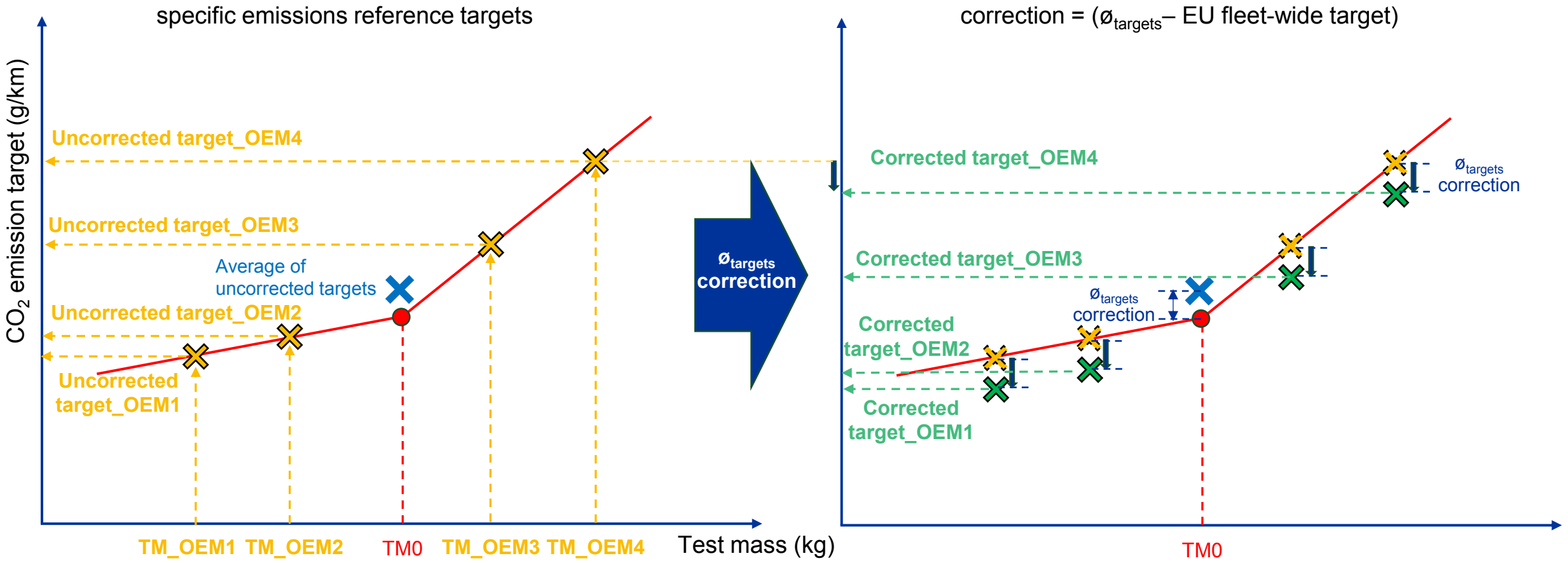
$Ø_{targets}$ calculation (vans)

- Annex I, part B, section 6.3
- Factor to adjust the specific emissions target of van manufacturers to correct for the **effect of the double slope** of the limit value curve

  2030 specific emissions target = [specific emissions reference target -($ø_{targets}$– EU fleet-wide target$_{2030}$)] * ZLEV factor

- $Ø_{targets}$ value depends on the average test mass of the vehicles of **all manufacturers**

$Ø_{targets}$ correction explained



$Ø_{targets}$ - amendment (vans)

- Amendment aims to provide **certainty to van manufacturers**
- With the current calculation, $ø_{targets}$ is known only **after a monitoring year** once the average mass of all vans is known → this creates uncertainty for manufacturers that cannot know their exact targets in advance
- With the amendment, the $ø_{targets}$ value is no longer recalculated each year, but is a **fixed value** during each of the following periods, based on test mass data that will be known before the start of the compliance year/period:
  - for 2025-2029: with mass data from 2024
  - for 2030-2034: with mass data from 2028
  - for 2035-: with mass data from 2033

Other amendments (technical)

- Article 2 (**zero-emission vans**): slight reformulation to avoid that lightest N2 zero-emission vans are excluded from the scope, while heavier vehicles are in scope.
- Article 3 (**definitions**): “test mass” (reference updated), “zero-emission vehicle” (new)
- Article 7 (**monitoring**):
    - Manufacturers responsible for **fewer than 1000 cars/vans** in the previous calendar year shall provide information about any of their connected undertakings - to facilitate assessment of eligibility for **exemption**
    - Manufacturers shall appoint contact point to discuss all matters related to monitoring and reporting (now only required for MS).
- **Annex II (monitoring, cars)**: add parameters “length” and “made in EU”

Review

- **Starting in 2035**, **every 5 years** the Commission will **assess** the effectiveness of the Regulation to achieve zero-emission mobility.
- Commission will also assess the impact, feasibility and appropriateness of including **local content requirements**.
- Taking into account market and technology developments, Commission shall assess and review, as appropriate, the Regulation, in particular with regards to adjusting the **fleet-wide targets** with a view to maintaining alignment with the **2050 climate neutrality** objective.

Proposal COM(2025)995: elements related to vehicle labelling

Evaluation of the Car Labelling Directive

- Some **groups of vehicle buyers** are not/not well served by the Directive:
  - zero-emission cars
  - new vans
  - second-hand vehicles
- Lack of **harmonisation** causes implementation to vary significantly across MS
- Consumers increasingly rely on **digital platforms** for information on new cars, while the Directive is focused on dealerships / physical points of sale.

These problems limit the Directive's ability to support demand for zero-emission vehicles, and thus to act as a demand-side measure supporting the Regulation setting CO_2 emission standards for new cars and vans.

From Directive to Regulation

- Vehicle labelling requirements should be incorporated into Regulation (EU) 2019/631 in order to safeguard its consistent and harmonised application across the Union (Recital (20)).

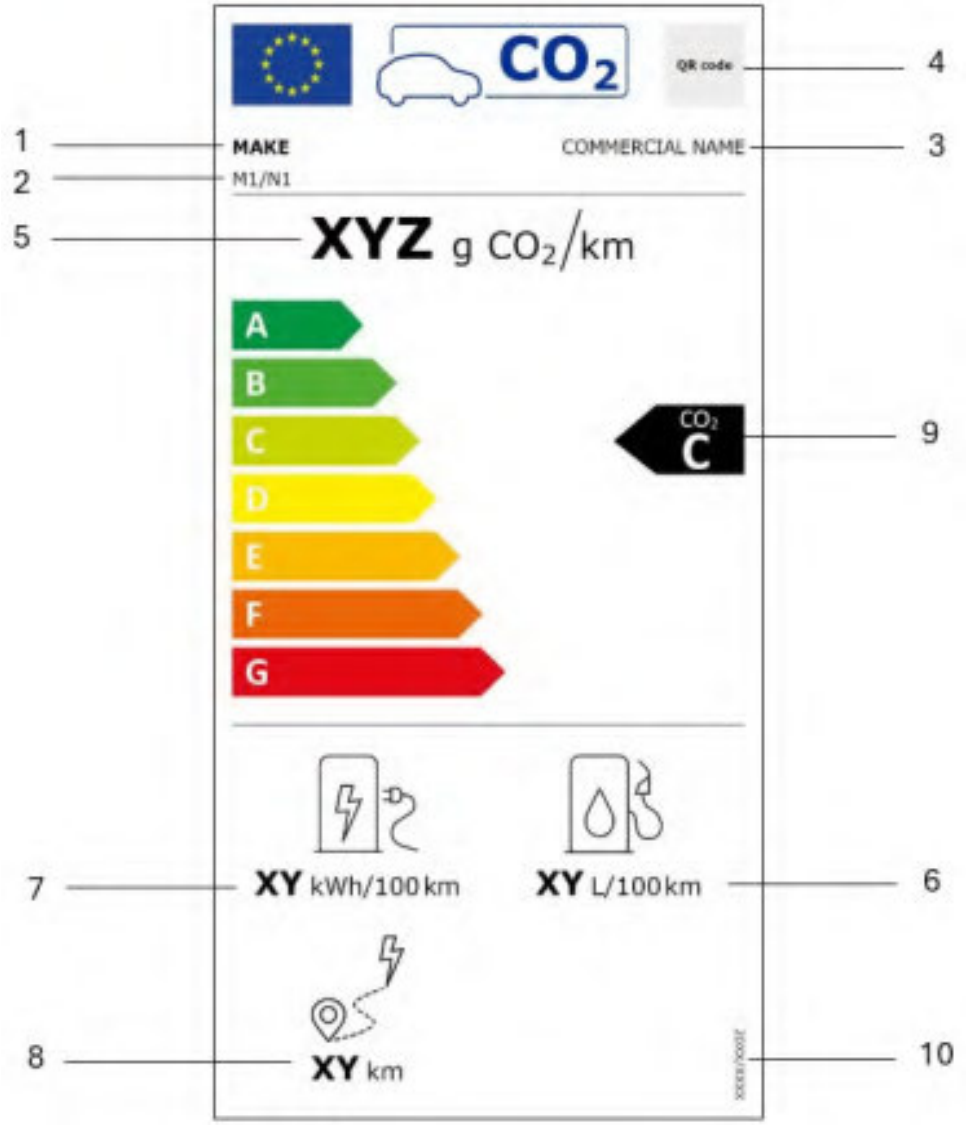
Scope

- All (new and second-hand) vehicles of categories M1 and N1, offered for sale or lease in the Union, that are type-approved in accordance with the WLTP
    - Excluding vehicles that were type-approved under NEDC
    - Obligations for distributors: only for those putting vehicles on the market in the course of a commercial activity, i.e. not private persons occasionally selling a second-hand car

Obligations of manufacturers and distributors - individual vehicles

- Distributors shall ensure that a **vehicle label** (Annex IIIa, Part 2) is attached to or displayed, **near each vehicle offered for sale or lease at their points of sale**.
- Manufacturers and distributors shall ensure that any **promotional material** related to the sale or lease of ***individual vehicles*** shows the **vehicle label** for each vehicle, including for vehicles offered for sale or lease on the internet.
    - Information elements based on values from the **certificate of conformity**
    - Format: l**abel or class arrow** (for promotional material on the internet)

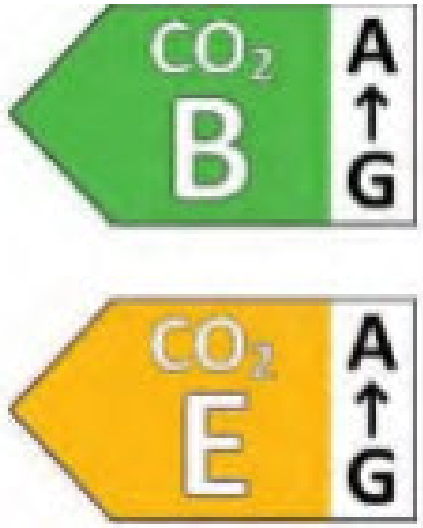
Standard vehicle label



4: QR code giving access to all information elements in the product database for the vehicle model corresponding to the vehicle near which the label is attached or displayed.

6/7/8: Elements vary depending on powertrain

Simplified vehicle label (‘class arrow’)



- For promotional material on the internet
- Product database directly accessible via a weblink by clicking on the class arrow

CO_2 emissions classes (item 9)

CO_2 emissions class	CO_2 emissions in g/km for vehicle category M1	CO_2 emissions in g/km for vehicle category N1
A	0	0
B	1 to 25	1 to 25
C	26 to 50	26 to 50
D	51 to 75	51 to 100
E	76 to 100	101 to 150
F	101 to 125	151 to 200
G	126 and higher	201 and higher

Obligations of manufacturers and distributors - vehicle models

- Where the promotional material concerns ***one or more vehicle models***, the promotional material shall include the values for the technical parameters of **all the vehicles to which it refers** or the **range between the lowest and highest values** of all the vehicles to which it refers.
    - No obligation for a label
    - Technical parameters: CO_2 emissions, fuel consumption, electric consumption, electric range and CO_2 emissions class (items 5-9)

Obligations of manufacturers and distributors - product database

- Manufacturers shall enter information for **each vehicle model** into the **product database**, to be set up by the Commission.
- At the latest 12 months after the entry into force of the Regulation, the Commission shall set up a product database that shall be publicly accessible and shall provide information in relation to the vehicle labelling for vehicle models placed on the market.
- Empowerment for implementing acts to specify the operational details

Product database (Annex IIIa Part 3)

- Mandatory parameters: as in **standard label + the following** additional ones:
    - Test mass
    - NOx, particles (number): declared maximum for complete RDE trip
    - Class of hybrid (electric) vehicle
    - Fuel
    - Date of end of production of vehicle model (once known)
    - Values shall correspond to individual vehicles with the lowest and highest values within the vehicle model.
- Optional parameters:
    - Life-cycle CO_2 emissions of the vehicle
    - 'Made in the EU' (yes/no)
    - Small electric vehicle
- Delegated acts to include additional information relevant for consumers into the product database and to specify the methodology to determine the parameter 'made in the EU'.

Obligations of manufacturers and distributors - other

- The distributor shall inform the potential buyer of a second-hand ZEV or OVC-HEV, of the vehicle's **'traction battery state of health'**, based on the information available in the vehicle display (Euro 7 IA)
- Promotional material distributed by electronic means, which allows consumers to configure a specific vehicle (e.g. **online car configurators**) shall demonstrate how different specific equipment and optional extras affect the values of all technical parameters
- Manufacturers and distributors shall **not** provide or display labels that **mimic** the vehicle label
- **Internet service providers** shall enable the display of the vehicle label.

Obligations of Member States

- Member States shall designate a **market surveillance authority** (Regulation (EU) 2019/1020) responsible for ensuring compliance with Article 15a. Market surveillance authorities may recover the costs of document inspection in cases of non-compliance.
- Member States shall lay down the **rules on penalties and enforcement mechanisms** applicable to infringements of the vehicle labelling provisions and take measures to ensure their implementation. Penalties shall be effective, proportionate, dissuasive.

Fill in copyright information.

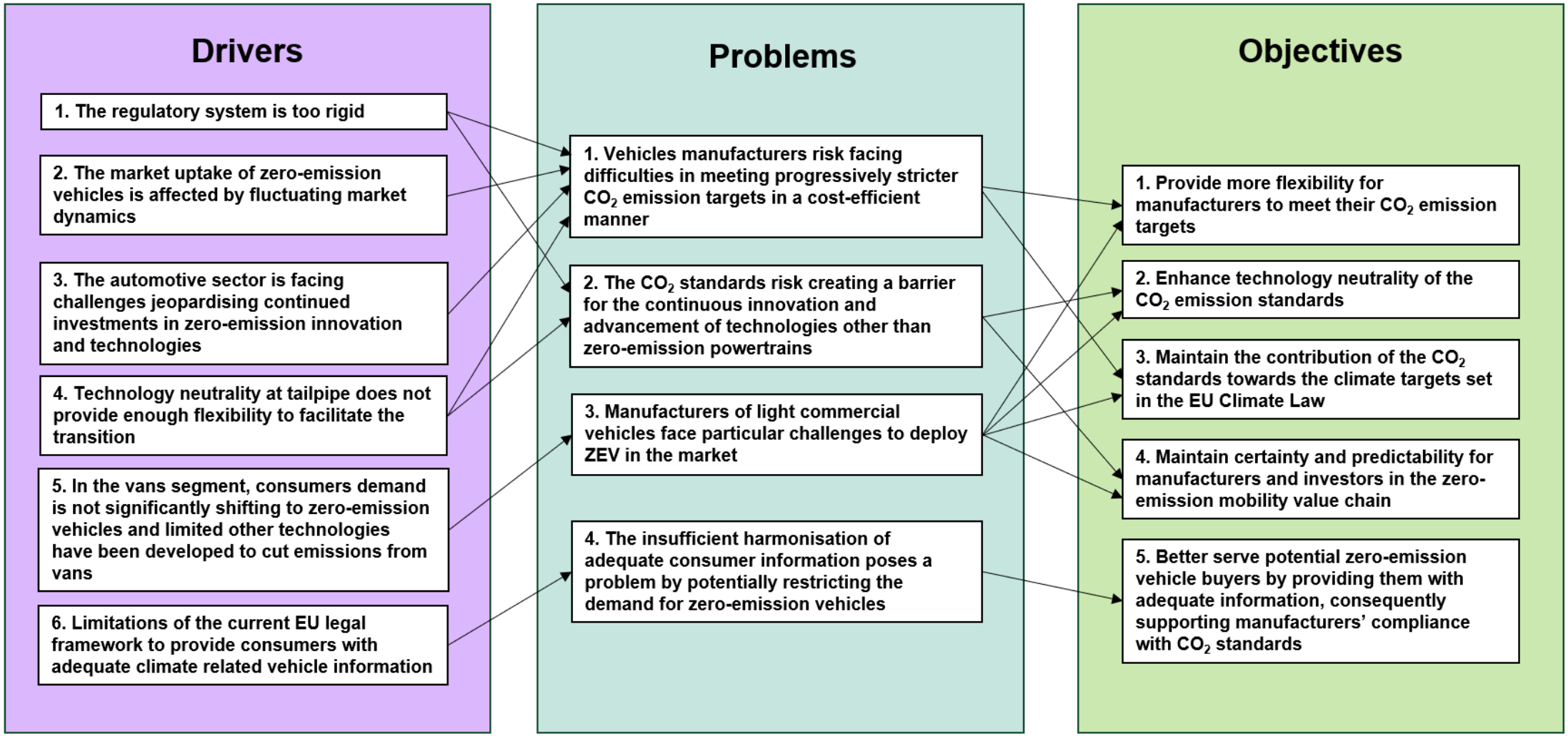
Thank you

Impact Assessment (SWD(2025) 1058) CO_2 emission standards for cars and vans and vehicle labelling

Council – WPE 13/1/2026

European Commission

General objective: to provide a more flexible and technology-neutral approach, taking into account technological developments and market developments, while staying the course on climate neutrality and maintaining predictability for manufacturers and investors in the transition towards zero-emission mobility



Problem definition – what are the problems?

1. Vehicle manufacturers risk facing difficulties in meeting progressively stricter CO_2 emission targets in a cost-efficient manner
2. The CO_2 standards risk creating a barrier for the continuous innovation and advancement of technologies other than zero-emission powertrains
3. Manufacturers of light commercial vehicles face particular challenges to deploy ZEV in the market
4. The insufficient harmonisation of adequate consumer information poses a problem by potentially restricting the demand for zero-emission vehicles

Problem definition – what are the problem drivers?

1. The regulatory system is too rigid
2. The market uptake of zero-emission vehicles is affected by fluctuating market dynamics
3. The automotive sector is facing challenges jeopardising continued investments in zero-emission innovation and technologies
4. Technology neutrality at tailpipe does not provide enough flexibility to facilitate the transition
5. In the vans segment, consumers demand is not significantly shifting to zero-emission vehicles and limited other technologies have been developed to cut emissions from vans
6. Limitations of the current EU legal framework to provide consumers with adequate climate related vehicle information

Objectives

- The general objective of this initiative is to provide a more flexible and technology-neutral approach, taking into account technological and market developments, while staying the course on climate neutrality and maintaining predictability for manufacturers and investors in the fair transition towards zero-emission mobility.
  - Provide **more flexibility** for manufacturers to meet their CO_2 emission targets
  - Enhance **technology neutrality** of the CO_2 emission standards
  - Maintain the **contribution of the CO_2 standards towards the climate targets** set in the EU Climate Law
  - **Maintain certainty and predictability for manufacturers and investors** in the zero-emission mobility value chain
  - **Better serve potential zero-emission vehicle buyers** by providing them with adequate information, consequently supporting manufacturers' compliance with CO_2 standards

Why should the EU act?

- Legal basis: Title XX (Environment) of the Treaty on the Functioning of the European Union (TFEU), in particular Article 191 and Article 192, empowers the EU to act to ensure a high level of protection of the environment. Based on **Article 192** of the TFEU, the EU has already adopted policies to address CO2 emissions from cars and vans through Regulation (EU) 2019/631, currently effective since 1 January 2020 and to provide consumers with information relating to the fuel economy and CO2 emissions of new passenger cars offered for sale or lease through Directive 1999/94/EC.
- Subsidiarity:
  - **Necessity of EU action**: Climate change is a transboundary problem, where coordinated EU action can supplement and reinforce national, regional and local action effectively. EU action is justified on the grounds of subsidiarity, in line with Article 191 of the Lisbon Treaty.
  - **Added value of EU action**: the objectives of this initiative, can only be achieved at Union level.

Elements related to CO_2 emission standards

Policy options (1)

- **Baseline**
  - Includes all relevant existing policies and measures, including the EU Climate Law (2030 and 2050 targets; 2040 proposal)
  - Meeting 50%(vans)/55%(cars) emission reduction target in 2030; 100% target in 2035
  - Calibrated to latest statistics available

- **Fleet-wide CO_2 emissions targets**
  - TL_vans: vans target 40% in 2030
  - TL_100_2040: 100% target postponed by 5 years, with a 90% target in 2035 for all LDVs
  - TL_90: vans target 40% in 2030; 90% target from 2035 for all LDVs

Policy options (2)

- **Role of sustainable renewable fuels**
  - Carbon credit mechanism (CCM)
  - Vehicles exclusively running on the eligible fuels (VEEF)
  - Both mechanism with two variants: RFNBO only or RFNBO + Advanced biofuels (SRF)
- **Role of OVC-HEV**: OVC-HEV meeting certain characteristics would not lead to target exceedance post-2035 (with cap)
  - OVC-HEV_1: eligible vehicles must have an electric range exceeding a certain value
  - OVC-HEV_2: as OVC-HEV_1 + additional characteristics to maximise use in electric mode
- **Other flexibilities**
  - Multiannual compliance assessment
  - Super-credits for small and affordable ZEV

Policy options (3)

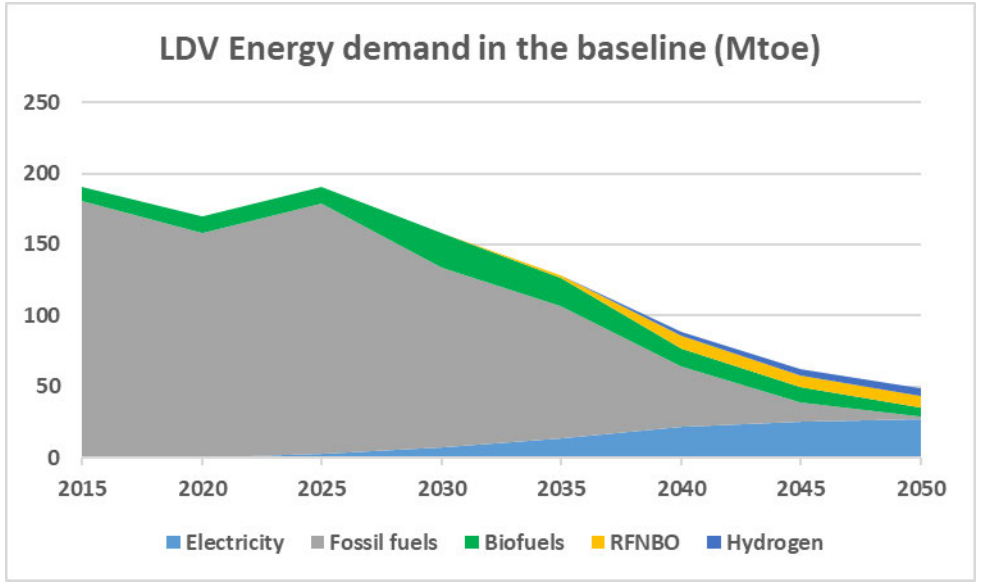
- **Financial support via use of fines**
  - **REV_IF**: Assign revenues to the Innovation Fund to be used to top-up the instrument that includes the whole supply chain of automotive-related projects such as batteries or recharging infrastructure, or other emission reduction technologies.
  - **REV_SCF**: Assign revenues to the Social Climate Fund to be used for projects that support socially inclusive actions to help citizens and businesses access cleaner mobility options during the transition.

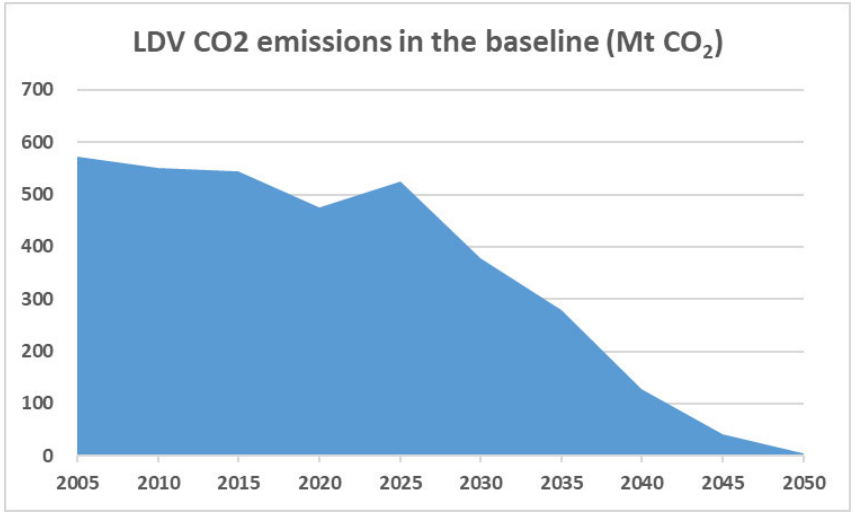
Baseline

- Share of ZEV
  - new cars 16% in 2025, 60% in 2030, 100% from 2035
  - all cars: 13% in 2030, 83% in 2050
  - new vans 8% in 2025, 50% in 2030, 100% from 2035
  - all vans: 10% in 2030, 82% in 2050
- **Around 240** million zero-emission LDVs in 2050

→ -74% energy demand in 2050

→ Almost no CO2 emissions in 2050

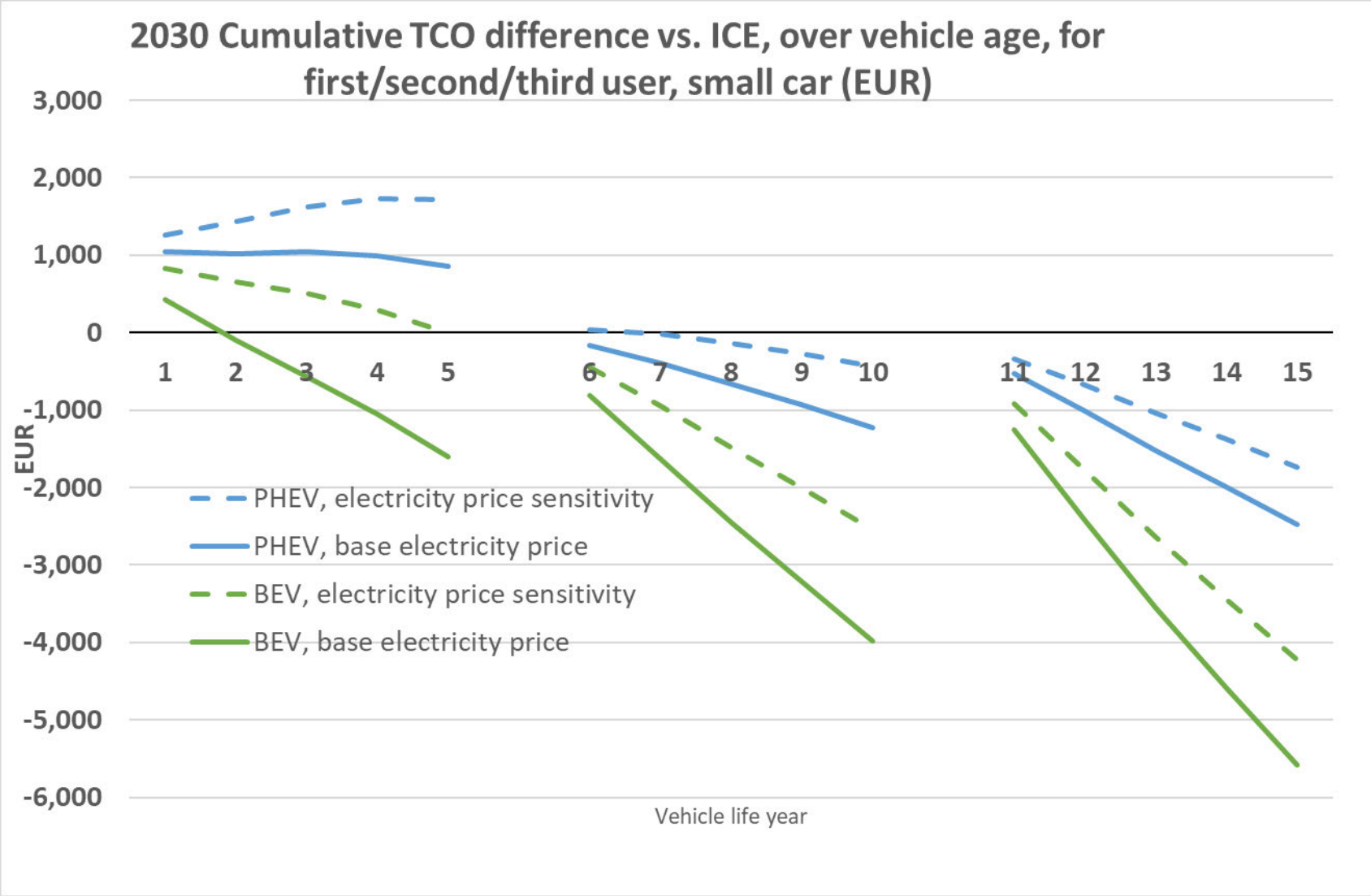




Total Cost of Ownership (TCO)

- In the DIONE model (JRC), **technology costs** and **operating costs** are aggregated, discounted and weighted where appropriate, to calculate total costs of ownership from the perspectives of **end-users** and **society**
  - the **capital cost** of the vehicle
  - the **expenses for fuel and energy**
  - the **operation, maintenance and insurance costs**.
- For different perspective
  - Net savings from an end-user perspective (1st, 2nd and 3rd users)
  - Net economic savings (or costs) over the vehicle lifetime from a societal perspective
  - Different parameters apply (capital cost/depreciation, mileage, discount rates, etc.)
- For the average vehicle (compared to the baseline)
- By powertrain (new)
- Details (model and methodology) provided in Annex 4, results in chapter 6 and Annex 8

Total Cost of Ownership by powertrain



Total Cost of Ownership by powertrain

- Sensitivities (electricity and battery prices) confirm that BEV are the cheapest option
- Vans: also for small, medium and large vans BEV are the cheapest option from a TCO perspective
- Vehicles bought in 2035: BEV and PHEV become less costly on a TCO basis in comparison to the 2030 results → bigger savings
- Impact of dedicated SRF vehicles on TCO: the TCO of 2035 gasoline combustion engine vehicles changes (slightly higher capital costs, and fuel prices can also be expected to be higher)
- Detailed assessment provided in chapter 3 of Annex 8

Impacts – CO2 emission targets (1)

Share by powertrain of the new fleet (% difference vs Baseline)

Cars

TL_Vans	2030	2035	2040	2045	2050
Total	0%	0%	0%	0%	0%
ICE incl hybrids	0%	0%	0%	0%	0%
PHEV	0%	0%	0%	0%	0%
ZEV	0%	0%	0%	0%	0%

TL_100_2040	2030	2035	2040	2045	2050
Total	0%	0%	-2%	-1%	-1%
ICE incl hybrids	0%	9%	0%	0%	0%
PHEV	0%	2%	0%	0%	0%
ZEV	0%	-11%	0%	0%	0%

TL_90	2030	2035	2040	2045	2050
Total	0%	0%	-2%	-3%	-2%
ICE incl hybrids	0%	9%	8%	8%	9%
PHEV	0%	2%	2%	2%	3%
ZEV	0%	-11%	-10%	-11%	-12%

Vans

TL_Vans	2030	2035	2040	2045	2050
Total	0%	0%	0%	0%	0%
ICE incl hybrids	9%	0%	0%	0%	0%
PHEV	-1%	0%	0%	0%	0%
ZEV	-9%	0%	0%	0%	0%

TL_100_2040	2030	2035	2040	2045	2050
Total	0%	0%	-3%	-1%	0%
ICE incl hybrids	0%	8%	0%	0%	0%
PHEV	0%	8%	0%	0%	0%
ZEV	0%	-16%	0%	0%	0%

TL_90	2030	2035	2040	2045	2050
Total	0%	0%	-3%	-5%	-2%
ICE incl hybrids	9%	8%	5%	4%	4%
PHEV	-1%	8%	14%	14%	13%
ZEV	-9%	-16%	-19%	-18%	-17%

Impacts – CO2 emission targets (2)

- From a system perspective, in the different policy scenarios, there is a **slight increase in total costs**, including capital and operating costs (fuel and non-fuel costs)
  - For LDV it increases by 0.2% (EUR 53 billion) in TL_90, despite a reduction in activity
- Reducing the target level ambition causes **a small increase in TCO**, both from a user and from a societal perspective
- In all options, **manufacturers face a reduction in costs**
- Increase in the energy consumption…
  - TL_90: +1% in 2035; +6% in 2040; +13% in 2050 (liquid fuels +11% in 2040, +57% in 2050)
- .. and limited increase of CO_2 emissions
  - TL_90: +5% (+167 Mt CO_2)

Impacts – Role of sustainable renewable fuels

- Qualitatively, CCM has the same impact as lowering the targets (less BEV → energy demand → higher costs and higher CO_2 emissions)
  - RFNBO only → higher costs and less credits (vs SRF)
- Limited uptake of VEEF (high fuel costs and less expensive alternatives are available)
  - RFNBO only → higher costs and less VEEF (vs SRF)
- Main difference: VEEF → no extra CO_2 emissions but more expensive
- In all options, manufacturers face a reduction in costs, compared to the baseline

Impacts – Role of sustainable renewable fuels

Share by powertrain of the new fleet (% difference vs Baseline)

Cars

CCM-RFNBO	2030	2035	2040	2045	2050
Total	0%	0%	-1%	-2%	-2%
ICE incl hybrids	0%	1%	8%	7%	8%
PHEV	0%	1%	2%	2%	2%
ZEV	0%	-2%	-10%	-10%	-10%

CCM-SRF	2030	2035	2040	2045	2050
Total	0%	0%	-3%	-4%	-3%
ICE incl hybrids	0%	12%	13%	12%	10%
PHEV	0%	2%	3%	2%	3%
ZEV	0%	-14%	-16%	-14%	-13%

VEEF-SRF	2030	2035	2040	2045	2050
Total	0%	0%	-1%	-1%	0%
ICE incl hybrids	0%	4%	1%	1%	1%
PHEV	0%	0%	0%	0%	0%
ZEV	0%	-4%	-1%	-1%	-1%

VEEF-RFNBO	2030	2035	2040	2045	2050
Total	0%	0%	0%	0%	0%
ICE incl hybrids	0%	1%	1%	1%	1%
PHEV	0%	0%	0%	0%	0%
ZEV	0%	-1%	-1%	-1%	-1%

Vans

CCM-RFNBO	2030	2035	2040	2045	2050
Total	0%	0%	-1%	-3%	-2%
ICE incl hybrids	0%	1%	3%	2%	2%
PHEV	0%	2%	9%	9%	8%
ZEV	0%	-2%	-12%	-11%	-10%

CCM-SRF	2030	2035	2040	2045	2050
Total	0%	0%	-3%	-5%	-3%
ICE incl hybrids	0%	6%	5%	4%	3%
PHEV	0%	7%	14%	13%	10%
ZEV	0%	-14%	-19%	-16%	-13%

VEEF-SRF	2030	2035	2040	2045	2050
Total	0%	0%	-2%	-2%	0%
ICE incl hybrids	0%	13%	9%	6%	6%
PHEV	0%	0%	0%	0%	0%
ZEV	0%	-13%	-9%	-6%	-6%

VEEF-RFNBO	2030	2035	2040	2045	2050
Total	0%	0%	-1%	-2%	0%
ICE incl hybrids	0%	10%	7%	5%	5%
PHEV	0%	0%	0%	0%	0%
ZEV	0%	-10%	-7%	-5%	-5%

Impacts – Carbon Correction Mechanism (CCM)

- Qualitatively, CCM has a similar impact as lowering the targets (less BEV → energy demand → higher costs and higher CO_2 emissions)
  - RFNBO only → higher costs and less credits (vs SRF)
  - In 2050, the projected number of ZEV on the EU roads declines by 14 million, if credits are given for RFNBO only, and by 28 million, if credits are given for SRF.
  - Adjustment costs increase, while cars and vans activity is reduced (total costs +19 / +51 bn€)
  - Increase in TCO
  - Increase in energy demand (in 2050: +8/+16% total; +34/+72% for liquid fuels)
  - Increase in cumulative (2030 to 2050) CO_2 emissions (1% / 4%)
  - Manufacturers face a reduction in costs, compared to the baseline

Impacts – VEEF

- Limited uptake of VEEF (high fuel costs and less expensive alternatives are available)
  - RFNBO only → higher costs and less VEEF (vs SRF)
  - In 2050, 3 million less ZEV on the road (RFNBO only) or 4 million (SRF)
  - Negligible changes in adjustment costs and activity, very limited TCO changes
  - Small increase in energy demand, but the demand for the eligible fuels increases more substantially (+15/20% in the long run)
  - CO_2 emissions do not increase
- But impact are significantly higher if share of VEEF is higher (10 or 20%)
  - Up to 56 million less ZEV on the road in 2050
  - Adjustment costs increase (up to +54 bn€ for 20% VEEF-RFNBO)
  - TCO increases (by 5k € for societal costs, by around 2k € per user for cars; higher for vans)
- Manufacturers face a reduction in costs, but some additional admin burden
- Main difference with other policy options: VEEF → no extra CO_2 emissions but more expensive

Impacts – Role of sustainable renewable fuels

- In view of sustainability considerations, the uptake of bioenergy in the energy system in the baseline is set for the overall bioenergy use in the entire EU energy system on the basis of the potential as in the JRC's ENSPRESO Biomass database
- The additional demand for advanced biofuels across most fuels-related scenarios remains within the corresponding potential of the related feedstocks, although the 2035-2040 period may represent a stress point as the remaining available potential may be low.

Impacts – Role of sustainable renewable fuels

- **The scenario with the highest market penetration of advanced biofuels exceeds the potential throughout the period 2040-2050** and therefore creates issues for the availability of renewable fuels for other competing economy sectors such as maritime and aviation, electricity production or industry.
- In the other scenarios, the additional quantities required for passenger cars and vans transport can be met under the cap throughout the period up to 2050, without drawing bioenergy from other sectors.
- Additional details and an overview of other literature concerning the potential availability of sustainable biological feedstocks and their costs is provided in Annex 8.

Impacts – role of OVC-HEV (1)

- OVC-HEV_1: electric range > 150 km
- OVC_HEV2: el. range > 150 km and additional characteristics
  - Electric range larger than non-electric range
  - ICE not operating when the battery is not depleted
  - Fast DC charging - maximum power output of at least 50 kW

Share by powertrain of the new fleet (% difference vs Baseline)

Cars

OVC-HEV	2030	2035	2040	2045	2050
Total	0%	0%	-1%	-1%	-1%
ICE incl hybrids	0%	0%	0%	0%	0%
PHEV	0%	4%	5%	4%	4%
ZEV	0%	-4%	-5%	-4%	-4%

Vans

OVC-HEV	2030	2035	2040	2045	2050
Total	0%	0%	-2%	-3%	-1%
ICE incl hybrids	0%	0%	0%	0%	0%
PHEV	0%	14%	14%	14%	14%
ZEV	0%	-14%	-14%	-14%	-14%

Impacts – role of OVC-HEV (2)

- Limited uptake of OVC-HEV (high fuel costs and less expensive alternatives are available)
  - In 2050, 10 million less ZEV on the road
  - Marginal changes in adjustment costs and small reduction in activity
  - Modest increase in TCO
  - Very minor impact on manufacturers' costs but maintaining some future in the EU domestic market after 2034 for well-designed OVC-HEV would support European industry's domestic investment and production of OVC-HEV and the associated ICE supply chain. Some additional admin burden for OVC-HEV_2)
  - Moderate increase in energy demand
  - Limited increase in cumulative CO_2 emissions (+0.4%)
- But impact are significantly higher if share of OVC-HEV is higher (10 or 20%)
  - Up to 56 million less ZEV on the road in 2050
  - Adjustment costs increase (up to +47 bn€ for 20% OVC-HEV)
  - TCO increases (by 1800-2000 € for societal costs, by around 7-800 € per user for cars; higher for vans)

Impacts – role of OVC-HEV and steel

- Variant: additional emissions coming from OVC-HEV to be compensated by low-carbon steel
- Based on a methodology to calculate the carbon intensity of the steel and the related label, which should be defined in the proposal for an Industrial Accelerator Act (IAA) under preparation, equivalent credits under the CO_2 standards are calculated, taking into account the quantity and the carbon intensity of the steel used by manufacturers, as well as the average lifetime milage of the vehicles.
- The additional cost per vehicle (for the whole new vehicles fleet) would amount to around 40 € (190 €per vehicle if share of OVC-HEV is set at 20%)
- Impacts on the energy demand and CO_2 emissions reported in this section, as the relevant changes would happen outside the transport sector.
- CO_2 savings linked to the switch to low-carbon steel can be expected to be equal to the additional CO_2 emissions of the OVC-HEV registered from 2035.

Impacts – multiannual compliance

- The estimation of the GHG emission impact of this option is based on the assumption that this could lead to a shift between drivetrains over the years 2030-2032 – from ZEVs towards ICEVs and OVC-HEVs in the first year, and vice versa in the last year.
- As this compensations happens over the years, in principle this modality is quasi-neutral in terms of emissions
- It only slightly increases cumulative emissions under the assumption that some anticipation of the future targets occurs in the baseline, so that some overachievement of the target is realised (e.g. in 2031 and 2032).
- Even in this scenario, and assuming all manufacturers use the flexibility, the increase in the energy demand of LDVs leads to a very limited increase in cumulative (2030 to 2050) LDV tailpipe CO_2 emissions of 0.3%.

Impacts – Super-credits for small ZEV

- Slightly higher share of non-ZEV (1.5% with multiplier 1.25; 3% with multiplier 1.5)
- Negligible impact on the total costs
- Small increase in energy demand (up to 0.5%)
- Small increase in cumulative CO_2 emissions (0.2% and 0.4%)
- A multiplier could also incentivise the manufacturers to place on the market more of these vehicles together with also higher volumes of ICEVs, which in the short term can provide them more profit margin and therefore a short-term economic advantage.
- The broader benefits of small cars also include higher resource efficiency, possible avoided congestion costs, and reduction in space occupancy.

Small ZEV (mult: 1.5)	2030	2035	2040	2045	2050
Total	0%	0%	0%	0%	0%
ICE incl hybrids	3%	0%	0%	0%	0%
PHEV	0%	0%	0%	0%	0%
ZEV	-3%	0%	0%	0%	0%

Macro economics impacts

	2040		2050	
Macroeconomic Aggregates	**COMBI_1**	**COMBI_2**	**COMBI_1**	**COMBI_2**
Gross Domestic Product	-0.02%	-0.04%	-0.04%	-0.12%
Investment	0.02%	0.05%	0.02%	0.12%
Private Consumption	0.00%	-0.04%	-0.01%	-0.04%

- The macroeconomic impacts of the combinations of options remain limited
- Some positive direct impacts compared to the baseline due to the substitution of EV with ICEV, more domestically produced, as well as an increased switch to renewable fuels reducing import reliance
- GDP slightly declines compared to the baseline, mainly due to higher expenditure for transportation, leading to higher production costs in Europe and an overall decrease in competitiveness, as well as higher costs of capitals
- At EU level, real GDP is projected to be 23% higher in 2030 than in 2015, 39% higher in 2040, and 60% higher in 2050 compared to 2015.

Employment impacts (1)

	2040		2050	
	COMBI_1	COMBI_2	COMBI_1	COMBI_2
Oil	-0.02%	1.18%	0.07%	1.01%
Power Supply	-0.40%	-1.27%	-0.45%	-2.82%
Biofuels and synthetic fuels	5.08%	9.79%	7.67%	28.99%
Hydrogen	-0.52%	-1.13%	-0.32%	-1.53%
Transport equipment (excluding EV)	1.95%	4.56%	1.54%	3.67%
Batteries	-3.67%	-9.17%	-3.28%	-9.86%
EV Transport Equipment	-5.07%	-12.36%	-4.94%	-13.62%
Total	0.002%	-0.002%	-0.054%	-0.178%

- Total employment is marginally impacted, with minor increases in the short-term and small reductions in the longer-term relative to the baseline

Employment impacts (2)

- While jobs in the European automotive industry kept increasing up to 2023, net job losses were announced as of 2024.
- Overall, these impacts on employment are triggered by different causes, including competitiveness problems, alongside structural production changes that include growing automation and digitalisation, and overcapacity.
- By contrast, some studies suggest that the shift towards zero-emission mobility has a neutral effect on employment across the entire ecosystem, or can even result in higher employment, more particularly when battery production and assembly are included
- However, this may still result in disruptions, in particular at local level and in regions that specialised in ICE manufacturing
- Some further flexibilities in the transition may help to mitigate local or national impacts, in particular in the ICE value chain for the suppliers industry, including SMEs, that could still benefit from a local market of new vehicles fitted with an ICE on top of producing for the aftermarket and for export markets.

Social Impacts

- Question: whether and to what extent the policy combinations affect different population groups differentiated according to their income?
  - Impacts on the welfare of consumers, taking into account the particular characteristics of different income
  - Affordability of ZEV in the different income groups.
- Across all scenarios, affordability patterns differ markedly between first, second, and third users and, within each user group, are shaped mainly by vehicle size and, to a lesser extent, by powertrain type.
- **Average vehicle affordability remains broadly stable over time among the different scenarios, with only a few isolated changes**.
- **From a subjective TCO perspective, all income groups face increases in ownership costs relative to their annual income** (compared to the baseline),

Revenues

- Option REV_IF, the possible revenue would be assigned to the Innovation Fund
  - part of the IF could be allocated to support specific types of projects, including in areas such as clean mobility, batteries, and related technologies. This part would be supplemented by amounts derived from fines.
  - However, the IF has already allocated a significant amount of money for the battery value chain and the Battery booster initiative includes a comprehensive set of actions aimed to contribute to this objective.
- Option REV_SCF, the revenue from the excess emission premiums would be assigned to the Social Climate Fund
  - Additional opportunities to incentivise a mass market of zero-emission powertrains, which in turn can help manufacturers meet their CO_2 targets
- The overall impact of the additional revenue generated is expected to be limited
- Assigning the revenue to a specific fund and distributing the additional resources may slightly increase the administrative burden

Elements related to vehicle labelling

Vehicle labelling – policy options

- **LAB_1:**
  - Establishing a fully harmonised, single label design based on the EU energy label;
  - Adding information elements on the label: electric energy consumption and electric range;
  - Extending the scope to new vans and to second-hand cars and vans offered for sale or lease and first registered in the EU after the entry into force of the legislation;
  - Removing the requirement to have a paper guide and paper poster;
  - Adding a QR code on the label giving access to additional info stored in an online database;
  - Requiring all types of advertisement to include essential information from the label.
- **LAB_2:**
  - All the elements of option LAB_1;
  - Further extension of the scope to all second-hand cars and vans, including those first registered before the legislation enters into force.

Vehicle labelling – impacts (1)

- Impacts on the **provision of information to consumers**
  - Could only be assessed in a **qualitative manner**, since it is not possible to disentangle the vehicle labelling's specific contribution to consumer behaviour in a quantitative way
  - In addition, how many **additional consumers**, i.e. potential buyers of zero-emission cars, vans and second-hand vehicles, can be informed via the vehicle labelling is also considered.

- Option LAB_2 has a stronger positive impact than LAB_1, as it covers nearly all potential vehicle buyers due to the extension of the scope to all second-hand vehicles.

Vehicle labelling – impacts (2)

- **Economic Impacts**
  - Compliance costs for **businesses**
    - LAB_1: compliance cost: EUR 243 million and cost savings of EUR 100 million ➔ additional net compliance costs: EUR 143 million ➔ EUR 1 per new vehicle sold.
    - LAB_2: additional costs due to the scope extension to all second-hand vehicles ➔ additional net compliance cost: EUR 437 million ➔ EUR 3 per new vehicle sold.
  - Implementation costs for **national authorities**
    - LAB_1: net cost **savings** of EUR 10 million
    - LAB_2: net **cost** of EUR 7.5 million

- **Environmental Impacts**
  - Both options may support increased demand for ZEV, which results in less CO_2 and pollutant emissions than under the baseline

Vehicle labelling – how do the options compare?

Option	Effectiveness	Efficiency	Coherence	Proportionality - added value
LAB_1	+	+	+	+
LAB_2	++	0	+	+

- Option LAB_2 is the preferred option, since it covers more vehicles, which means that the information in the label and promotional material will **reach more potential buyers** of second-hand ZEV, and as a result brings more effectiveness, despite a slightly higher cost for businesses when expressed per label

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