



EU CO₂ emission policy :

State of Play

European Commission, DG CLIMA

Clean Mobility Package: an integrated approach

2016 Clean Energy Package

RED II: low-emission fuels

2016 European Low-Emission Mobility Strategy

Clean Vehicles Directive

Member States, regions and cities

Infrastructure promoters and project developers

Action Plan Alternative Fuels Infrastructure

2017 Mobility Package II

New CO₂ standards for cars and vans

Automotive industry (cars, trucks and buses)

Batteries Initiative

Suppliers in the value chains (materials, equipment, batteries,...)

Innovative actors (digital services, mobility solutions)



Financial investors and capital markets

Maintenance



Citizens, consumers, users and drivers at the centre

2017 Mobility Package I

Eurovignette Directive

Climate Action

2018 Mobility Package III

CO₂ emission standards for HDV

Road charges: proposal for the Eurovignette Directive

- Extension of scope to all vehicles with 4+ wheels
- Phasing out of time-based user charges (vignettes)
 - For HDVs (HGVs and buses/coaches) by end 2023
 - For cars and vans by end 2027
- Variation of the infra charge based on CO2 emissions for HDVs (instead of variation based on Euro class)
- Mandatory external costs charging on most affected parts of network (instead of optional)
- NEW: Variation of charges based on CO2 and pollutant emissions for cars and vans
- Possibility to charge for congestion if applied to all vehicles + revenues earmarked (instead of revenue neutral variation)
- Possibility to apply mark-ups up to 25% in polluted/congested areas (not only in mountain regions as now)
- More regular and thorough reporting on revenues, their use and effects
- Separate proposal: reduce the minimum vehicle tax (applicable to HGVs > 12t) to zero over 5 years.

Amendment of Directive 2009/33 on the promotion of clean, energy-efficient road transport vehicles

Objectives:

- Improve effectiveness (too complicated, too much flexibility)
- Create additional demand/market for clean vehicles and drive innovation, complementing emission standards

Amendments:

- Extend scope to cover all relevant public procurement practices
- Minimum procurement targets at MS level for 2025 and 2030
 - clean LDV: CO₂/air pollutant emission threshold
 - clean HDV: alternative fuels based (CO₂ emission based once standards in place)

Alternative Fuels Infrastructure Action Plan

Report on national plans submitted under Directive 2014/94/EU

- Insufficient progress with implementation
- National plans incomplete and not ambitious enough, esp. on electricity
- Funding insufficient and fragmented
- Needs in line with new cars/vans CO₂ proposal:
 - 440,000 charging points needed by 2020 and some 2 mn by 2025
- Total investment needs AFI: €5.2bn (2020) - €16-22 bn (2025)

Action plan

- Investment support
 - **€800 mn Cion support: 2nd CEF Blending call (€350 mn) and NER300 (€450 mn)**
 - **Better coordination of EU funds and synergies with action at national/local level**
- Interoperability and link transport/energy

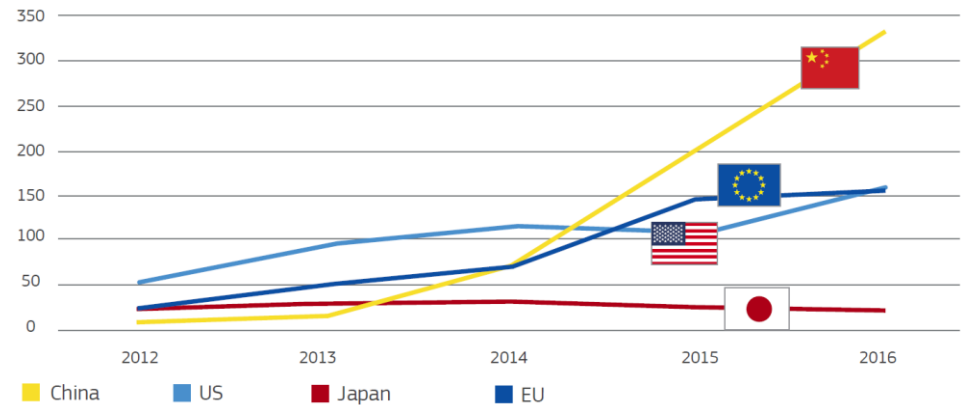
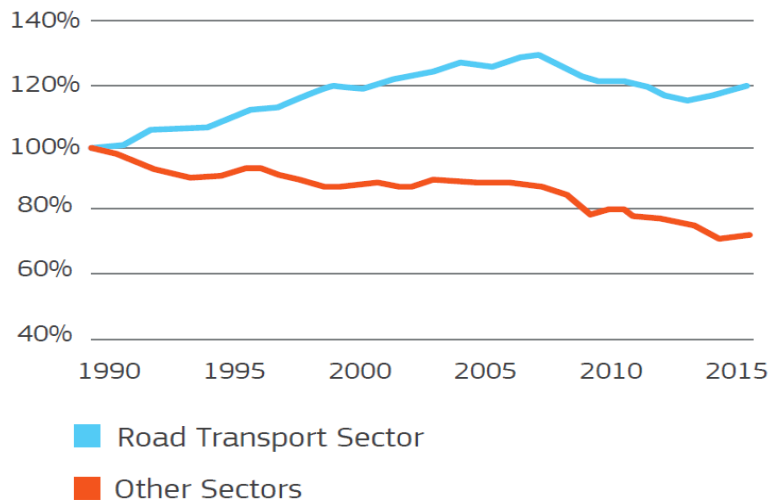
Batteries Initiative

- Batteries are a key enabler for the clean energy transition
- Industry led initiative, bringing stakeholders together in order to develop EU-wide approach to **establish a complete value-chain** for the development and manufacturing of **advanced** batteries in the EU, esp. as regards **cell** manufacturing
- **Crucial to move quickly from research to testing and demonstration,**
- **Additional EUR 200 mn** will be allocated to batteries research and innovation under **Horizon 2020 (2018-2020)**
- **Action Plan** to be adopted as part of Mobility Package III

CO₂ Emission Standards for cars and vans TRENDS

- Road transport GHG emissions have not decreased
- Global zero- and low-emission vehicle (ZEV/LEV) sales developing fast

Greenhouse gas emission in the EU in percentage change since 1990:



CO₂ Emission Standards for cars and vans OBJECTIVES

PARIS AGREEMENT

Contribute to the achievement of the EU's commitments under the Paris Agreement by reducing CO₂ emissions from cars and vans cost-effectively

CONSUMERS

Reduce fuel consumption costs for consumers

COMPETITIVENESS

Strengthen the competitiveness of EU automotive industry and stimulate employment

Co-benefits

Air quality improvements

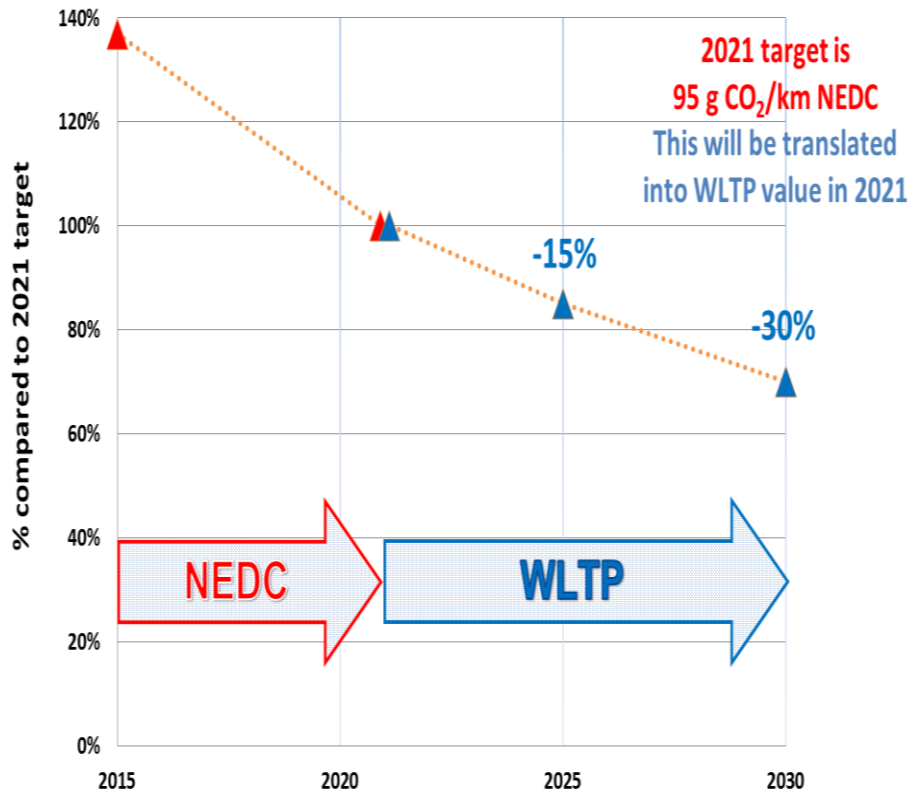
Increased Energy security

CO₂ Emission Standards for cars and vans Expected key BENEFITS

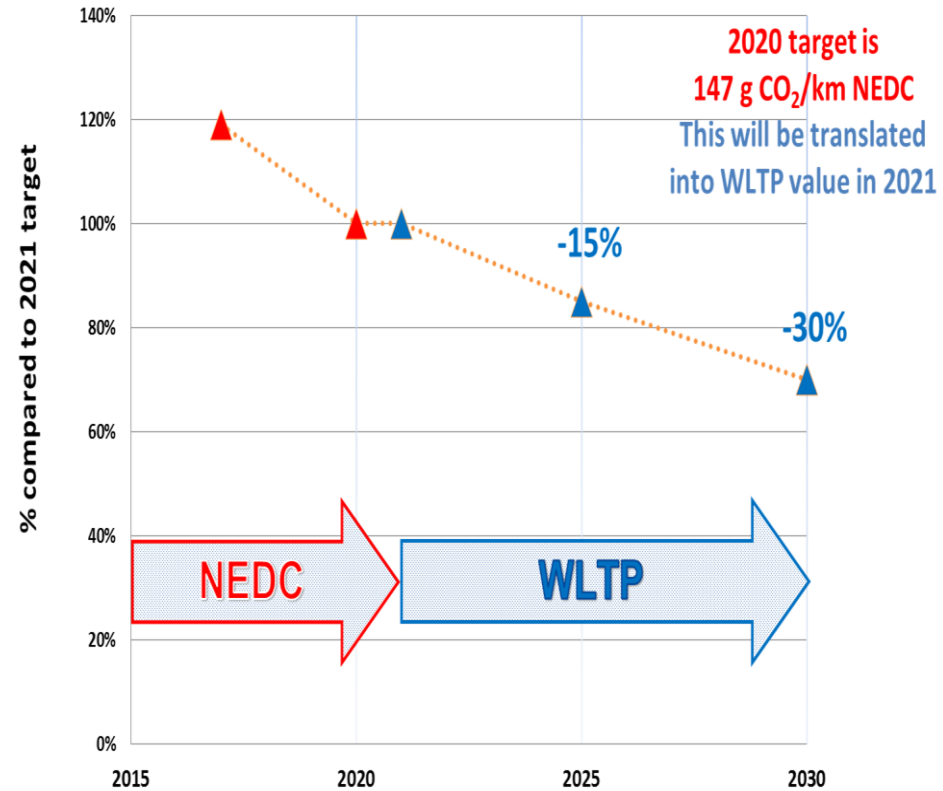
- **170 million tonnes of CO₂ reduced 2020-2030**
- **consumers** will, on average, save up to around **€600** for new cars bought in **2025** and up to about **€1500** in **2030**
- overall, fuel costs savings up to around €18 bn per year
- **GDP increase by up to €6.8 bn** in 2030, up to 70,000 additional **jobs**

CO₂ Emission Standards for cars and vans TARGETS

EU-wide fleet CO₂ target levels - Cars



EU-wide fleet CO₂ target levels - Vans



CO₂ Emission Standards for cars and vans ZEV/LEV incentive mechanism

- Aimed to reward best performers in technology neutral way
- Cars/vans with CO₂ emissions **0 - 50 g CO₂/km**
- ZEV/LEV **benchmarks: 15% in 2025 and 30% in 2030**
- Manufacturers with ZEV/LEV fleet share above **benchmark** will benefit from less stringent CO₂ target
 - "exchange rate": 1%/1%
 - maximum 5% increase of CO₂ target
- ZEV count as one vehicle, while LEV count according to CO₂ emissions

Illustrative example (2030)



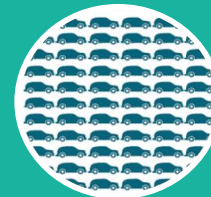
specific emissions
reference target =
100 g CO₂/km



specific emissions
target =
105 g CO₂/km
(max. + 5 % credit)



benchmark = 30% ZLEV



37 % ZLEV

CO₂ Emission Standards for cars and vans GOVERNANCE

- 1. Penalty: 95 EUR per g/km CO₂ of target exceedance** for each newly registered vehicle of the manufacturer concerned in that year
- 2. Monitoring of gap** between real world and test cycle emissions - data to be made publicly available
 - Obligation for **fuel consumption measurement devices** in new vehicles through type-approval legislation
- 3. Market surveillance:** in-service conformity with adjustment of emissions if significant deviations
- 4. Review** on the effectiveness in 2024

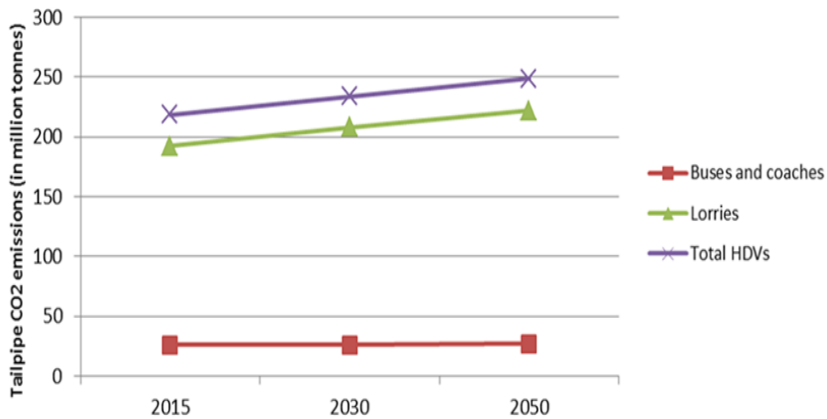
CO₂ Emission Standards for cars and vans Electricity consumption

- Significant increase in the **market penetration of plug-in hybrid and pure electric cars**
 - share in the **new** vehicles fleet projected to increase from 5% in 2020 to up to 30% in 2030
- **Electricity consumption** in cars is projected to increase, but in 2030 it remains
 - below 3% of the total energy consumption in road transport
 - below 2% of the total electricity consumption in the EU
- **Smart charging** to avoid problem at the distribution level at peak times

CO₂ Emission Standards for HDV PROBLEMS identified

1. Increasing CO₂ emissions

HDV CO₂ emissions projections 2030-2050



Source: PRIMES

Lorries, buses & coaches CO₂ emissions:

- 6% of EU total
- 25% of road transport
- +10% by 2030 if no further action




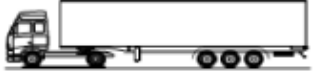




2. Transport operators miss out on fuel savings

Limited uptake of available fuel-saving technologies due to market barriers

3. EU HDV manufacturers and component suppliers are at risk of losing their technological and innovation leadership position

Other countries are already regulating HDV CO₂ emissions

CO₂ Emission Standards for HDV SCOPE

Vehicle group	Axle and chassis configuration	Without trailer	With trailer
4	4x2 Rigid		
5	4x2 Tractor		
9	6x2 Rigid		
10	6x2 Tractor		

- 4 groups of vehicles covered under Certification Regulation
- Largest lorries accounting for 65-70% of total HDV emissions

CO₂ Emission Standards for HDV Fleet-wide Targets, metric, timing

- Mandatory target for **2025**:
15% below 2019 CO₂ emissions levels
- Aspirational target for **2030**:
at least 30% below 2019 CO₂ emission levels
- **Unit:** g CO₂/t km
- **Tailpipe** based approach
- 2022 **early review**

CO₂ Emission Standards for HDV Incentives for zero- and low-emission vehicles

- **ZEV:** no internal combustion engine or engine emitting less than 1 g CO₂/kWh or 1 g CO₂/km
 - **also covers buses, coaches and smaller lorries**
- **LEV:** emitting less than 350 g CO₂/km
 - **i.e. about half of average fleet emissions**
- **Super-credits**
 - Each ZEV counted 2 times
 - Each LEV counted up to 2 times according to its CO₂ emissions
 - 3 % cap on maximum decrease of emissions
 - *safeguard preventing too much weakening of the CO₂ targets*
 - 1.5% sub-cap for buses, coaches and smaller lorries
 - *not to distort market*

CO₂ Emission Standards for HDV Provisions for cost-effective implementation

- **Exempt vocational vehicles** (e.g. garbage trucks, construction lorries)
- **Banking and borrowing** – with safeguards to avoid over-surplus of credits / ensure environmental integrity
 - Reward early action 2019-2024 → banking for 2025 only
 - No carry-over of credits from 2025-2029 to 2030- period
 - Max 5% debts

CO₂ Emission Standards for HDV Governance related provisions

- **Monitoring of gap** between real-world and certified emissions data and ensure availability of real-world emission data
 - **fuel consumption meters**
- **Market surveillance:** in-service conformity, correction mechanism in case of deviations
- **Penalty:** 6 800 € per g CO₂/tkm
 - **equivalent stringency as cars/vans**

CO₂ Emission Standards for cars and vans Expected key BENEFITS

- **170 million tonnes of CO₂ reduced 2020-2030**
- **GDP increase by up to €6.8 bn** in 2030, up to 70,000 additional **jobs**
- **consumers** will, on average, save up to around **€600** for new cars bought in **2025** and up to about **€1500** in **2030**
- overall, fuel costs savings up to around €18 bn per year
- in total **save around 380 million tonnes of oil** over the period 2020 to 2040 – i.e. around €160 bn at today's prices

CO₂ Emission Standards for HDV Main expected **BENEFITS**

- Around **54 million tonnes of CO₂** reduced in the period 2020-2030, i.e. \approx total annual emissions of Sweden.
- **Savings for transport operators:** around €25,000 in the first five years of use for a new lorry bought in 2025.
- **Oil savings of about** 220 million tonnes of oil up to 2040, worth around €95 billion at today's prices
- **GDP** increases resulting in the creation of around 25,000 new **jobs** in 2025 and up to 120,000 jobs in 2030.



More information

DG CLIMA

https://ec.europa.eu/clima/policies/transport/vehicles_en

DG MOVE

https://ec.europa.eu/transport/modes/road/news/2017-11-08-driving-clean-mobility_en