



Euro 7

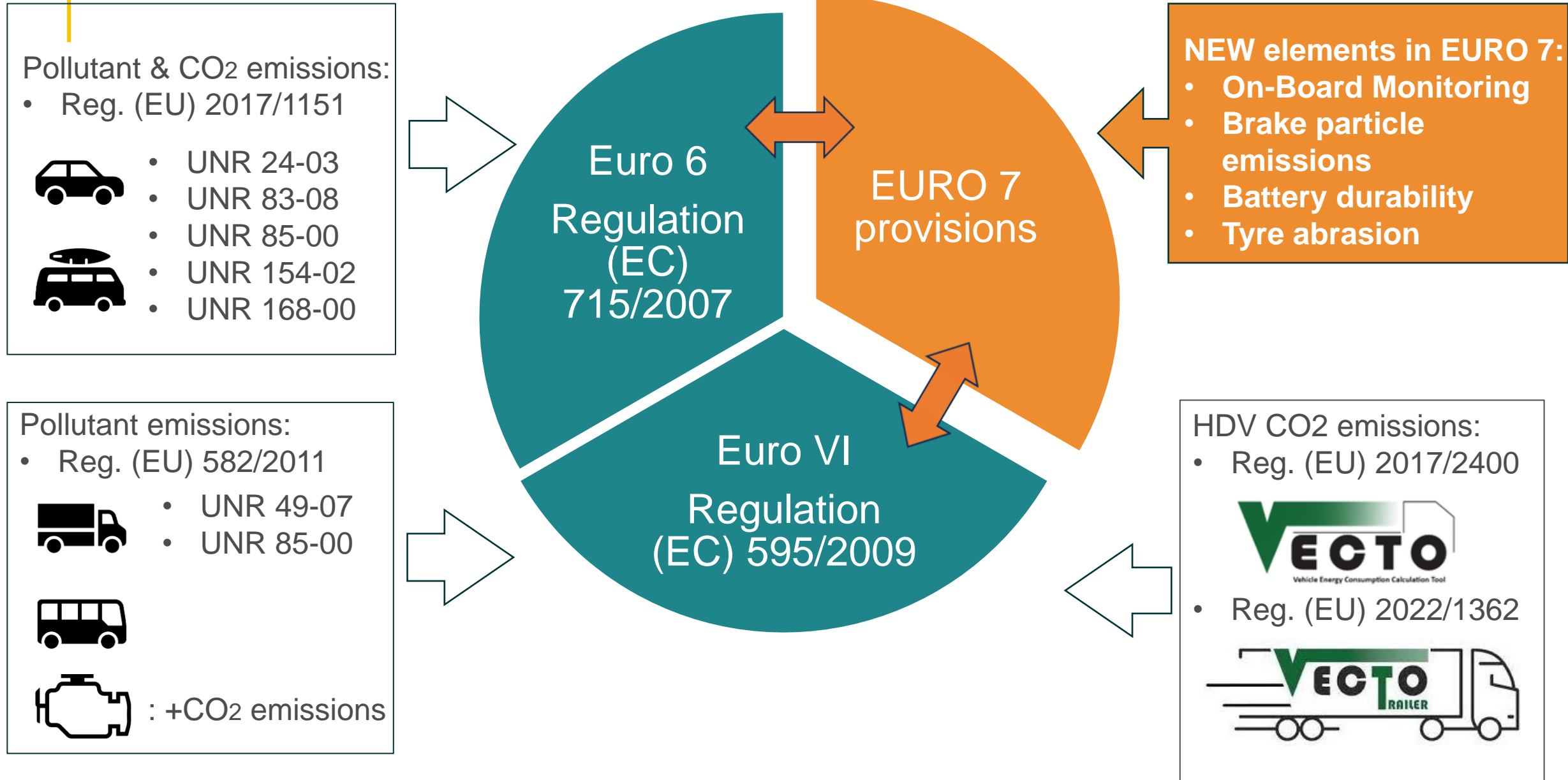
Type-approval of motor vehicles and engines with respect to their emissions and **battery durability**

EVE IWG 69th session

Seoul 16-17 April 2024

DG GROW I.2 Mobility

Euro 7 overall structure



Timeline

Entry into force and application

- 12 April 2024: Formal adoption of the Euro 7 Regulation
- Next step: Official Journal publication & Entry into Force (EIF)
- Deadline for adoption of LDV implementing acts*: 12 months after EIF
 - *Except: brake emissions, in-vehicle battery durability, tyre-abrasion
- LDV: 30 months after EIF for new types and 42 months for all new vehicles
- Deadline for adoption of HDV implementing acts: 30 months after EIF
- HDV: 48 months after EIF for new types and 60 months for all new vehicles
- C1 tyres: 1 July 2028 / C2 tyres: 1 April 2029 / C3 tyres: 1 April 2032
- LDV Small Volume Manufacturers (SVM): 1 July 2030
- HDV SVM: 1 July 2031

Implementing legislation

Implementing Acts assessment - LDV

2018/858		EURO 7				
Item	Subject	Main additional or amended requirements	Source			
G	ENVIRONMENTAL PERFORMANCE AND EMISSIONS					
type 1 + ATCT + OBFCM	G2a	Determination of specific CO ₂ emissions and fuel consumption of vehicle and device for monitoring on board the vehicle the consumption of fuel and/or electric energy +		UNR 154-02	LDV CO ₂ & fuel consumption	1
	G2	Tailpipe emissions of vehicle in lab	PN10 limit			
type 4	G7	Evaporative emissions	New SHED limit		LDV pollutant emissions	2
type 5	G5	Durability of tailpipe emissions	Concept of additional lifetime and durability multipliers			
	G9	On-board diagnostics (OBD)	No need for OBD demonstration at type-approval			
	G10	Absence of manipulation devices and absence of manipulation strategies	Guidance on the evaluation of Auxiliary Emission Strategies and the presence of Defeat Devices			
	G11					
	G12	Anti-tampering	Security and cybersecurity systems to be covered			
--	Net power	Electrified vehicle power		UNR 85-00, GTR 21		
RDE	G4	Tailpipe emissions on the road	PN10 limit	UNR 168-00		
type 2	--	Idling emissions / smoke opacity		UNR 83-08		
type 3	G6	Crank case emissions				
type 6	G8	Low-temperature tailpipe emissions in lab				
	--	Replacement pollution control devices		UNR 103-00		
	--	Range at low ambient temperature		GTR 15	<TBC: in 1 or 2 ?>	
	--	On-board monitoring (OBM) + Environmental Vehicle Passport (EVP)	NEW <TBC: combining with G9 and G12>	--	LDV OBM + EVP	3
	--	Brake particle emissions	Brake particle emission limits <TBC: administrative provisions, COP and ISC>	GTR 24	LDV Brake particle emissions	4
	--	In-vehicle battery durability	Minimum Performance Requirements (MPR) <TBC: administrative provisions, COP and ISC>	GTR 22	LDV Battery durability	5
	--	Tyre abrasion	Tyre abrasion limits <TBC: administrative provisions, COP and ISC>	UNR 117-04	Tyre abrasion C1/C2/C3	6

Implementing Acts assessment - HDV

2018/858	EURO 7				
Item	Subject	Main additional or amended requirements	Source		
G	ENVIRONMENTAL PERFORMANCE AND EMISSIONS				
G4	Tailpipe emissions on the road	PN10, new pollutants, new limits and new power threshold <TBC: B100 provisions from Euro VI, H2 dual fuel>	UNR 49-07	HDV Pollutant emissions	7
G3	Tailpipe emissions of engine in lab				
G5	Durability of tailpipe emissions	Concept of additional lifetime and durability multipliers			
G6	Crankcase emissions				
G9	On-board diagnostics	No need for OBD demonstration at type-approval			
G10	Absence of manipulation devices and manipulation strategies	Guidance on the evaluation of Auxiliary Emission Strategies and the presence of Defeat Devices			
G11					
G12	Anti-tampering	Security and cybersecurity systems			
--	Replacement pollution control devices		UNR 103-00		
--	Net power	<TBC: Electrified HDV power>	UNR 85-00	<TBC: in 7 or 8?>	
G3a	Determination of specific CO ₂ emissions and fuel consumption of vehicle	Third amendment to Regulation (EU) 2017/2400	Regulation (EU) 2017/2400	HDV CO ₂ & fuel consumption (Lorries and Buses)	8
G3b	Determination of specific energy efficiency performance of trailer	Amendment to Regulation (EU) 2022/1362	Regulation (EU) 2022/1362	HDV CO ₂ & fuel consumption (impact from Trailers)	9
--	On-board monitoring (OBM) + Environmental Vehicle Passport (EVP)	NEW <TBC: combining with G9 and G12>	--	HDV OBM + EVP	10
--	Brake particle emissions	Brake particle emission limits <TBC: administrative provisions, COP and ISC>	UN GTR xx	HDV Brake particle emissions	11
--	In-vehicle battery durability	Minimum Performance Requirements (MPR) <TBC: administrative provisions, COP and ISC>	UN GTR xx	HDV Battery durability	12
--	Tyre abrasion	Tyre abrasion limits <TBC: administrative provisions, COP and ISC>	UNR 117-04	Tyre abrasion C1/C2/C3	6
--	Device for monitoring on board the vehicle the consumption of fuel and/or electric energy (OBFCM) and payload	NEW	--	OBFCM & payload	13



HDV Battery durability

Vehicle categories M2, M3, N2, N3

Chapter II Manufacturers' obligations

Article 6 - Durability requirements for vehicles, systems, components and separate technical units

- 1. Manufacturers shall ensure that the vehicles that they manufacture, which are sold, registered or enter into service in the Union, comply with the emission limits set out in Annex I when those vehicles are driven under test conditions as set out in Annex III, for the lifetime of the vehicle, as set out in table 1 of Annex IV, and **comply with the minimum performance requirements on battery durability as set out in Annex II.****
- 2. ...**

ANNEX II - EURO 7 MINIMUM PERFORMANCE REQUIREMENTS FOR IN-VEHICLE BATTERY DURABILITY

Table 3: Euro 7 Minimum performance requirements (MPR) for battery durability for vehicles of categories M2, M3, N2 and N3

Battery Energy based MPR	Vehicles in main lifetime*	Vehicles in additional lifetime*
OVC-HEV		
PEV		

*As specified in Annex IV.

ANNEX IV - LIFETIME REQUIREMENTS

Table 1: Lifetime of vehicles, engines and pollution control systems

Lifetime of vehicles, engines and replacement pollution control devices	M ₁ , N ₁ and M ₂	N ₂ , N ₃ ≤ 16 t*, M ₃ ≤ 7,5 t*	N ₃ > 16 t*, M ₃ > 7,5 t*
Main lifetime	Up to 160 000 km or 8 years, whichever comes first	300 000 km or 8 years, whichever comes first	700 000 km or 12 years, whichever comes first
Additional lifetime	After main lifetime and up to 200 000 km or 10 years, whichever comes first	After main lifetime and up to 375 000 km <i>or 10 years, whichever comes first</i>	After main lifetime and up to 875 000 km <i>or 15 years, whichever comes first</i>

* *Maximum mass.*

Chapter VI General Provisions

Article 18 - Reporting and review

4. By 31 December 2027, the Commission shall submit to the European Parliament and to the Council a **report on battery durability** reviewing the state of the art, as a basis for ***a review of the minimum performance requirements***, with a view to the adoption of the delegated acts referred to in Article 15(2), point (c).

That report shall assess, inter alia, the appropriateness of setting out minimum performance requirements for vehicles up to at least 10 years or 200 000 km, whichever comes first.

Article 7 - Obligations of the manufacturers concerning emission type-approval

2. **Manufacturers shall provide the approval authority with a signed declaration of compliance as regards** the RDE, CO₂ ambient temperature correction, OBD and OBM systems, emissions and **battery durability**, continuous or periodic regeneration, anti-tampering and crankcase emissions requirements **as specified in Annex V. ...**

ANNEX V - APPLICATION OF TEST REQUIREMENTS AND DECLARATIONS

Table 3: Application of tests *requirements*, declarations and other requirements for type-approval and extensions to type-approval for vehicles of categories M₂, M₃, N₂ and N₃ for manufacturers

Test requirements	Tests and requirements <i>for</i> emission type-approval	Tests at conformity of production	Tests at in-service conformity
<i>Operation of systems using a consumable reagent and pollution control systems</i>	<i>Declaration</i> **	<i>Not required</i>	<i>Optional</i> ***
Battery durability	Declaration	Not required	<i>Required</i>
<i>Power determination</i>	<i>Required</i> **	<i>Not required</i>	<i>Not required</i>
On-board diagnostics (OBD family level)	Declaration	Not required	Optional
On-board monitoring (OBM family level)	Declaration and demonstration	Not required	Required

ANNEX V - APPLICATION OF TEST REQUIREMENTS AND DECLARATIONS

Table 4: Application of test requirements and declarations for type-approval and extensions to type-approval for vehicles of categories M₂, M₃, N₂ and N₃ for Member States, Commission and recognised third parties

Test requirements	Tests and requirements <i>for</i> emission type-approval	Tests at conformity of production	Tests at in-service conformity		Tests at market surveillance	
			<i>Granting type-approval</i> authority	Commission and recognised third parties	Market surveillance authorities	Commission and recognised third parties
<i>Operation of systems using a consumable reagent and pollution control systems</i>	<i>Not required</i>	<i>Not required</i>	<i>Required</i>	<i>Optional</i>	<i>Required</i>	<i>Optional</i>
Battery durability	Declaration	Not required	<i>Required</i>	Optional	Optional	Optional
<i>Power determination</i>	<i>Required</i> **	<i>Not required</i>	<i>Optional</i>	<i>Optional</i>	<i>Optional</i>	<i>Optional</i>

Thank you



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