

Mapping the work ahead

UN ECE EVE IWG GTRs

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UNECE EVE IWG 96th Web-meeting

April 21st, 2026

UN GRPE 94th March 2026

- UN GTR No. 21: proposal for amendment [2]
- UN GTR No. 22: proposal for amendment [2]
- UN GTR No. 25: proposal for amendment [1]



➤ Future work

UN GTR No. 21 – Phase 4 objectives

- Consider fuel-cell electric vehicles
 - Testing, data and proposals have been offered
 - Draft text is under discussion
 - Further information and validation may be required to ensure equivalence
- Consider measurement alternatives for highly integrated systems
 - Initial experimental results were put forward for direct measurement of K1
 - Require more validation, OBD data comparison and exploration of K2 calculation
- Consider modifications for more efficient test methods
- Consider alignment with UN Regulation No. 177 transposition efforts
- Other amendments as new data and continued research, analysis and testing lead to new developments

March 2028 – Consideration
of Phase 4 at GRPE



UN GTR No. 21 – Phase 4 Priorities: inputs?

➤ Consider fuel-cell electric vehicles

- China inputs already presented
 - to prepare a summary of all the inputs and draft text already presented:
EVE-87-08e and EVE-87-09e, EVE-87-11e and EVE-88-12, EVE-85-06e, EVE-74-10e...
- To verify position from the different CPs on the need / support to the development of this part:
 - no priority for EU and other CPs (no feedback during the meeting)
 - China interest, to verify with them the priority and time frame and their readiness to contribute and lead this topic
- OICA to verify internally
- Decision on proceeding with this proposal in next meetings; verification of the proposal based on available experience (China, only?)

Short-mid term
collection of
available info

Longer time frame
text and verification
of the procedure

➤ Consider measurement alternatives for highly integrated systems (K1, K2)

- To verify CPs need/support
- Collect OEMs experience
- To check with other regulatory frameworks and regions
- Prepare a draft proposal
- Activity sets in a longer time frame

Long term

➤ Consider modifications for more efficient test methods

- Initial screening of the test procedures to identify possible points of improvement
- Japan discussing internally and will bring forward proposal
- Other draft proposals welcome
- Activity sets in a longer time frame

Long term



UN GTR No. 21 – Phase 4 Priorities: inputs?

- Consider alignment with UN Regulation No. 177 transposition efforts
- Other amendments as new data and continued research, analysis and testing lead to new developments

on as-needed basis



UN GTR No. 22 – Phase 4 objectives

- Explore conditioning cycles and readiness monitors for official testing
 - Proposed as a monitor that indicates whether the vehicle is eligible for certification testing
- Investigate minimum performance requirements for state of certified range
 - Further considering whether certified range is required or desirable
- Consider alignment with UN Regulation No. 154-04 (and UN Regulation No. 83-09 for ISC) transposition efforts
- Incorporate necessary amendments based on lessons learned from the implementation experience of the contracting parties
- Future amendments as new data and continued research, analysis and testing lead to new developments, MPR revision
- Considering establishing MPR values for additional lifetime (10 years, 200000 km)

March 2028 – Consideration of Phase 4 at GRPE



UN GTR No. 22 – Phase 4 Priorities: inputs?

- Explore conditioning cycles and readiness monitors for official testing
 - Readiness of the SOCE/SOCR monitors, exploring the procedure already available in GTR 22 if room for update and improvement
 - Revisit the survey for Part C (probably to develop a dedicated one),
 - Update of monitor to be revisited for virtual distance (see flow chart for Part C)
 - Flow chart for the Part C to be revisited
 - Drafting the new text
 - Investigate minimum performance requirements for state of certified range
 - EU priority (Euro 7 review by end of 2027), To verify opinion from other CPs
 - Japan/ OICA inputs already received
 - Alliance des Mobilités / Mobilians input EVE-96-06e
 - Considering establishing MPR values for additional lifetime (10 years, 200000 km)
 - EU priority (Euro 7 review by end of 2027), To verify opinion from other CPs
 - JRC TEMA EVE IWG 57th, EVE IWG 41st, ...
 - MPR revision
 - Consider the vehicle technologies and market trend: vehicle performance/cost/new technologies/smaller vehicles...etc.
- Mid term collection of inputs
- Longer time frame drafting of the new text
- Mid –long time frame to collect data and setting MPR values
- Mid-long time frame to collect data and setting MPR values
- Longer time frame to collect data and setting MPR values



UN GTR No. 22 – Phase 4 Priorities: inputs?

- Consider alignment with UN Regulation No. 154-04 (and UN Regulation No. 83-09 for ISC) transposition efforts
- Incorporate necessary amendments based on lessons learned from the implementation experience of the contracting parties
- Future amendments as new data and continued research, analysis and testing lead to new developments

on as-needed basis



UN GTR No. 25 – Phase 3 objectives

- Consider amendment to Annex 2 provisions of values to be read from vehicles
- Consider Part C: Verification of reported virtual distance provisions
- Reconsider the MPRs regarding mileage and lifetime thresholds and consider the appropriateness of energy throughput as a threshold, based on the monitoring exercise for energy throughput
- Consider the need for further segmentation of the MPR thresholds by vehicle category/application
- Consider updating MPRs for HDV OVC-HEVs
- Exploring normal usage indices
- Continue development of alternative test methods including chassis dynamometer testing
- Future amendments as new data and continued research, analysis and testing lead to new developments

March 2027 – Consideration of Phase 3 at GRPE
March 2029 – Consideration of Phase 4 at GRPE



UN GTR No. 25 – Phase 3 Priorities: inputs?

- Consider amendment to Annex 2 provisions of values to be read from vehicles
 - To revisit values, SAE J1939 standard development, ...
 - Explore conditioning cycles and readiness monitors for official testing (see GTR No.22)
 - Consider Part C: Verification of reported virtual distance provisions, flow chart, provision to update the monitor
 - OICA pilot test phase
 - Lesson learn and text update
 - Flow chart, provision to update the monitor, ...
 - Reconsider the MPRs regarding mileage and lifetime thresholds and consider the appropriateness of energy throughput as a threshold, based on the monitoring exercise for energy throughput
 - Revision of the mileage, setting MPR for lower mileage for given categories
 - Consider the need for further segmentation of the MPR thresholds by vehicle category/application
 - China inputs
 - JRC TEMA inputs
 - Exploring data collection from the field from different regions (China, Norway, EU, US,...)
 - Operational data to set requirements
- Mid –long time frame
- Mid –long time frame
Longer time for drafting new text
- Priority topic
Short time frame



UN GTR No. 25 – Phase 3 Priorities: inputs?

➤ Exploring normal usage indices (linked to MPRs, lifetime, metrics revision)

- Is there something already in place for monitoring data?
- Exploring data collection from the different markets/regions

Linked to
MPR revision

➤ Consider updating MPRs for HDV OVC-HEVs

- Exploring data collection if available

Longer time frame

➤ Continue development of alternative test methods including chassis dynamometer testing

➤ Future amendments as new data and continued research, analysis and testing lead to new developments

on as-needed
basis



EC JRC TEMA results

- Starting the reflections on MPR, lifetime requirements and metric revisions



Euro 7 proposal

Part B: Verification of Battery Durability

ANNEX II EURO 7 MINIMUM PERFORMANCE REQUIREMENTS FOR BATTERY DURABILITY

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

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

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 <16t, M ₃ <7.5t:	N ₃ >16t, M ₃ >7.5t
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 <u>12</u> 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 <u>or 10 years, whichever comes first</u>	After main lifetime and up to 875 000 km <u>or 15 years, whichever comes first</u>



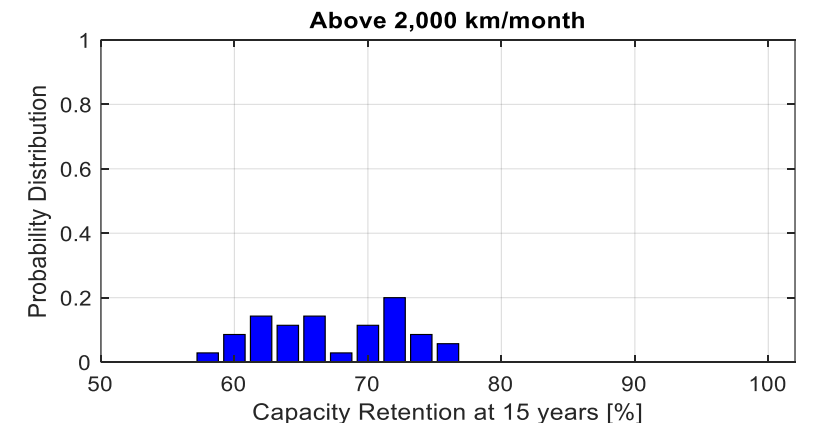
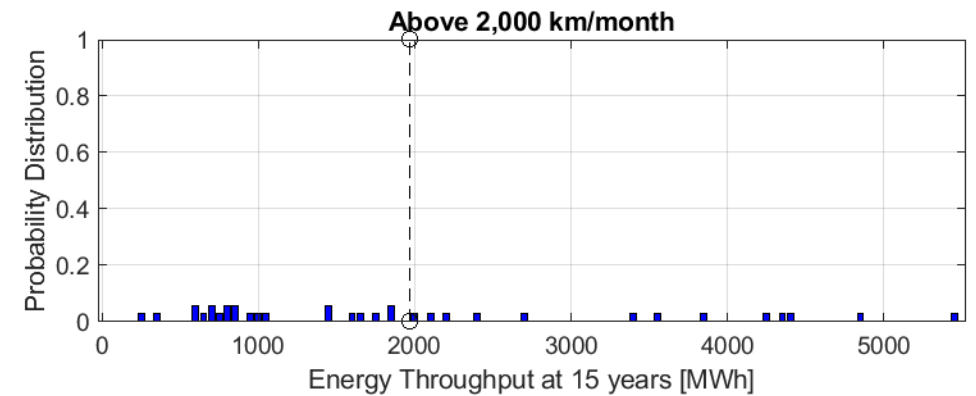
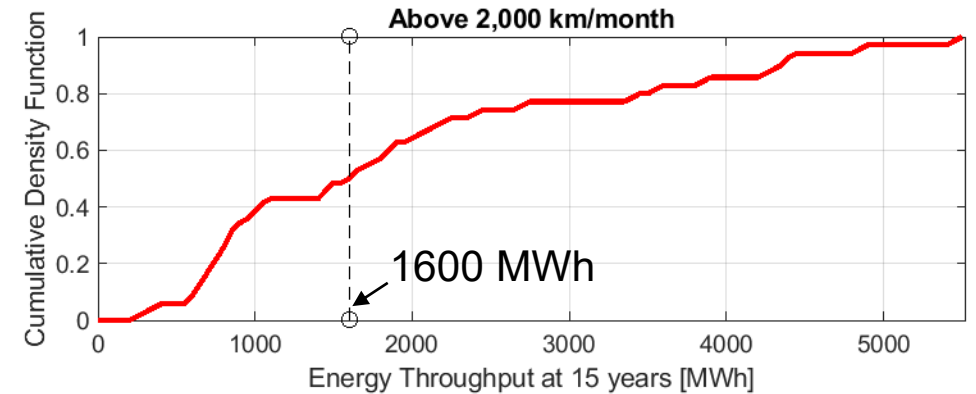
HDVs Minimum Performance Requirements, metric and lifetime requirements revision summary

- Optional Annex 4 GTR No.25
- Revision in both the metric considering adding energy throughput
- And the lifetime requirements
 - Considering separating Long Haul and Coaches from the other vehicles groups/classes i.e., **Category 1-2** vehicle exceeding 7.5 tonnes and **Category 2** vehicles exceeding 16 tonnes
 - Revising the lifetime requirements to have more correspondence between years and driven km



HVDs metric revision

- En-th as the value corresponding to 50% on the cumulative curve
on the cumulative curve →
at 15 years
- Average of En-th distribution values →
- En-th in relation to the capacity retention distribution (i.e. peak of ageing, ...) →



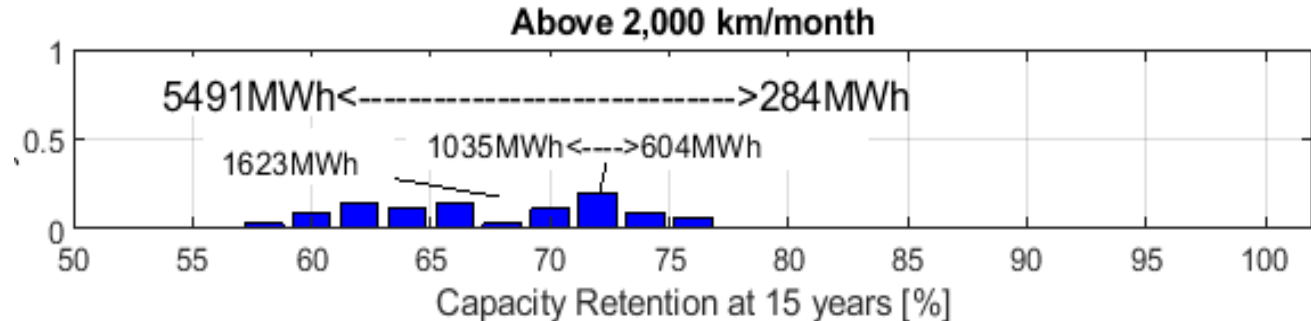
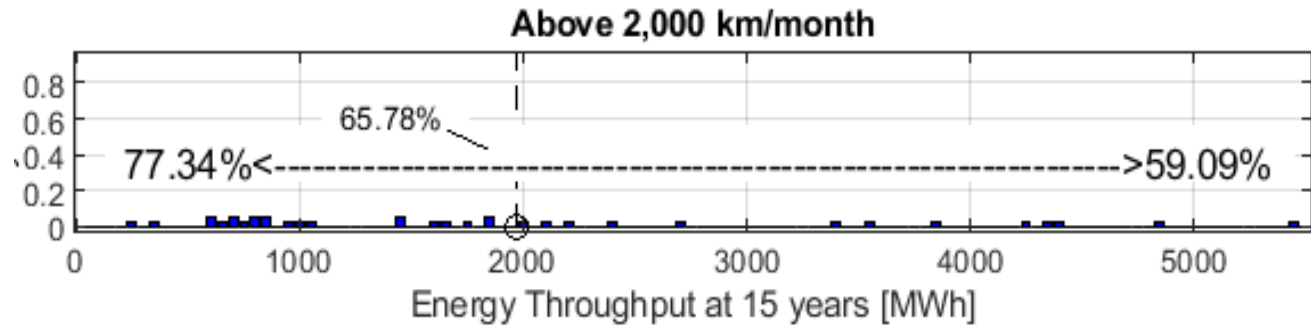
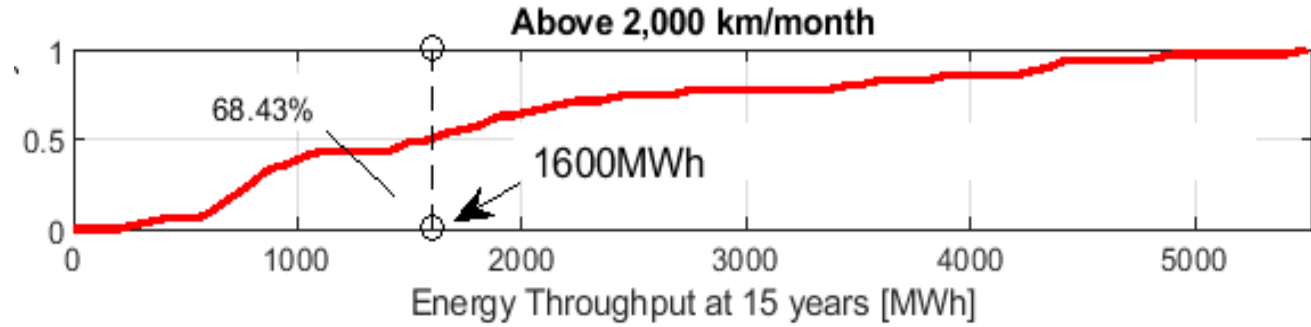
eHDVs N3>16t - Vehicle groups 4,5,9,10,11,12,13,16
 Str. 21 DC 1.2MW & Str. 22 DC 600kW Lunch break opportunistic
 All mission profiles

Li-Ion NCM-LMO (2015)
 Wien province area
 EC JRC TEMA results



H DVs metric revision

- En-th as the value corresponding to 50% on the cumulative curve
- Average of En-th distribution values
- En-th in relation to the capacity retention distribution (i.e. peak of ageing, ...)



eHDVs N3>16t - Vehicle groups 4,5,9,10,11,12,13,16
 Str. 21 DC 1.2MW & Str. 22 DC 600kW Lunch break opportunistic
 All mission profiles

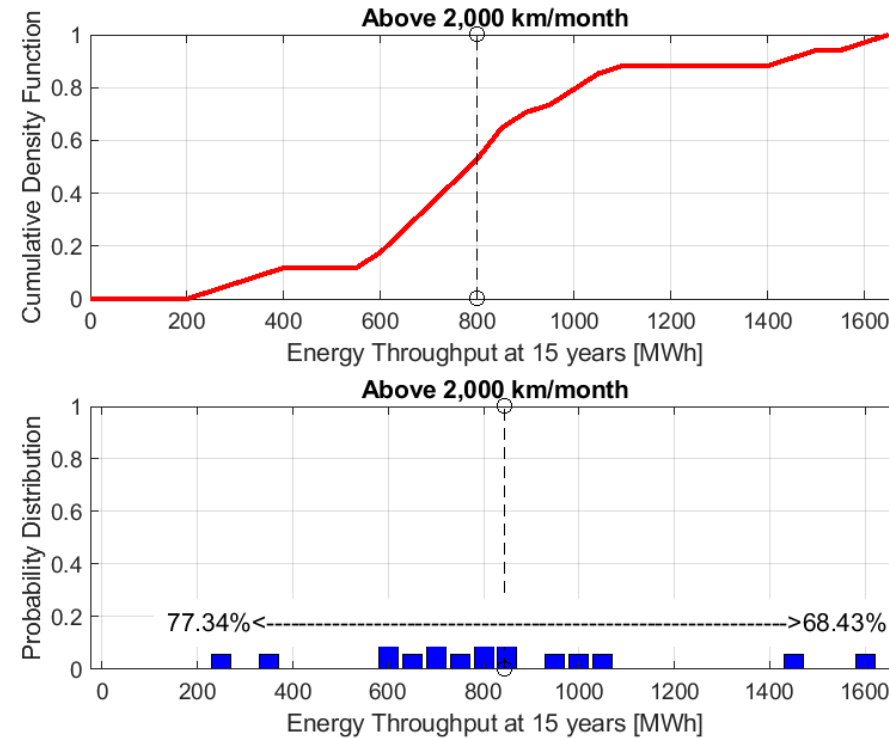
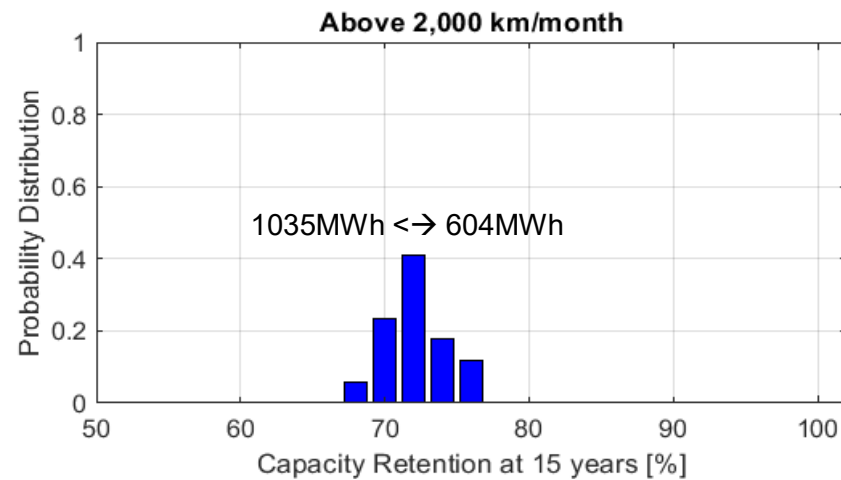
Li-Ion NCM-LMO (2015)
 Wien province area
 EC JRC TEMA results

at 15 years



Capacity retention eHDVs N3>16t - Vehicle groups 4,5,9,10,11,12,13,16

Str. 21 DC 1.2MW & Str. 22 DC 600kW Lunch break opportunistic – All mission profiles except LH



Li-Ion NCM-LMO (2015)
 Wien province area
 EC JRC TEMA results

at 15 years



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Thank you

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