OBFCM PHEV/PEV

ACEA POSITION

September 2025

OBFCM FOR LDV

SUMMARY OF ACEA POSITION

- (EU) 2021/392 related to CO_2 ,OBFCM not justified for PEV. However, if OBFCM is introduced keep it simple and affordable for the customer: Fits to EU target[1]. **Simplification**: This enabler aims at reducing drastically the regulatory and administrative burden.

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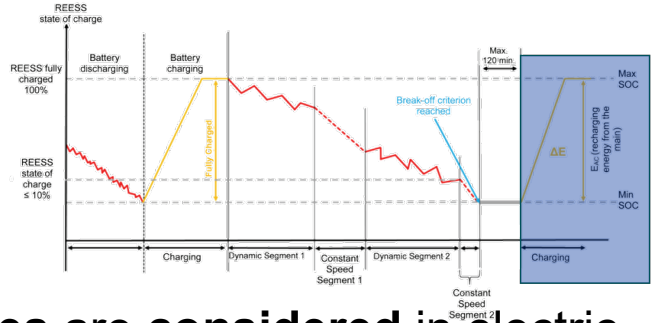


- **Charging losses** are **considered** in electric range and el. energy consumption **during TA**
  → no further incentive for improvement needed

PEV:

- **Customer already know their individual values** at the charging point, for fleet purpose reporting the el. energy at the REESS sufficient
- Grid to Vehicle is available via CPO apps
  → customer information is available

→ **no need to duplicate the values in the vehicle**

Further propulsion systems:

- ACEA appreciate reduced requirements for niche products (gas powered vehicles / fuel cells)
- **No need to change the requirements for PHEVS**

Introduce comparable requirements to PHEVs and consider energy at the REESS

1| EU Compass: LINK 2| EU-Factsheet: LINK

SUMMARY

- EU proposal for UN-R154.04 available (21.07.2025)

- UN-R154.04 working document contains different proposals for OBFCM requirements
  UN-R154.04 working document available: LINK Appendix 5

- Additional EU OBFCM requirements for PHEVs and PEVs proposed by 01/2030
  → transitional provision in the main body of UN-R154.04 needed to reflect introduction date
- Clarification on proposed parameters needed
- Exchange on proposed CoP procedure needed
- Reset flag: standardisation process ongoing in SAE → general OBD communication possible, when J1979 DA is available and control units are developed and test accordingly.

UN-R154 APPENDIX 5: OBFCM REQ.

- Comparison of different requirements: (PHEV and PEV)

- Proposal **EU Commission** (publication date: 21.07.2025):
  - **Ammendments of PHEVs**:
    (m) Total electric energy into the vehicle (lifetime) (kWh) [as of 01/30]
    (n) Total grid energy into the vehicle from off-board AC charging (lifetime) (kWh), [as of 01/30]
  - **Proposal for PEVs**: **as of 1 January 2030:**
    For PEVs [, as of date]:
    (a) Total distance travelled (lifetime) (kilometres);
    (b) Total electric energy **into the vehicle** (lifetime) (kWh);
    (c) Total grid **energy into the vehicle from off-board AC** charging (lifetime) (kWh);
    (d) Total battery energy supplied to an off-board usage (lifetime) (kWh), **if applicable *("missing comment")***;
    (e) Total energy supplied to non-propulsion usage (lifetime) (kWh), if applicable;
    (f) Vehicle speed (km/h);
    (g) REESS Current (A); "definition missing"
    (h) REESS Voltage (V); "definition missing"
    (i) REESS state of charge (%). "definition missing"

- Proposal **Japan**: *only appl. Level 1B*
  - **Ammendments of PHEVs**:
    (l) Total grid energy into the battery (lifetime) (kWh)
    (m) Energy consumption rate per second (Wh/s) ;
    (n) Battery SOCE (%)
    (o) Battery SOCR (%)
    (p) Vehicle Identification Number
    (q) Lifetime value retention status (reset flag): **SAE ID missing**
  - **Proposal for PEVs:**
    (a) Total distance travelled (lifetime) (kilometres);
    (b) Vehicle speed (kilometres/hour);
    (c) Total grid energy into the **battery** (lifetime) (kWh);
    (d) Energy consumption rate per second (Wh/s);
    (e) Battery SOCE (%);
    (f) Battery SOCR (%);
    (g) Vehicle Identification Number
    (h) Lifetime value retention status (reset flag): **SAE ID missing**

Nomenclature:
Blue … new parameter/difference
Red … industry comments to be discussed

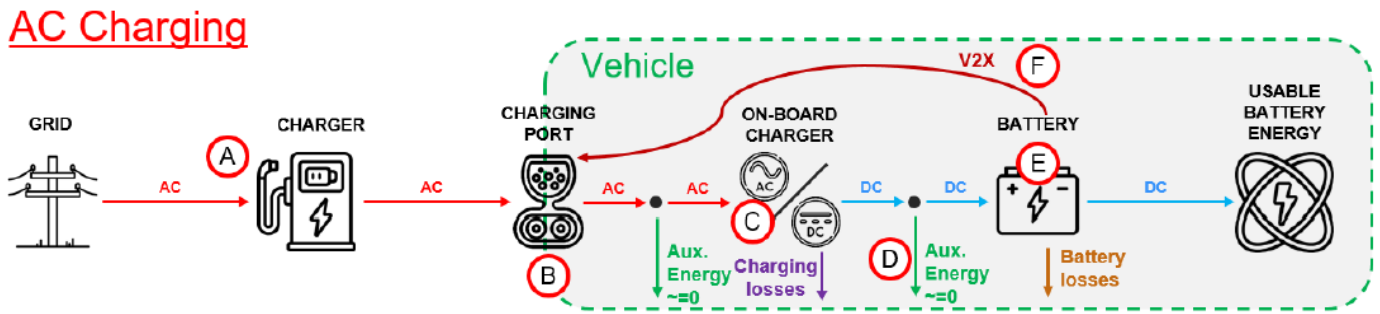
UN-R154 APPENDIX 5: OBFCM REQ.

- Summary of all combined parameter proposed by EU Com and Japan: (PEV)

Parameter	Requested by	Introduction (MM/JJJJ)	SAE-ID
Total distance travelled (lifetime) (kilometres)	EU / JP	09/2026	0xF88D
Total electric energy **into the vehicle** (lifetime) (kWh);	EU	01/2030	0xF8DA
Total grid energy into the battery (lifetime) (kWh)	JP	09/2026	0xF888
Total grid **energy into the vehicle from off-board AC** charging (lifetime) (kWh);	EU	01/2030	0xF88A
Total battery energy supplied to an off-board usage (lifetime) (kWh);	EU	01/2030	0xF8B2
Total energy supplied to non-propulsion usage (lifetime) (kWh), if applicable;	EU	01/2030	0xF8B1
Vehicle speed (km/h);	EU / JP	09/2026	0xF40D
REESS Current (A);	EU	01/2030	0xF49A
REESS Voltage (V);	EU	01/2030	0xF49A
REESS state of charge (%);	EU	01/2030	0xF45B
Energy consumption rate per second (Wh/s);	JP	09/2026	0xF4D4
Battery SOCE (%);	JP	09/2026	0xF4D2
Battery SOCR (%);	JP	09/2026	0xF4D2
Vehicle Identification Number	JP	09/2026	0xF802
Lifetime value retention status (reset flag)	JP	**09/2026?**	**tbd**

FURTHER DISCUSSION POINTS

- General Statement
  - Proposed evaluation point “energy into the vehicle” is not comparable to the type approval process, due to evaluation prior to the charging device in the type approval process (Point A measured during type approval, point B is energy into the vehicle)
    → to get comparable field data “energy into the battery is sufficient”



- Annex A1: Information document
  - EU Proposal shows information regarding accuracy information:
    Units needs to be changed to **kWh instead of Wh**

Source: Clove Slides from 22.11.2024 and UN-R154.04 proposal from 21.07.2025

FURTHER DISCUSSION POINTS

Comments on CoP:

- No CoP for voltage and current measurement proposed by industry, due to measurement principle completely different to ICE architectures, where bore diameter and fuel system parameter influence the fuel consumption calculation.
- Conformity of Production Test required by the EU:
  - Accuracy requirements for OBFCM device refer to Annex B8 Paragraph 3.4.4.3 → Paragraph 3.4 descript the type approval procedure for PEVs
  - Request from industry: During CoP no complete type approval process should be done with the customer vehicles → accuracy will not be checked acc. to paragraph 3.4.4.3
  - Reference for PHEV to paragraph 3.4.4.3 needs to be changed to paragraph 3.2. regarding type approval procedure. CoP procedure will not consider complete type approval testing
  - Milage on customer vehicles needs to be avoided

CONCLUSION PHEV

- PHEV:
  - No need to introduce new parameters for PHEVs in 2030, to adjust regulation based on additional parameters can be done earliest 2033 and the EU CO2 target for the vehicle category is set for 2035.
  - Accuracy requirement not feasible during CoP procedure
  - If additional parameter are introduced transitional provision needs to be integrated in main body of UN-R154.04
  - Units in information document needs to be adjusted to kWh

CONCLUSION PEV

- PEV:
  - OBFCM not required of PEVs, due to target of fleet regulation to monitor the CO2 emission of the vehicle during operation
  - If OBFCM requirement is introduced, balancing the REESS is sufficient
  - No need to add further parameter like “Total grid energy into the vehicle from off-board AC charging (lifetime)” → balancing of the REESS sufficient with “total energy into the battery”
  - Transitional provision needs to be integrated in main body of UN-R154.04
  - Accuracy requirement not feasible during CoP procedure
  - Units in information document needs to be adjusted