

ACEA REFLECTION ON V2X DEFINITION

EVE-61

Ann Arbor

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INPUT FOR POSSIBLE UPDATE OF V2X DEFINITION

Definition in GTR-22:

- "V2X" means *the use of the traction batteries to cover external power and energy demand*, such as V2G (Vehicle-to-Grid) for grid stabilization by utilising traction batteries, V2H (Vehicle-to-Home) for utilizing traction batteries as residential storage for local optimisation or emergency power sources in times of power failure, and V2L (Vehicle-to-Load, only connected loads are supplied) for use in times of power failure and/or outdoor activity in normal times
- Total discharge energy during V2X" means the total amount of discharged energy during V2X which needs to be provided according to Annex 2

Definition in §1962.5 (ACC2 – CARB):

- Total battery energy supplied to an off-board usage (e.g., grid, power port) during propulsion system non-active operation (e.g., vehicle to home)

➔ **To be ensured that description are consistent within regulation (ACC2, GTR-22, ...) and with standardization work in SAE**

One solution to have consistent wording in GTR-22 and ACC2: modify V2X definition as proposed below:

Proposal for adjusted definition in GTR-22 (merging ACC2 wording into GTR-22):

- "V2X" means **traction batteries energy supplied to off-board usage during propulsion system non-active operation**, such as V2G (Vehicle-to-Grid) for grid stabilization by utilising traction batteries, V2H (Vehicle-to-Home) for utilizing traction batteries as residential storage for local optimisation or emergency power sources in times of power failure, and V2L (Vehicle-to-Load, only connected loads are supplied) for use in times of power failure and/or outdoor activity in normal times
- Total discharge energy during V2X" means the total amount of discharged energy during V2X which needs to be provided according to Annex 2

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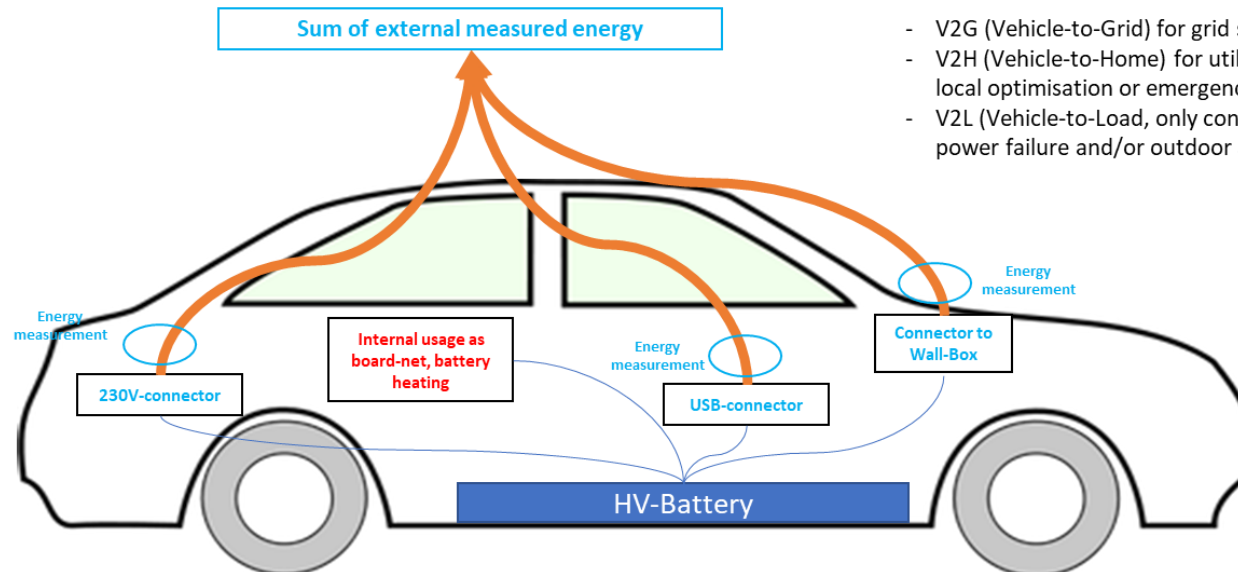
WHAT IS COVERED VIA “V2X ENERGY”?

V2X energy (read out value and verification method):

- It need to be clear which energy can be included in V2X energy – discussion slide 1
- Vehicle needs to provide V2X energy value to be read out (see Annex 2, GTR-22) → determination of internal read out (up to OEM)
- V2X energy value need to be verified (verification process currently in discussion) → energy used for external devices need to measured

Pass criterion the verification of onboard displayed V2X energy value

- External measured energy greater than value displayed onboard
- No check of sensor accuracy required...”black/white” decision



- V2G (Vehicle-to-Grid) for grid stabilization by utilising traction batteries
- V2H (Vehicle-to-Home) for utilizing traction batteries as residential storage for local optimisation or emergency power sources in times of power failure
- V2L (Vehicle-to-Load, only connected loads are supplied) for use in times of power failure and/or outdoor activity in normal times



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