Electric Vehicles and the Environment (EVE IWG)

REPORT TO GRPE 74TH SESSION
EVE IWG had a two-part mandate approved in November 2014, and conducted Part A of that mandate through 2015 and 2016.

Work was divided into two parts:

- **Part A** – Information gathering and recommendations for follow-up work
  - Method of stating energy consumption
  - Electrified vehicle durability
  - Determination of electrified vehicle power
  - Battery Recyclability

- **Part B** – Potential development of GTR’s related to durability and power determination
Meeting Frequency and Locations During Part A

- **Four (4) half-day meetings coincident with GRPE**
- **Two (2) teleconference meetings**
  - April 2015, July 2016
- **One (1) meeting in Canada**
  - October 2015
- **One (1) meeting in China**
  - April 2016
Key Outcomes of Part A

- **Draft documents presented to GRPE in June 2016**
  - Draft formal document
  - Draft status report
  - Draft energy consumption model and explanatory document

- **Final documents submitted to WP.29 for consideration in November 2017 and endorsed by AC.3**
  - Formal Document
  - WP.29-170-28, WP.29-170-29, WP.29-170-30
Next Steps as Adopted by AC.3

- **Determination of electrified vehicle power**
  - Proceed with GTR development as outlined in formal document

- **Method of stating energy consumption**
  - Approach the *Group of Experts on Energy Efficiency (GEEE)* to request that they take a leadership role in this work with the EVE IWG playing a supporting role

- **Electrified vehicle durability**
  - Continue research on battery performance and durability
  - Target returning to AC.3 seeking authorization for relevant activities (including GTR development) if warranted

- **Battery Recyclablility**
  - Will be removed from the mandate
Key Outcomes of EVE-21 (11-Jan-2017)

- Leadership of EVE IWG and WLTP IWG met and confirmed a mutual understanding of how the two groups will collaborate going forward
  - General agreement between EVE and WLTP on approach to create test method and duty cycle for battery durability testing
- Emphasis that EVE should try to collaborate with and build on the work of ISO to the extent possible
- European Commission confirmed that the approach for durability outlined at EVE-21 remains appropriate for their purposes
- Identify host countries for upcoming meetings
Next Steps for Determination of Electrified Vehicle Power

- A procedure would ideally have two certification methods
  - Reference method which is validated by testing
  - Candidate method, which would allow certification based on component data
    - Candidate method will only be developed if testing and analysis show good correlation to the reference method

- Procedure should consider WLTP needs for power determination, progress of similar process at ISO and potential use in for customer information purposes

- Timelines target GTR development in 2 years, but allow for 1 additional year to validate candidate method, if necessary
Next Steps For Electrified Vehicle Durability

- Continue research on the topic of battery performance and durability, which influences vehicle performance
- Cooperate with WLTP IWG to obtain vehicle level durability requirements
- If required, return to AC.3 to seek authorization for relevant additional activities such as GTR development
Next Steps for Method of Stating Energy Consumption

- Approach the *Group of Experts on Energy Efficiency (GEEE)* to request that they continue the work on the model and incorporate experts in electricity generation and distribution.
- If GEEE is unwilling/unable to continue the work, EVE IWG will request the aide of the UNECE Executive Secretary in identifying a suitable forum within the UNECE structure where experts in electric vehicles and experts in the generation and distribution of electricity may collaborate on this work.
- EVE IWG plans to continue supporting this work, but will not lead the work.
Next Steps for Battery Recyclability

- Remove from EVE mandate
Overall EVE Next Steps

- Continue leading work on two primary work items
  - Determination of Electrified Vehicle
  - Electrified Vehicle Durability
- Approach GEEE about leading the work on Method of Stating Energy Consumption with EVE in a supporting role
- Next meeting in Spring 2017
  - Target 10-11 April in United States
  - October 2017 confirmed in Austria
  - Spring 2018 possibly in Japan
  - Fall 2018 probably in Canada