

**Report of the 12<sup>th</sup> Session of the  
Electric Vehicles and the Environment Informal Working Group (EVE IWG)**

Location: Brussels, Belgium  
Time / Date: October 28-29<sup>th</sup>, 2014  
Chair: Mr. Michael Olechiw (USA)  
Co-Chairs: Mr. Kazuyuki Narusawa (Japan)  
Ms. Chen Chunmei (China, participated by phone)  
Secretary: Ms. Erin Marchington (Canada, acting Secretary)

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**1. Welcome, Introductions, Logistics and Agenda (item 1)**

Mr. Michael Olechiw, Chair of the informal working group, welcomed participants to the meeting. The meeting was well attended, with over 20 participants from contracting parties, other WP.29 working groups, and industry organizations. In addition to Mr. Olechiw, Ms. Marchington (acting Secretary), Mr. Narusawa (Co-Chair), and Ms. Chunmei (Co-Chair, participated by phone) were present at the meeting.

Mr. Olechiw outlined the objective for the 12<sup>th</sup> EVE meeting, which was to build on discussion during the 11<sup>th</sup> EVE meeting and continue initiating work on Part A of the new EVE mandate. The goals of the meeting were to: 1) outline concepts for each topic area of the new EVE mandate, 2) finalize proposed changes to the new EVE mandate text if needed (ECE/TRANS/WP.29/2014/88), ahead of the WP.29 November meeting, and 3) finalize the approach for Part A of the new EVE mandate outlined in the 'path forward' document (EVE-11-03e-Rev1).

The agenda for the meeting (EVE-12-02e-Rev1) was reviewed and accepted by all participants.

**2. Review EVE IWG #11 Meeting Report (item 2)**

Speaking to agenda item 2, Ms. Marchington reviewed document EVE-11-13e. The EVE group was reminded of the two goals of the EVE-11 meeting, which were to discuss comments received on the path forward document (EVE-11-03e) and, if possible, confirm leads for topic areas of the new EVE mandate. The meeting was successful in that all EVE-11-03e comments received were presented and discussion of those comments was to be continued during the EVE-12 meeting. Also, for each topic area of the new EVE mandate, a party/organization volunteered to lead discussion during the EVE-12 meeting.

Ms. Marchington reviewed the status of the EVE-11 action items. Of the 18 action items, 17 were directly related to the EVE-12 meeting and therefore would be completed once the meeting had occurred. The remaining action item is ongoing and depended on the outcome of the EVE-12 meeting:

ACTION 1 (EVE-11 Action 17, ongoing): The EVE Secretary will complete minor revisions (if needed) to ECE/TRANS/WP.29/2014/88 after the EVE-12 meeting, prior to the November 2014 WP.29 meeting.

### **3. Update on other GRPE and WP.29 IWGs (item 3)**

Mr. Olechiw led a roundtable discussion of work related to EVs occurring in four other WP.29 and GRPE IWGs: an update was given by Mr. Kazuyuki Narusawa on the Electric Vehicle Safety (EVS) IWG, by Mr. Hans Holdik on the Vehicle Propulsion System Definitions (VPSD) IWG, by Mr. Guido Gielen on the Environmental Propulsion and Performance Requirements (EPPR) IWG, and Mr. Olechiw gave a brief update on the status of the Heavy Duty Hybrid (HDH) IWG. Discussion focused on current EV-related issues the groups were facing and whether or not coordination with the EVE IWG was desired or necessary.

### **4. Topic 1: Vehicle range and energy consumption testing (item 4)**

Mr. Olechiw introduced the topic using document EVE-12-14e and by reviewing the text of the EV Guide (ECE/TRANS/WP.29/2014/81). A scope of work for the topic area was not presented; rather, using document EVE-12-05e, Japan informed the group that this issue should not be pursued by the EVE IWG, as it is or could be explored by other GRPE working groups (i.e. WLTP IWG). Referencing documents EVE-11-08e, 09e, 10e, and EVE-12-06e, the European Commission agreed with this position.

Mr. Per Ohlund presented EVE-12-07e, which detailed current EV work ongoing in the WLTP IWG. The WLTP IWG is currently in phase 1b of work and the future EV issues to be covered by the group in future work (phase 2 and 3) have not been decided by the group; also, phase 2 is not anticipated to start within the next year. There was disagreement among the group as to whether some topics proposed for investigation under this topic by the EVE IWG would be covered by future WLTP IWG. Mr. Olechiw requested the group to consider whether the EVE IWG could assist the WLTP IWG by conducting some EV-related work between now and the beginning of phase 2.

Overall, the majority of the group agreed the topic should not be part of the new EVE mandate and no party/organization volunteered to lead the topic. Mr. Olechiw requested the group revisit this decision on Day 2 of the meeting under agenda item 9.

Document EVE-12-06e, submitted by the European Commission, was not discussed in detail as the author was not present at the meeting, so it was recommended to add this document to the agenda of the next EVE meeting.

**ACTION 2:** The EVE Secretariat will add document EVE-12-06e to the agenda of the next EVE meeting.

### **5. Topic 3: Battery performance and durability (item 5)**

Mr. Olechiw introduced the topic using document EVE-12-08e-Rev1 and by reviewing the text of the EV Guide (ECE/TRANS/WP.29/2014/81); Mr. Claude Chanson (Recharge) and Ms. Marchington also assisted in presentation EVE-12-08e-Rev1. The proposed scope of work would first establish a definition of battery durability, identify factors that affect battery durability, and then potentially design an appropriate test program for evaluating battery durability. During discussion, it was emphasized that when test cycles and procedures are considered, those developed by the WLTP IWG would form the basis for work.

Discussion under this item focused on whether future work would focus on the battery component or the whole EV; Mr. Olechiw informed the group that this would be a vehicle-level issue, illustrating with the concept that durability of an EV battery has a critical influence on vehicle emissions. There was some discussion that if this work was based on the whole vehicle,

it also may best be pursued by the WLTP IWG, which was supported by Japan; however, the group could not comment on whether the WLTP IWG would address this issue.

Mr. Olechiw requested the group revisit this decision on Day 2 of the meeting under agenda item 9, indicating that USA and Canada have a strong interest in pursuing work in this area.

#### **6. Topic 4: Battery recycling (item 6)**

Mr. Olechiw introduced the topic using document EVE-12-14e and by reviewing the text of the EV Guide (ECE/TRANS/WP.29/2014/81). The group was reminded that, as the EV Guide states, battery recycling is not under the mandate of WP.29, but battery recyclability issues could be considered. Japan informed the group they do not support recycling or recyclability issues for discussion in the WP.29 forum.

A scope of work for the topic area was not presented; Mr. Klaus Putzhammer (OICA/Adam Opel AG) presented on “Regulation and Recycling and Recyclability”, with a focus on European legislation (EVE-12-09e). There was an emphasis on the capability of current battery recycling practices, which some in the group believed then meant that investigating battery recyclability was not required. Mr. Olechiw suggested that there could be some benefit from sharing the European Commission’s successful legislative battery recyclability practices with those worldwide.

Mr. Olechiw requested the group revisit this decision on Day 2 of the meeting under agenda item 9 and no party/organization volunteered to lead the topic.

#### **7. Topic 2: Method of stating energy consumption (item 7)**

Mr. Olechiw introduced the topic by reviewing the text of the EV Guide (ECE/TRANS/WP.29/2014/81) and China presented on their proposed scope of work for the topic using document EVE-12-10e-Rev1; China emphasized that determining the proper expression method for energy consumption was very needed. To carry out research related to this topic, they proposed three steps: 1) complete a study on the EV energy consumption evaluation method to be executed by main countries, 2) build a database and conduct comparative analysis on the energy structure for main countries worldwide, and 3) discuss the necessity and possibility to standardize the energy consumption method.

Discussion focused on whether this topic is suitable for exploration under the WP.29 forum and if contracting parties have the appropriate experts to complete work required for this topic. Referencing documents EVE-11-08e, 09e, 10e, and EVE-12-06e, the European Commission indicated it was their preference that work not be pursued on this topic in the new EVE mandate and Japan supported this position.

Understanding that China is supportive of this work, Mr. Olechiw requested the group consider the option of keeping this topic area in the new EVE mandate, but removing it from consideration for future GTR development. There was general support expressed by the group for this option and Mr. Olechiw requested the group revisit this decision under agenda item 9. There was some discussion concerning the possibility of developing a technical report, which could be added into the SR1 and/or RE3 documents; parties agreed to consider this and discuss it further at the next EVE meeting.

**ACTION 3:** Concerning future work under Topic 2, the EVE group will consider the development of a technical report that could be added into the SR1 and/or RE3 documents and discuss further at the next EVE meeting.

## **8. Topic 5: Power determination for EVs (item 8)**

Mr. Olechiw introduced the topic by reviewing the text of the EV Guide (ECE/TRANS/WP.29/2014/81). Mr. Hans Holdik presented the proposed scope of work for the topic using document EVE-12-04e-Rev1 on behalf of Germany and Korea. Understanding that there are no UN, USA or Japanese regulations that define light duty hybrid system power, the scope of work under this topic was proposed to cover light duty vehicles and performance criteria would be power and torque as a function of speed. Several options for pursuing the work were presenting, including amending UN Regulation 85, developing a recommendation under RE3 or SR1, and/or developing a new GTR.

During the discussion, Japan clarified that they do not require power determination in their regulatory system. The European Commission clarified that it would be very useful to have one definition of power and that the EPPR IWG are developing such a definition for L-category vehicles. There was some discussion as to why this work is not pursued by the WLTP IWG, although most of the group was supportive of the EVE IWG carrying out this work. The question of whether or not the work should be carried out under the 1998 or 1958 Agreement was also discussed but not decided.

Overall, the majority of the group agreed the topic should be part of the new EVE mandate and Mr. Olechiw requested the group revisit this decision under agenda item 9.

## **9. Review of the path forward document and new EVE mandate (item 9 and 10)**

To summarize the discussion of agenda items 4-8, Mr. Olechiw presented document EVE-12-11e, which presents the five topics under consideration for the new EVE mandate, major discussion points, and three options: maintain in the EVE mandate, modify in the EVE mandate, or remove from the EVE mandate. For each topic, the group discussed the options and decided on the preferable outcome (highlighted in red text in the document). The outcome of this discussion is summarized as follows:

- The topic of 'vehicle range and energy consumption testing' should be removed from consideration in Part A or B of the new EVE mandate because it is understood that this issue will be addressed by the WLTP informal working group in future work.
- The topics of 'method of stating energy consumption' (China lead) and 'battery recycling or recyclability' (no lead) should be addressed under Part A of the new EVE mandate, and thus be considered for further research and information-sharing only, and not considered for GTR development under Part B.
- The topics of 'battery performance and durability' (USA and Canada lead) and 'power determination of EVs' (Germany and Korea lead) will be addressed in both Part A and Part B of the new EVE mandate.

Based on the above discussion, the EVE group considered the European Commission's proposed changes (EVE-11-09e) to the new EVE mandate (ECE/TRANS/WP.29/2014/88). In preparation for the November 2014 WP.29 session and anticipated approval of ECE/TRANS/WP.29/2014/88, a new EVE-12 informal document (EVE-12-12e) was drafted. The EVE group agreed in principle to the changes presented in EVE-12-12e, but were requested to provide any further comments to the EVE Secretariat November 4, 2014. The intention of the EVE Secretariat was then to submit EVE-12-12e to the November WP.29 session as an informal document that would amend (ECE/TRANS/WP.29/2014/88).

**ACTION 4:** The EVE group will provide feedback to the EVE Secretariat on EVE-12-12e by November 4, 2014.

**ACTION 5:** The EVE Secretariat will submit EVE-12-12e as an informal document for consideration by WP.29 with ECE/TRANS/WP.29/2014/88.

Following on the above, the group initiated discussion on the path forward document (EVE-11-03e-Rev1). However, due to a lack of time, it was decided that this document, along with the European Commission's comments (EVE-11-10e) would be further discussed at the next meeting. The EVE Secretary agreed to edit the document to incorporate the changes to the new EVE mandate outlined in EVE-12-12e.

**ACTION 6:** The EVE Secretariat will edit document EVE-11-03e-Rev1 to incorporate the changes to the new EVE mandate outlined in EVE-12-12e and add this issue to the next EVE meeting agenda.

**10. Discuss next EVE meeting and draft agenda (item 11)**

Ms. Marchington presented the draft agenda for the EVE-13 meeting (EVE-12-03e), January 12, 2015 in Geneva and reviewed the additional items that would be adding as a result of the issues discussed above.

**ACTION 7:** The EVE Secretary will revise and post the draft agenda and related documents for the EVE-13 meeting on the UNECE EVE website.

**11. Concluding remarks, Closing (item 12)**

Mr. Olechiw closed the meeting by thanking participants for attending and thanking the European Commission for hosting the meeting.